

EXECUTIVE SUMMARY

LOCATION AND DESCRIPTION

Midewin National Tallgrass Prairie is located on approximately 16,000 acres in Will County, Illinois, 45 miles southwest of Chicago, 15 miles south of Joliet, and 3 miles north of Wilmington, Illinois. A large part of the former Joliet Army Ammunition Plant was transferred to the USDA Forest Service in 1997, establishing Midewin National Tallgrass Prairie. Previous land uses have severely altered the prairie landscape and ecosystem. Much of the land was plowed for agriculture and is underlain with a complex system of drain tiles. Agriculture for crop production and cattle grazing continue today. Stream channels were straightened and numerous ditches constructed by the Army. During Army administration, a complex road and rail system connected the extensive inventory of warehouses, cement bunkers and other facilities used for ammunition production.

While only three percent of what is now Midewin survived as native plant communities, the site is able to host a rich assemblage of plants and animals including three species on the federal list of threatened and endangered species, and twenty-six species recognized as sensitive by the Regional Forester of the Eastern Region. The diversity of habitats provides some of the most significant wildlife habitat in northeastern Illinois. Habitat types include the rare dolomite prairie, short and medium stature agricultural grasslands (home to sensitive grassland birds), wetlands, woodlands, and native prairie surviving as small isolated remnants.

PURPOSE AND NEED

The 1995 Illinois Land Conservation Act (ILCA) established the Midewin National Tallgrass Prairie with four basic purposes:

1. To manage the land and water resources to conserve and enhance native wildlife, fish and plant populations and habitat;
2. To provide opportunities for scientific, environmental, and land use education and research,
3. To allow continuation of agricultural land use for resource management purposes, and
4. To provide for a variety of recreation opportunities that are compatible with the other purposes.

This legislation authorized the Forest Service to manage Midewin as part of the National Forest System and directed the agency 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.

The purpose of this Final Environmental Impact Statement (FEIS) is to describe the six alternatives developed to manage Midewin National Tallgrass Prairie, and to disclose the environmental effects (physical, biological and social effects) of all six alternatives. Based on the analysis in the Final EIS, the Eastern Region, Regional Forester will adopt an alternative as the Land and Resource Management Plan for Midewin. The four primary decisions to be made are:

- Multiple-use goals and objectives.
- Management requirements.
- Management area direction or prescriptions and guidance.
- Monitoring and evaluation requirements.

The Prairie Plan is a companion document to this FEIS. It is a comprehensive and programmatic plan outlining strategic direction for future activities at Midewin. Site-specific or project level analyses will “tier to” or reference the Prairie Plan and Final EIS.

ISSUES, CONCERNS, AND OPPORTUNITIES

Issues submitted by the public together with resource concerns and opportunities identified by Midewin and many partners, helped to focus the direction for future management. Significant issues, concerns and opportunities are summarized below and addressed in this FEIS.

1. How can health and safety of visitors and staff be assured, while providing access to the Prairie for recreational use, research, and resource management?

Public health and safety is our first priority. Midewin will continue to cooperatively restrict access as necessary to secure unsafe areas. Other areas deemed safe from environmental and safety hazards will be gradually opened for public access and enjoyment as sites are cleaned up and restoration proceeds.

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

The main concern is the long-term viability of the threatened, endangered and sensitive species, namely the leafy prairie clover only found on dolomite prairie along with many other species that rely on native prairie habitat. Conversely, it is not certain whether upland sandpipers will use restored prairie for breeding and nesting, as they currently nest in grasslands kept short by cattle grazing.

3. What amount and what structure of grassland habitat should be provided for sensitive grassland bird species with varying habitat requirements? What is the appropriate mix of restored prairie and agricultural grassland to meet the needs of grassland birds?

The management challenge will be to provide and maintain the best mosaic and acreage of short, medium and tall (native prairie) habitat for viable populations of upland sandpiper, bobolink, and Henslow's sparrow among other grassland birds. Midewin supports the largest breeding concentrations of grassland birds in Illinois with extensive pastures, hayfields, and grasslands with a diversity of grass heights. Different birds have different habitat requirements and Midewin is a site large enough to provide habitat for each.

4. 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 and make contributions to biodiversity in the region?

Midewin is poised to make unique contributions to biodiversity in the greater Chicago region through wetland restoration, dolomite prairie restoration and grassland bird habitat management. Midewin is large enough to restore a semblance of the tallgrass prairie ecosystem once wide spread across Illinois. The prairie ecosystem plant communities include upland prairie, wet prairie and sedge meadows, marshes, fens, and seeps, with savannas, woodlands and even forests along streams. The prairie was drastically altered over the past century, and we will need to mimic natural disturbances (fire and grazing), restore drainage and hydrology, plant native species, and weed out invasive species to begin prairie restoration and sustain biological and ecological interactions at the landscape scale.

5. 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 recreation?

Many recreation opportunities are possible at Midewin, but some will not be compatible with conservation and restoration goals. With the close proximity to Chicago, a large number of visitors are expected once visitor and recreational facilities are constructed. Compatible activities and facilities may include a visitor center, a campground for individual or group use, picnic areas, trails for hiking, bicycling or

equestrian use, and continued recreational white-tailed deer hunting. Trail locations and designated uses may limit or prevent conflicts between different recreational users. The existing transportation infrastructure could be utilized for recreational and administrative purposes, although most roads will not be needed in the long run.

6. Should bison and/or elk be re-introduced to the prairie ecosystem?

It is too early to make a decision on whether to re-introduction bison and elk at this time. First priorities include public safety, habitat restoration and recreation facilities development.

7. How should opportunities for education and research be provided?

Research and education 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 additional discussion.

ALTERNATIVE DEVELOPMENT

Chapter 2 presents the six alternatives for the Prairie Plan, including the no-action alternative and the preferred alternative. The Interdisciplinary Team at Midewin crafted a set of alternatives in response to the significant issues. Alternative development was based on an “integrated management” approach that produced alternatives exhibiting a spectrum of multiple-uses. A critical parameter in the development of the alternatives was the requirement to provide sufficient habitat to sustain populations of threatened, endangered, and sensitive wildlife and plant populations. The alternatives were developed to provide sufficient habitat to support populations of these species.

The Interdisciplinary Team used the Joliet Arsenal Citizen’s Planning Commission Concept Map and the Prairie Plan proposal outlined in the 1998 Notice of Intent to prepare an environmental impact statement as basic building blocks to craft alternatives in response to the issues, and integrated habitat protection and prairie restoration with recreational development.

ACTIONS NOT READY FOR DECISION

As previously discussed it will be safer and more cost effective to consider bison and or elk management once Midewin has been restored and contaminated and degraded sites cleaned up. The alternatives do not allocate land for bison and elk use during this 10-year planning period. Likewise, no allocation is made for future commuter rail service (Metra), as it may be a number of years before a rail link is constructed to communities east of Midewin.

ALTERNATIVES CONSIDERED IN DETAIL

Alternative 1 (No-action Alternative)

The no-action alternative continues existing conditions and interim management practices. There would be no long-range plan for Midewin, and minimal to no expansion or development of additional programs and facilities. The No Action Alternative provides a baseline for comparison with other alternatives.

Alternative 2

Alternative 2 provides for maximum expansion of grassland bird habitat for area sensitive bird species. A moderate amount of recreation opportunities are proposed in the alternative, but no equestrian use is planned.

Alternative 3

Alternative 3 offers the greatest amount of recreational development of all the alternatives with an extensive trail system, campground, and visitor center, and with a greater amount of grassland bird habitat restored than native prairie habitat.

Alternative 4 (Preferred Alternative)

Alternative 4 offers a balance of restoration of habitat types for sensitive grassland birds and restoration of native prairie. This alternative offers moderate recreational development, with a mix of opportunities compatible with restoration; a visitor center, campground, and mix of trail lengths and trail types.

Alternative 5

Alternative 5 focuses on upland and wet prairie/sedge meadow restoration, with less grassland habitat, maximizing native prairie restoration. Moderate recreational development is also proposed under this alternative; however, the mix of opportunities is different than in Alternative 4. No campground is proposed in this alternative

Alternative 6

The primary focus in Alternative 6 is upland and wet prairie/sedge meadow restoration, with less grassland habitat. This alternative provides for the least investment in recreational development, with no new facilities proposed except trails

AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

Chapter 3 combines two chapters often published separately in Environmental Impact Statements, “The Affected Environment” and “Environmental Consequences”. The resources and uses that are most likely to be affected by management decisions are the primary focus of this chapter. Environmental conditions that will have only minimal change are not described in detail.

Water QualityAffected Environment

Four streams traverse Midewin: Jackson Creek, Jordan Creek, Grant Creek, and Prairie Creek. Two streams have special status; Jackson Creek has been designated a “highly valued aquatic resource” by the Illinois EPA, requiring special stream protection. Prairie Creek on the other hand was identified as not meeting state water quality standards for ammonia, metals, and other organic pollutants. Groundwater from shallow wells has a high concentration of sulfur and is commonly used to water livestock. Groundwater contaminated by Army ammunition production remains under Army jurisdiction and control for long-term remediation.

Environmental Consequences

All action alternatives have similar potential for beneficial effects, with the Alternative 1 – No Action resulting in less net beneficial effects. Converting cropland to perennial cover, and reducing agricultural pesticide use will reduce potential water pollution.

Wetlands and Aquatic ResourcesAffected Environment

Wetlands cover approximately 1,050 acres of Midewin, including sedge meadows, wet prairie, marshes, seeps and ephemeral pools. Additional wetland resources include extensive ditches, 21 miles of streams, and intermittent channels or swales.

Environmental Consequences

The action alternatives 2-6 will have net beneficial improvements in wetlands with restoration of natural drainage systems. The no action alternative will not improve the condition of the wetlands.

StreamflowAffected Environment

Peak flows of the four streams of Midewin range from 830 cubic feet per second for Jordan Creek to 5050 cubic feet per second for Jackson Creek in a 100-year flood. Low flows for all Midewin streams are less than one cubic feet per second.

Environmental Consequences

Alternatives 2-6 improve watershed conditions at Midewin by removing roads and reducing land under agriculture in grain crops. Alternative 1 results in a net beneficial effect at a slightly lower level than the other alternatives.

FloodplainsAffected Environment

Regulatory floodplains at Midewin cover 3,211 acres most on the western side along Prairie Creek, Grant Creek and Jackson Creek.

Environmental Consequences

Alternatives 2-6 increase the areas restored to historic or more natural patterns of flooding. Midewin floodplains will increase capacity to store floodwaters and such water will be released more slowly downstream; an effect that may be beneficial to downstream landowners. Alternative 1 has the same effect but at a lower level.

Adjoining DrainageAffected Environment

All four streams discharge onto private property or cross roads to other public property. Adjoining properties are used for agriculture, industrial and residential purposes.

Environmental Consequences

Modifications of channels that drain only Midewin will have no potential adverse effects on upstream properties. The no action alternative would reduce the effective drainage from adjoining properties upstream if tile systems are not maintained.

Water Uses and FacilitiesAffected Environment

Current uses of water are for livestock watering. Pieces of the former arsenal waste water system are now on Midewin. A system of wells provides water for livestock, but no potable water.

Environmental Consequences

There will be no affect to surface water facilities, supplies or uses. Groundwater pumped for livestock may affect groundwater levels but can be mitigated by limiting use to less than 2,000 gallons per day per well.

SoilsAffected Environment

Past uses and disturbances have changed the soil landscape to such a degree that it may only be restored after many decades.

Environmental Consequences

Long-term beneficial effects will occur under Alternatives 2-6. Existing levels of erosion will be reduced in these alternatives. Application of standards and guidelines minor impacts to soil result from Alternatives 2-6 when new roads, trail, and other facilities are developed. Continued crop production and

grazing in all alternatives contributes to soil erosion and compaction. Alternative 1 results in loss of long-term soil productivity to support native vegetation.

Air Quality

Affected Environment

Midewin and all of Will County lie with a designated ozone non-attainment areas (nna) surrounding greater Chicago. Ozone concentrations exceed National Ambient Air Quality Standards during mid-afternoons on hot summer days.

Environmental Consequences

Local effects from prescribed burning include smoke that may reduce visibility along roads. Smoke may cause unpleasant odors, carry ash, or cause respiratory stress in some individuals. Mitigation to minimize effects includes burning in the fall, winter, and spring when ozone levels are within the standard and prescribe burning in favorable conditions to disperse smoke quickly.

Vegetation

Affected Environment

Less than three percent of Midewin is comprised of intact communities or small remnants of the original native vegetation species. These native communities can be further categorized into nine broad natural community classes: floodplain forest, upland forest, woodland, savanna, seep, marsh, sedge meadow, typic prairie, and dolomite prairie. Vegetation types that are the direct or indirect result of human activities cover approximately 97 percent of Midewin's landscape.

Environmental Consequences

Under all six alternatives, native vegetation remnants will be protected and managed and there will be some increases in native vegetation from current restoration projects. Under Alternative 1, however, it is likely that both remnants and restorations will become degraded and decline, because of constraints on management activities.

Alternatives 2-6 will improve the condition of these remnants and restore greater amounts of native vegetation. The amount of native vegetation restored is least in Alternative 2, with increasing amounts under alternatives 3, 4, 5, and 6.

Biodiversity

Affected Environment

Biological diversity includes species richness and interactions between organisms at all scales. Most of Midewin's highly disturbed and fragmented

landscape does not currently support characteristic tallgrass prairie ecosystem flora or fauna. Fire no longer occurs as natural disturbance process promotes tallgrass prairie viability and control woody succession.

Environmental Consequences

Midewin will make greater contributions to regional biodiversity under all action alternatives (2-6) than under Alternative 1. This increased habitat will provide for greater biotic interactions within the immediate vicinity (e.g. Prairie Parklands).

Alternatives 5 and 6 provide the greatest benefits for prairie organisms that are highly dependent on native prairie and wetlands. Midewin will provide a larger area than any existing or proposed extant of contiguous prairie habitat within the Central Till Plains Section (CTPS). There will be increased potential for interactions with other prairie sites. However, because Alternatives 5 and 6 provide relatively small amounts of grassland bird habitat, these species are more likely to disappear from Midewin.

Alternative 2 provides the least benefits for prairie-restricted organisms of the five action alternatives. Alternative 2 however, provides the greatest amount of habitat for grassland birds of all action alternatives, and these species are likely to maintain viable populations and remain at Midewin.

Alternative 3 provides a greater amount of restored prairie and wetlands, than Alternative 2; there are also sufficient amounts of habitat to maintain viable populations of grassland birds. However, Alternative 3 also contains the greatest potential for disturbance and fragmentation from the placement and use of new recreational facilities and trails.

Alternative 4 also provides a greater amount of restored prairie and wetlands than Alternatives 2 and 3, but this is balanced with sufficient habitat to maintain viable populations of area-sensitive grassland birds. Alternative 4 contributes towards maintaining species diversity, viable populations, and the associated interactions of the prairie ecosystem within the Central Till Plains Section.

Threatened, Endangered, and Sensitive Species

Affected Environment

Twenty-six species on the Regional Forester's Sensitive Species list and three species on the federal list of Threatened and Endangered Species are present or likely to be present on Midewin, including Leafy Prairie Clover and Prairie White Fringed Orchid; Bald eagles are rare visitors to Midewin during migration. Conservation assessments were completed for each sensitive species in order to evaluate the alternatives and determine the likelihood of species to persist under each alternative. The assessments were based on

abundance, distribution, population trends, habitat integrity, and population vulnerability of sensitive species.

Environmental Consequences

Alternative 1 will not provide sufficient habitat to support RFSS species over the long term. All action alternatives will provide for restoration of existing natural communities, including a mix in each of prairie, wetland, woodland, and savanna habitat in addition to grassland habitat for certain sensitive bird species. The amount of potential habitat for most species is expected to differ between action alternatives. For prairie and wetland species, Alternatives 2, 3, 4, 5, 6, respectively, offer increased habitat acres. For grassland bird habit, the order is reversed, with acreage increasing from Alternative 6 to Alternative 2. Alternative 4 achieves the best balance between the requirements of the grassland birds and the prairie species (birds, plants, and insects).

Management Indicators

Affected Environment

Management Indicators provide a focused means of monitoring and evaluating the effects of actions on biotic resources. At Midewin, Management Indicators were selected using two analyses, which included consideration of species as required by the National Forest Management Act regulations and which are considered to be most likely to indicate the effects of management practices.

Environmental Consequences

All action alternatives (2-6) provide for improvement over the current condition for all species and conditions associated with the Management Indicators. All action alternatives provide a significant increase for species associated with dolomite prairie habitat, including the leafy prairie-clover. There will be similar positive effects under all action alternatives for species associated with savannas, woodlands and forests, seeps, and intolerant benthic macro-invertebrates.

Alternatives 5 and 6 will provide the greatest benefits for species associated with typic prairie and associated wetlands, tall-stature grassland bird habitat, and Henslow's sparrow. Alternative 2 provides the greatest benefit for species associated with short-stature and medium-stature grasslands. Alternatives 3 and 4 provide more even balance between short-stature and medium-stature grasslands vs. typic prairie and associated wetlands, tall-stature grassland bird habitat, and Henslow's sparrow.

Benefits for the indicators and their associated species groups would not occur under Alternative 1, or would be minimal. Alternative 1 might result in an increase in white-tailed deer on Midewin.

Noxious Weeds and Invasive SpeciesAffected Environment

Native and non-native invasive species can threaten management of resources and native species viability in addition to human health, safety, and investments.

Environmental Consequences

All action alternatives will result in control of invasive species. Alternative 1 provides for the least control of invasive species.

General Wildlife Habitat Types and Associated Animal SpeciesAffected Environment

The four general wildlife habitat types are grasslands (prairie and agricultural grasslands); wetlands; forest, woodland, and savanna; and successional non-native vegetation habitats. Some of the wildlife species associated with these habitats are game species, including the white-tailed deer.

Environmental Consequences

Alternatives 2-6 will benefit grassland and wetland wildlife by increasing the amounts of habitat. The action alternatives will be of mixed benefit to wildlife associated with forest, woodland, and savanna habitat, as these habitats will increase, while other habitats used by these species will decline. Wildlife associated with fencerows and abandoned fields is expected to decline under all alternatives, as these habitats will be converted to native prairie and grasslands. Under Alternative 1, the net impact on many animal species would be negative owing to increasing degradation of most existing habitat at Midewin.

All action alternatives would generally provide habitat for game and harvest wildlife species associated with grasslands, wetlands, and forested habitats. Alternative 1 would not provide for increased amounts or quality of these types of habitat, and the overall effect on game and harvest wildlife species would be negative.

RecreationAffected Environment

Owing to clean-up needs following Army arsenal operations, Midewin has been able to offer unsupervised access only on a restricted basis. Hunting has been the only recreational activity that is unsupervised until the spring of 2001, but is confined to a specific area. Currently, the public can experience Midewin through supervised activities such as guided tours, educational programs (Mighty Acorns), volunteer programs, and limited hiking trails.

Environmental Consequences

Developed recreation opportunities vary in amount, type and location by alternative. Alternative 1 offers the fewest new recreational opportunities, remaining limited to permitted hiking and hunting. Alternative 6 provides for a slight increase with the addition of increased trail options and wildlife viewing, but offers no camping opportunities. Alternatives 3 and 4 offer more types of recreational opportunities, both developed and dispersed. Alternatives 2 and 5 propose different mixes of a moderate amount of recreational experiences.

Scenery

Affected Environment

Midewin is nested within a gently rolling rural landscape, and has nearly 10,000 acres of agricultural lands, including row crops, pastures, and hayfields. As the site of a previous army ammunitions facility, Midewin's landscape is dotted with hundreds of bunkers, warehouses, and other structures, and over 100 miles each of roads and rail beds, all in various stages of disrepair. Deer Run Industrial Park lies within the former Joliet Arsenal site and is adjacent to lands on the west; the Des Plaines Conservation Area borders Midewin to the southwest. The remaining properties that border Midewin are privately owned agricultural fields and farmhouses. There are plans to develop a second industrial park and a County landfill along the southeast corner of Midewin.

Environmental Consequences

All action alternatives will benefit or improve the existing scenery or landscape at Midewin. Alternative 6 will have the least impact on prairie scenic views, with limited hunting, nature viewing, hiking, and shared trail riding. Alternative 5 offers somewhat decreased scenery potential with the addition of picnicking and dispersed camping. Alternatives 2, 3, and 4 offer the most varied recreation experiences but allow for less prairie scenery to be viewed. Alternative 1 will provide for no scenery improvements, owing to the continued presence of numerous existing unsightly features on the landscape.

Heritage Resources

Affected Environment

Heritage resources at Midewin include both historic and prehistoric sites. Historic sites include: arsenal-related structures and features, farmsteads and farmstead-related features, rural domestic sites, schools, churches, and cemeteries. Prehistoric sites are likely to include: prehistoric isolated finds consisting of a single artifact, limited activity camps, habitation sites, and

mortuary sites. Identification, evaluation, protection, preservation, and interpretation of significant heritage resources are federally mandated.

Environmental Consequences

All alternatives will provide equally for protection of heritage resources and mitigation of potential adverse effects. Alternative 1 followed by Alternative 6 offers the fewest opportunities for enhancing resource values through heritage resource interpretation.

Socio-Economic Conditions

Affected Environment

Midewin is located in the southern part of Will County, one of the fastest growing counties in the greater Chicago metropolitan area. The county's poverty rate of six percent is lower than the state average of 12 percent. Around Midewin agricultural land use predominates with corn, soybeans, and small grains the primary crops produced.

Environmental Consequences

Alternatives 2-6 are similar in their projected payments to counties and gradual decrease in agricultural special use revenues. The action alternatives offer increased visitor opportunities. Alternative 1 provides for no changes to socio-economic conditions. Under no alternative would civil rights or environmental justice be affected.

Other Disclosures

Chapter 3 examines the impact on short-term and long-term productivity of the soil. All of the Alternatives will result in long-term improvement in soil quality and productivity. Irreversible or irretrievable commitments of resources are also analyzed in Chapter 3. Irreversible commitments include: the commitment of monetary resources to implement activities, the use of fossil fuels for Prairie management, and the inadvertent loss of cultural resources. No mineral extraction is anticipated at Midewin during the 10-year planning period.

Management decisions that could result in irretrievable resource commitments include the reduction of habitat potential on sites dedicated to recreation facilities, seed production areas and roads, and the inadvertent damage and loss of threatened, endangered, or sensitive species habitat, wetlands, soils, air quality or water quality should mitigation measures fail.

Included in Chapter 3 is an examination of the adverse effects that might be caused by implementing the alternatives. While implementation of any of the alternatives will generally move the landscape and ecosystem towards an improved condition and greater productivity, adverse effects may occur. Adherence to the Standards and Guidelines from Chapter 4 of the Prairie Plan is intended to limit the extent and duration of possible adverse effects. Mitigation measures are included in the Standards and Guidelines in Chapter 4 of the Prairie Plan.

These levels of protection are incorporated into all management prescriptions and none of the alternatives will result in significant adverse environmental consequences.