

LAND MANAGEMENT PLAN



Overview

The Kickapoo Reserve Management Board (KRMB) will adapt an ecosystem management approach that will encompass the natural environment, society, and economy—the entire system. This vision is based on the awareness that the resources protected within the Reserve are not isolated from the surrounding communities and environment but are inextricably linked to them. The primary goals of ecosystem management are to conserve, restore, and maintain the ecological integrity, productivity, and biological diversity of these public lands. The overriding objective is to ensure the ecological sustainability of the land. Any upcoming strategies that the KRMB embarks upon to preserve and protect the property will work towards providing a balance between human needs and long-term environmental protection.

Land Cover

The present landscape can be described as a highly fragmented mix of agricultural land, non-native grasses and shrubs, wetlands, and hardwood and conifer woodlands. Overall the property is made

up of 4,460 acres woodland, 1,393 acres open/prairie; 1,579 acres water/wetland; 915 acres agriculture. (See 2000's Land Cover map in Appendix A)

Biodiversity in the Reserve is extraordinary. Streams and springs, rocky outcroppings, and rolling terrain all provide favorable habitat for many plants and animals. The cool, moist northeastern slopes also contribute to this range of diversity on the Reserve. Several species of flora and fauna typically found in northern, even Arctic, climates thrive here and are a tangible demonstration of what makes the Driftless Area so unique.

The area contains endangered and rare plant life as well as large tracts of majestic hemlocks, oaks, and pines. The Reserve has one of the largest populations of a nationally rare plant--Northern Monkshood--due to the unique topography of the Driftless Area. More than 470 species of vascular plants have been identified from a variety of plant communities, and over 100 bird species are known to nest on the Reserve.

Water

The Reserve would not exist today if it weren't for the unique qualities of the Kickapoo River. As an "old" dendritic river system, water has carved through the cliffs and flowed through the valleys for thousands of years. Its propensity for flooding further shapes, fills, and modifies the valley not to mention writes the history of this once inhabited property to become a publicly protected Reserve.

Fourteen miles of Kickapoo River and numerous creeks and tributaries add to the importance of the necessity to protect the property. All streams in the project area were surveyed and reclassified/upgraded by the Department of Natural Resources (DNR) in 2003: Weister Creek is Class I; Billings Creek and the main stem of the Kickapoo River are Class II, and Warner Creek is Class III. In addition, ten flowing wells and countless natural springs and seeps exist throughout the Reserve.

Wildlife--Fauna

Wildlife on the Reserve is comprised of a variety of mammal, bird, reptile, and amphibian species. A complete list of wildlife species is included in Appendix C. The significant size of the Reserve and its bountiful combination of forest, grassland, agriculture, and water in conjunction with minimized human impact make it an idyllic habitat for a variety of species.

Threatened and Endangered Resources

Rare animal species known to inhabit the corridor include three species threatened in Wisconsin: Henslow's sparrow (*Ammodramus henslowii*), red-shouldered hawk (*Buteo lineatus*), and wood turtle (*Clemmys insculpta*). Other animals of special concern include Kentucky warbler (*Oporonis formosus*), worm-eating warbler (*Helmitheros vermivorus*), cerulean warbler (*Dendroica cerulea*), Louisiana waterthrush (*Seiurus motacilla*), Acadian



Dan Jackson photo

flycatcher (*Empidonax virescens*), Blanding's turtle (*Emydoidea blandingii*), and cherry drop snail (*Hendersonia occulta*), which is a globally rare gastropod (snail) found on cool, moist, rocky slopes.

Rare flora found on the Reserve include cliff cudweed (*Gnaphalium obtusifolium*), woodland cudweed (*Gnaphalium sylvaticum*), rock clubmoss (*Lycopodium porophila*), purple-stem cliff brake (*Pellaea atropurpurea*), hooker orchis (*Platanthera hookeri*), bird's-eye primrose (*Primula mistassinica*), drooping sedge (*Carex prasina*), muskroot (*Adoxa moschatellina*), yellow gentian (*Gentiana alba*), Lapland alzalea (*Rhododendron lapponicum*), and lanced-leaved buckthorn (*Rhamnus lanceolata*).

Invasive Species

Non-native species are recognized as the most serious threat to the integrity of ground cover. They can spread rapidly and interfere with, dominate, or replace native plant communities.

To date the most aggressive invasive species found on the Reserve and those of major concern are: garlic mustard (*Alliaria petiolata*), honeysuckle (*Lonicera*), glossy buckthorn (*Rhamnus frangula*), black locust (*Robinia pseudoacacia*), multiflora rose (*Rosa multiflora*), spotted knapweed (*Centaurea maculosa*), leafy spurge (*Euphorbia esula*), purple loosestrife (*Lythrum salicaria*), yellow and white sweet clovers (*Melilotus officinalis* and *Melilotus alba*), wild parsnip (*Pastinaca sativa*) and Reed canary grass (*Phalaris arundinacea*).

Because of the many farms and homes that were once located on the Reserve, non-native flora associated with former residents' gardens and landscaping remains on the property. Exotics such as lilacs, tulips, and peonies can be seen blooming amongst native species. Although this flora is considered non-native, it will remain on the Reserve as a tribute to and reminder of the people who lost their homes and property.

A complete list of all invasives or non-natives identified is specified in the floristic inventory Appendix B.

Natural Areas

Enabling legislation s. 41.41(9), Wisconsin Statutes (Attachment 1), that created the Reserve directed the DNR to dedicate Natural Areas within the 8,569-acre property. The State designated approximately 3,600 acres within the Reserve as the Kickapoo Valley Reserve State Natural Area (#354) in 2002. State Natural Areas are formally dedicated sites devoted to scientific research, especially to the preservation of their natural values and genetic diversity for future generations. These exceptional sites are often the last refuges for rare plants and animals, and are links to the past when humans lived more intimately with nature.

The DNR, in cooperation with the KRMB, has developed a Management Plan for the Natural Areas that exist within the Reserve (see Attachment 2). The DNR's Management Plan was developed in accordance with section 23.27, Wisconsin State Statutes, and was based on site visits, inspections, KRMB goals, and monitoring programs.

Leave it as it is. You cannot improve it. The ages have been at work on it and man can only mar it. What you can do is keep it for your children, your children's children, and for all who come after you.

--President Theodore Roosevelt

Mission

Land Management will ensure protection of the soils, waters, flora, and fauna that comprise the Reserve through sound management techniques and consideration of the human influence.

Policies

- Invasive species: Eradication of invasive species can be done manually or chemically. Pesticides may include herbicides, insecticides, and fungicides. Monitoring of forest pests and diseases and control of invasive species will be determined on a case-by-case basis. This will ensure that each problem species is addressed individually rather than adopt a “one size fits all” policy. Preventing spread of invasives is primarily through information, education, visitor use of boot brushes, frequent equipment cleaning by Reserve staff, and Administrative Rule requirements for loggers.
- Natural areas: In most cases, the best management practice of Natural Areas is to simply do nothing, using a “hands off” approach. Trail use, camping, hunting, and other recreational activities are permitted in the Natural Areas in the Reserve; however, intensive public use will not be encouraged. Any public use that damages vegetation or otherwise impairs natural conditions is discouraged and will be controlled. Trails may be rerouted where use is heavy or to protect sensitive vegetation and erosion-prone areas.
- Forest: Sustainable harvests will continue to be conducted based on the forest inventory and recommendations from resource experts.
- Agricultural land: In 2010, the KRMB decided to gather soil survey information through contract with an agronomist. Soil survey data was used in conjunction with the new round of agriculture lease bids and the need for updated conservation plans. The KRMB will contract for soil survey data collection in five- to six-year increments in hope of determining whether leased acres are being properly maintained and managed. Conservation plans are required for all agriculture lands (see Agreement Attachment 3).
- Trail construction: Although described more thoroughly in the Tourism Management Plan, the policy for trail construction is to first survey for potential impacts to archeological sites or environmental sensitivity prior to any construction.

Goals and Objectives:

Land Cover Goals and Objectives

Goal: Do some select cut harvests of hardwood on the Reserve.

Objective: Complete thinning/harvest stands west of maintenance building as identified in 1999 forest management plan.

Goal: Conduct a forest reconnaissance and inventory of the Reserve resources as funding and staff allow.

Objective: Work with DNR foresters to get the forest resources inventoried and entered into a database for future forest management objectives.

Goal: Selectively harvest conifer plantations (outside of the State Natural Areas), and plant a variety of native species to establish a sustainable system.

Objective: Continue with the thinning of the conifer plantations and eventually convert them to hardwood forest.

Goal: Monitor and control forest pests and diseases such as the emerald ash borer and oak wilt.

Objectives:

- Actively monitor areas where oak wilt was present and do not conduct any cutting/trimming of oaks between April and October.
- Continue to work with the DNR and other agencies to look for the presence of the emerald ash borer and enforce firewood transport laws.

Goal: Control and eradicate invasive species, such as garlic mustard, buckthorn, purple loosestrife, and honeysuckle.

Objectives:

- Continue to use mechanical and chemical treatments to contain the invasives or eradicate them when possible.
- Monitor and record any new populations found.
- Time chemical applications to minimize effects on non-target species.

Goal: Maintain aesthetic views.

Objectives:

- Add 10-15 acres of prairie restoration and/or oak savanna over the next five years.
- Continue the use of prescribed fire to maintain open areas and set back the encroachment of woody species, especially in the Star Valley quadrant.

Goal: Encourage research and education of Reserve forest resources.

Objectives:

- Work with UW–Madison to continue the long-term oak regeneration study in the Highway P East area.
- Consider sponsorship of research projects on the property on a case-by-case basis.

Goal: Monitor visitor impact on the natural features of the Reserve and use gathered information to provide appropriate management.

Objectives:

- Continue to identify areas of trail erosion and re-route trails so they are sustainable.
- Monitor campsites for visitor impact, close trails during wet weather, and enforce capacity limits and administrative rules.

Water Goals and Objectives

Goal: Work with agency and organization professionals to maintain and improve water quality.

Objectives:

- Continue to support water quality monitoring efforts in the Kickapoo Valley.
- Work with Vernon County Land and Water and DNR professionals to identify areas where stream bank stabilization or improvement would be most beneficial.
- Gauge flow rates of the ten flowing wells to meet State reporting requirements and to monitor long-term.
- Co-sponsor the USGS gauging station at La Farge to enhance public information and support the historical integrity of the Kickapoo River data.

Goal: Reduce the potential for polluted runoff.

Objectives:

- Enforce adherence to agricultural conservation plans.
- Maintain grass waterways and buffer zones between agricultural fields and waterways.

- Identify the need for more grass waterways in fields prone to erosion.

Goal: Enhance wetland areas.

Objectives:

- Manipulate water levels periodically at Schroeders Pond through use of the water control structure installed in 2010.
- Monitor for purple loosestrife and vigilantly remove the invasive plant when found.

Wildlife Goals and Objectives

Goal: Protect rare and endangered species and their habitat.

Objective: Many of the rare and endangered species of wildlife found on the Reserve are birds. By keeping the larger blocks of forest intact and maintaining the grass open areas we can protect their habitat.

Goal: Provide a high quality public hunting opportunity that balances hunter safety and sustained use of the wildlife resource.

Objectives:

- Continue to limit vehicle access.
- Continue to enforce administrative rules and DNR laws.
- Continue to work with local professionals to monitor wildlife populations and movements, such as ruffed grouse, black bear, bobcat, wolf, beaver, and cougar.

Goal: Improve and maintain wildlife habitat.

Objectives: Many of the land cover goals and objectives will improve and maintain wildlife habitat.

Action Items for 2010-2015:

1. Monitor forest pests and diseases such as emerald ash borer and oak wilt.
2. Add 10-15 acres of prairie and/or oak savanna over the next five years.
3. Conduct a forest reconnaissance and inventory of the Reserve resources as funding and staff allow. Follow through on recommendations for harvest and Timber Stand Improvement work in the stands west of the maintenance building.
4. Maintain some open areas through prescribed burns and grass management, especially in the Star Valley quadrant.
5. Continue to address invasive species with mechanical and chemical control as staffing and budget allow.
6. Monitor and maintain heavy cover crop on field where asbestos tile was found per 2010 DNR agreement.



Review of 2005-2010 Land Management Plan Evaluation Methods:	
Evaluation markers proposed in 2005	Proof of Accomplishment
<p>Forest Lands: Selective harvest Research and education opportunities Forest inventory</p>	<p>Pine plantation thinning on ten stands from 2005-2010. Numerous education opportunities and long-term oak regeneration study continues near Big Valley. Complete forest inventory carried over to 2010-2015 priority objectives.</p>
<p>Wildlife: Protect rare and endangered Provide public hunting balancing safety and sustained use of resource Monitoring and inventory programs Education and research opportunities</p>	<p>Protection of property provides habitat for rare and endangered. Remain open to public hunting; inform all user groups of safety issues. Completed songbird surveys and continue monitoring. Improved enforcement of administrative rules and DNR laws.</p>
<p>Water quality improvement projects:</p>	<p>Billings Creek/Kickapoo River Bridge 8 stream bank stabilization projects completed in 2007. Pond study in winter of 2008 resulted in very low dissolved oxygen levels indicating not suitable for warm water fishery. 2010 water control structure installed at Schroeders Pond and initial drawdown to enhance vegetation.</p>
<p>Agriculture Lands: Continue to lease up to 1,200 acres, require farming methods that minimize erosion and runoff, education and partnerships</p>	<p>2010 Soil surveys and updated conservation plans done on all ag leased lands.</p>