



# Interim Forest Management Plan

## Kickapoo River Wildlife Area

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### Property Identifiers

Property Name and Designation (multiple small properties can be grouped): **Kickapoo River Wildlife Area – Bell Center and Wauzeka Units**

County: **Crawford County**

Property Acreage: **3,451 acres**

<http://dnr.wi.gov/topic/lands/WildlifeAreas/kickapoowu.html>

Forestry Property Code(s): **#1207**

Master Plan Date (if property has one): **None. Estimated start date for NR 44 compliant Master Plan is 2020-2024**

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## Property Assessment

### GENERAL PROPERTY DESCRIPTION

The Kickapoo River Wildlife Area (KRWA) is a 7245 acre property consisting of two separate parcels in Crawford County. The state owns 3027 acres, and 4218 acres are private lands under easement for hunting and fishing only. The largest parcel is the Wauzeka Unit which is located approximately 1 mile north of the Village of Wauzeka. The smaller Bell Center Unit is located within 1 mile of the Village of Bell Center. Both parcels are bisected by the Kickapoo River and combined contain upland and river bottom forest, open wetlands associated with the Kickapoo River, prairie and oak savanna remnants, planted warm season grasslands, and a small acreage of agricultural fields.

### LANDSCAPE AND REGIONAL CONTEXT

The KRWA is located in the Western Coulee and Ridges Ecological Landscape and has the following Landtype Associations: 222Ld01 and 222Ld02 - LaFarge Hills and Valleys. This landscape is typified by highly eroded, unglaciated topography with steep sided valleys and ridges and high gradient streams with dendritic drainage patterns.

**Current Land Cover:** The Western Coulee and Ridges Ecological Landscape is a mosaic of forest, cropland, and grassland with wetlands mostly in the river valleys. Primary forest cover is oak and hickory. Maple and basswood forests, dominated by sugar maple, basswood, and red maple, are common in areas that were not burned frequently. Bottomland hardwoods, dominated by silver maple, swamp white oak, river birch, ashes, elms and cottonwood, are common within the floodplains of the larger rivers. Relict “northern” mesic conifer forests composed of hemlock, white pine and associated hardwoods such as yellow birch are rare but do occur in areas with cool, moist microclimates. Dry rocky bluffs may support xeric stands of native white pine,



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sometimes mixed with red or even jack pine. Prairies are now restricted to steep south or west facing bluffs, unplowed outwash terraces along the large rivers, and a few other sites. They occupy far less than 1% of the current landscape. Mesic tallgrass prairies are now virtually nonexistent except as very small remnants along rights-of-way or in cemeteries.

**Important Designations:** The property has been identified within 1) the 2005 Wisconsin Wildlife Action Plan as Globally Significant for its conservation opportunities 2) the 2006 Land Legacy report for both its conservation and recreation opportunities, and 3) the 2007 Wisconsin Bird Conservation Initiative's Important Bird Areas of Wisconsin as a critical site for the conservation and management of Wisconsin's birds ([Important Bird Area \[exit DNR\]](#)). Additionally, the property contains the designated Kickapoo Wild Woods and Hogback Prairies State Natural Areas. These designations clearly demonstrate both the recreational and ecological significance of this property.

## HISTORY OF LAND USE AND PAST MANAGEMENT

The Kickapoo River Wildlife Area began as a perpetual hunting and fishing easement unit of the lower Wisconsin River Wildlife area in 1968. In 1975 the Kickapoo River Wildlife Area was separated from the lower Wisconsin River project and conversion of easements to fee ownership was begun.

Historically, both units of the KRWA have been managed to provide opportunities for public hunting, fishing, trapping and other outdoor recreation, while protecting the qualities of the unique native communities and associated species found on the property. The upland forests are primarily southern dry-mesic types, with management focusing on maintaining oak as a viable forest component, incorporating oak savanna habitat adjacent to bluff prairie sites, and minimizing conversion to northern hardwood types. Bottomland hardwoods have been managed passively. Some cropland has been converted to prairie, utilizing prescribed fire, mowing, and brushing to maintain it, while others are actively cultivated to maintain a weed free starting point for potential conversion to forest or prairie plantings. Attempts to control invasive species have utilized cutting, pulling, burning, herbicide treatment, and/or bio-control.

Most forest stands were likely grazed and logged since European settlement. Succession to central and northern hardwood types (primarily loss of oak dominance) is common in the absence of fire and active timber management.

Notable feature: Wauzeka Unit is a site of an active University of Wisconsin - Madison, Department of Forestry oak management study.

## PROPERTY CONTEXT/LANDSCAPE

Contextually, the KRWA is located in a Conservation Opportunity Area (COA) as identified within the Wildlife Action Plan's implementation document for the Western Coulee and Ridges Ecological Landscape: [http://dnr.wi.gov/topic/WildlifeHabitat/documents/MapCOA\\_EL11.pdf](http://dnr.wi.gov/topic/WildlifeHabitat/documents/MapCOA_EL11.pdf). This COA was primarily identified for large block forest opportunities. The property is also an Important Bird Area because the forests in the southern portion of this site are among the largest and most intact in the entire Driftless area and contain significant populations of forest interior birds. Subsequently, opportunities for large block old forest management for area sensitive forest interior species are exceptional. See below for species/opportunities.



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## WILDLIFE ACTION PLAN/SPECIES OF GREATEST CONSERVATION NEED

This property is specifically listed in the Wildlife Action Plan's Implementation document for the Western Coulee and Ridges Ecological Landscape (WCREL)

<http://dnr.wi.gov/topic/WildlifeHabitat/COA.html>. Four priority natural community types found on the property are listed in the document: Southern Dry-mesic Forest (typed Oak in forest recon), Southern Mesic Forest (sugar maple dominated), Oak Opening (oak savanna), and Dry Prairie. The best management opportunities for Southern Dry-mesic Forest and Mesic Forest communities are primarily found at the Wauzeka Unit, while the best management opportunities for Oak Opening and Dry Prairie communities are primarily found at the Bell Center Unit.

Priority Species of Greatest Conservation Need for the WCREL associated with the community and habitat types at the Wauzeka Unit include four-toed salamander, pickerel frog, wood turtle, Blanding's turtle, Acadian flycatcher, cerulean warbler, hooded warbler, Kentucky warbler, Louisiana waterthrush, red-shouldered hawk, veery, wood thrush, worm-eating warbler, yellow-billed cuckoo, yellow-throated warbler, northern long-eared bat, woodland vole, hickory hairstreak, gray ratsnake, blue-winged warbler, field sparrow, blue-winged teal, whip-poor-will, willow flycatcher, brown thrasher, northern bobwhite quail, and American woodcock. (Woodcock is the only non-priority species for the WCREL.) Although the majority of these species will benefit from large block old forest management, a few, primarily the latter species listed, will benefit from the development of quality "feathered" edge habitat along field edges and other open habitats.

Priority Species of Greatest Conservation Need for the WCREL associated with the community and habitat types at the Bell Center Unit include the same species with the addition of remnant prairie and oak opening species: red-headed woodpecker, prairie racerunner, prairie ring-neck snake, timber rattlesnake, bullsnake, prairie vole, dusted skipper, Leonard's skipper, Otto skipper, Whitney's underwing moth, wild indigo dusky wing, columbine dusky wing, wing snaggletooth snail, red-tailed leafhopper, and prairie leafhopper. These species will primarily benefit from prairie and oak opening management.

Additionally, the property is identified in the Wildlife Action Plan's implementation document as containing unmapped Features of Continental Significance; bat and herptile hibernacula, springs and spring runs, and moist cliff. Species of Greatest Conservation Need associated with these features not already listed above include eastern red bat, hoary bat, northern long-eared bat, silver-haired bat, and cherrystone drop snail.

## CONSERVATION OPPORTUNITY AREA

The property is located within the Lower Kickapoo Conservation Opportunity Area and is of continental significance for its driftless area features.

## NATURAL HERITAGE INVENTORY (NHI)/RARE SPECIES

Natural Heritage Inventory screenings will be conducted prior to all management for both rare species and natural community types. Combined, the units are known to contain at least 13 rare species.

## STATE NATURAL AREA

Each unit of the property contains an embedded State Natural Area (SNA). Hunting, fishing, trapping, and other recreational activities are allowed within the SNA's. See links for more detail on both recreation and management sideboards. The Wauzeka Unit contains the 635 acre Kickapoo Wild Woods SNA (# 570)

<http://dnr.wi.gov/topic/Lands/naturalareas/index.asp?SNA=570>, and the Bell Center Unit contains



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about 150 acres of the northern portion of the Hogback Prairies SNA in scattered parcels (# 334) <http://dnr.wi.gov/topic/Lands/naturalareas/index.asp?SNA=570>.

## HIGHVALUE CONSERVATION FORESTS (HVCF) OR OTHER RESOURCES/NATURAL COMMUNITY TYPES LIMITED IN THE LANDSCAPE

Several features, natural community types, and portions of the property warrant strong consideration as candidates for High Conservation Value Forest designation. These include bat hibernaculum, remnant prairie/oak opening, and the Kickapoo Wild Woods SNA.

## BIOTIC INVENTORY STATUS

Master Plan Biotic Inventory is not complete.

## CULTURAL AND ARCHEOLOGICAL SITES (INCLUDING TRIBAL SITES)

According to the Wisconsin Historical Society database, no historic sites are recognized, however, several archaeological sites exist on both units.

## RECREATIONAL USES

Hunting, trapping, and hiking are the primary recreation uses of this property. Several miles of internal undesignated trails facilitate these uses.

Note: *Private lands under easement are for **hunting and fishing only**.*

## INVASIVE SPECIES

Scattered moderate levels of buckthorn, honeysuckle, and garlic mustard exist throughout the properties, and reed canary grass exists along the Kickapoo River.

## SOILS

Soils include Dubuque and Fayette silt loams on bluff tops, Hixton loams and sandy loams on hillsides, and alluvial deposited silt loams along the Kickapoo River.

## CURRENT FOREST COVER

- Forested cover types total 2474 acres or 71% of total recon acres. (The following data does not include the Hogback Prairie SNA parcels.)
- Oak (47%of forested acreage) - 1,164 acres with 50% in the 65-85 year age class; small spike in 100-110 year age class.
- Bottomland Hardwoods (19%of forested acreage) - 469 acres; most 40-90 years, but a spike in 116 year old age class.
- Central Hardwoods (18%of forested acreage) - 443 acres with widely ranging age and size class distribution between 10 year old saplings to 95 year old large sawtimber. Majority is in 30-75 year old stands. 5% is in the 30 year age class.
- Northern Hardwoods (11% of forested acreage) - 267 acres with a wide variety of age and sized classes, especially large sawtimber size class.



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- Aspen (4% of forested acreage) - 90 acres of which 72 acres are at or over the recommended rotation age of 50-60 years.
- Walnut (1%) - 30 acres with 2/3rds in 58 year age class; rest 54-57 years old.
- Non-forested acreage accounts for 28% of recon total - 1004 acres, with 402 acres (39% of non-forest acreage) farmland, 380 acres of upland and 118 of lowland vegetation types including grass, brush and herbaceous species, 72 acres of wetlands, and the balance is right-of-way and parking areas.

## FUTURE MANAGEMENT

### Forest Management Objectives

The primary forest management objective is to provide a large block of older forest for both game species and Species of Greatest Conservation Need associated with older forest. A secondary objective is to provide high quality edge habitat along the forested-open land transition for both game species and early successional Species of Greatest Conservation Need. Management will utilize both non-commercial and commercial (via timber sales) actions.

- 1) Manage and maintain oak cover types where feasible.
  - a) Diversify age classes and successional stages.
  - b) Thin appropriate timber stands to achieve larger diameter trees.
  - c) Increase coarse woody debris.
  - d) Crop tree release oak in young stands.
- 2) Manage to emphasize importance of forest interior songbirds and other old forest wildlife species by limiting forest habitat fragmentation and expanding forest block size.
- 3) Manage for early successional forest types.
  - a) Promote aspen where appropriate, assessing the context of each stand. Natural conversion to other hardwoods may be appropriate for interior forest blocks, whereas in other areas aspen regeneration may be favored.
  - b) Promote feathered edge along forested - open land transition.
- 4) Manage and maintain bottomland hardwood forest stands and associated wetland and riparian habitats. Maintain and develop structural and functional attributes of old forests including biologically mature trees, large diameter trees, large snags, and coarse woody debris.
- 5) Promote northern hardwoods in appropriate areas using uneven-aged management.
- 6) All stands
  - a) Increase large snags and coarse woody debris.
  - b) Control invasive plant species.
  - c) Consider planting opportunities for desirable species such as oak.

### Property Prescriptions

**OAK** - Extend even-aged rotation age constraints to 120 years to lengthen oak harvest schedule. Maintain and promote oak through planting, timber stand improvement methods, prescribed fire, thinning, seed tree, shelterwood, group selection, coppice, and other techniques described in the DNR Silviculture and Forest Aesthetics Handbook. Promote the growth and retention of large oaks through techniques such as thinning, extended rotation, and managed old forest/old growth.



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Prioritize regeneration harvests on south and west facing stands where oak regeneration success is greater, including some of the mid-age stands in order to diversify oak age classes. For interior forest blocks, concentrate on conversion to uneven-aged management or thinning to develop large diameter trees under an extended rotation. Consider prescribed burning as a site preparation technique to foster oak regeneration. The long-term annual harvest goal for oak is 47 acres. Examine the 79 acres of oak stands less than 30 years of age for crop tree release needs. See Kickapoo Wild Woods SNA management plan for harvest sideboards within the SNA.

**ASPEN** - A priority is to assess these stands in 2012 to determine if they can/should be regenerated or converted to other forest types. Stands that are within a large interior forest block may be more appropriate to convert to other hardwoods. Smaller stands of aspen may need to be combined with red pine or other pulpwood sales to increase marketability.

**BOTTOMLAND HARDWOODS** – Where appropriate and feasible, use forestry practices to regenerate floodplain forest tree species. Thinning as well as single tree and group selection are common tools used in these forest types. Based on site conditions and the presence of invasive species, especially reed canary grass, these cutting practices may be used individually or in combination to achieve management objectives. Consider extended rotations, managed old forest/old growth, and allowing old forest to develop through natural processes via passive management. Retain snags and coarse woody debris.

**CENTRAL HARDWOODS** – Manage utilizing both even and uneven-aged silvicultural methods such as thinning, seed tree, shelterwood, clearcut, timber stand improvement methods, and other techniques described in the DNR Silviculture and Forest Aesthetics Handbook to regenerate these stands. Utilize even-aged methods along the forest-open land transition, retaining some mast trees, especially oak, as groups or individuals to meet legacy tree and green tree requirements and to develop large snag/cavity trees. This will also promote quality feathered edge habitat. Primarily utilize uneven-aged harvest methods to develop large diameter trees and maintain forest canopy. Promote a diversity of tree species beneficial to wildlife such as oaks, walnut, black cherry, hickory, basswood, sugar maple, and others.

**NORTHERN HARDWOODS** - Promote the growth and retention of large trees through techniques such as thinning, extended rotation, and managed old forest/old growth. Consider following the DNR Old Growth and Old Forest Handbook Management Guidelines for management of these stands.

**UPLAND FIELDS** – There are approximately 400 acres of upland fields. Annually examine 10 acres for afforestation potential to create larger interior forest blocks. Natural succession could be used as an alternative where desirable tree seed sources are present.

**RED PINE** – Sell red pine plantation thinnings at Bell Center Unit as markets allow.

**GRASSLANDS** – Cool and warm-season grasslands will be maintained via prescribed fire, mechanical, and chemical control of unwanted species. Consider afforestation of some cool-season grassland sites to provide greater forest connectivity.

**INVASIVE SPECIES** – Identify invasive plant species and implement control practices such as prescribed fire, hand pulling, chemical and mechanical control to eliminate or reduce negative impacts.

**ALL STANDS** - Retain reserve/legacy trees as groups or individuals throughout the property within harvested stands. Adhere to Best Management Practices in all management activities.



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Approvals:

\_\_\_\_\_ Date  
Regional Ecologist

\_\_\_\_\_ Date  
Forester

\_\_\_\_\_ Date  
Property Manager

\_\_\_\_\_ Date  
Area/Team Supervisor