

U.S. Fish and Wildlife
Private Stewardship Grants Program
Application
**KINNICKINNIC RIVER CANYON PRAIRIE AND OAK SAVANNA
RECOVERY PROJECT**

Submitted By:
The Kinnickinnic River Land Trust
And
The Prairie Enthusiasts--St. Croix Valley Chapter

January 2006

Objectives

- 1) The long-term protection of the federally listed (U.S. Endangered Species Act) prairie bush clover (*Lespedeza leptostachya*) by managing and restoring its immediate prairie habitat area in Western Wisconsin. The two other federally listed species are the Bald eagle (*Haliaeetus leucocephalus*) and the Higgins pearly eye mussel (*Lampsilis higginsii*).
- 2) The long-term protection of Impact on Globally Rare (G1-G3) and State Listed Species including Hill's thistle (*Cirsium hillii*), Kittentails (*Besseyia bullii*), Prairie fame flower (*Talinum rugospermum*), Timber rattlesnake (*Crotalus horridus*), Northern harrier (*Circus cuaneus*), Osprey (*Pandion haliaetus*), Great Blue heron (*Ardea herodias*) and others.
- 3) Restoration of degraded remnants of original prairie and oak savanna that are supporting rare and endangered species on privately owned land in the Kinnickinnic River Canyon and environs in west-central Wisconsin.
- 4) Foster a cooperative partnership among private landowners and private conservation organizations in the Kinnickinnic River Watershed.

Duration

Initial period is October 1, 2006 to December 31, 2007. Given that restoration is a long-term commitment, plans are in place to continue the project for five to ten years.

Costs Summary

Total Grant Request: \$116,482

Total Match Provided: \$17,863

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Project Description

This project will build on the successes of a previously funded project from the USFWS in the Kinnickinnic River Canyon by completing restoration projects on new lands with new landowners as well as complete restoration projects on new high-quality sites with the same landowners included in the previous project. The results will include building a higher appreciation of endangered and threatened species restoration/protection with private landowners. In addition, areas that were historically open landscapes with savanna or prairie communities will be directly improved by the removal of woody species. The revitalization of these remnant plant communities will provide for appropriate and much needed habitat for the listed plant species as well as wildlife species who will utilize the restored sites for feeding, reproduction, and movement between the sites in this project and those restored through the previous project. The addition of these restored sites will add significantly to the Canyon plant and wildlife habitat by helping establish a critical acreage to better allow for species success.

KINNICKINNIC RIVER CANYON

The Kinnickinnic River Canyon, i.e., the lower Kinnickinnic River between the City of River Falls to the confluence of the St. Croix River, has long been recognized for its exemplary features and notable flora and fauna species. The river flows in an approximately east-west direction through the canyon providing north and south facing slopes that harbor special conditions, plant communities and micro-habitats. Botanists and others have conducted field studies here and explored the canyon for endangered, threatened and special concern species.

According to Zager, the vegetation of the Kinnickinnic River Canyon is a complex of plant communities dominated by a mixture of southern and northern species. The high floristic diversity is attributed to: 1) the highly-dendritic river valley and its deeply-entrenched canyon that lies within a surrounding plain of glacial till; 2) the valley's exposed bedrock and groundwater seepage; and 3) the valley's location within the so-called "Tension Zone" of the Upper Midwest. The steep bluffs—on north- and east-facing slopes—and the narrow alluvial plain are dominated by mesic hardwoods and lowland hardwood forests characterized by sugar maple, red oak and various floodplain trees, such as American elm, green ash and box elder. Drier substrates on upper-slopes and south-facing slopes are dominated by oaks, paper birch with white and red pines. Representatives from the northern boreal forest—e.g., balsam fir—are present on wet-mesic slopes that often surround weeping cliffs. Small inclusions of oak savanna, bluff prairie and wet meadows also occur on cliff precipices and alluvial wetlands. Together, these plant communities support a significant portion of the region's biodiversity. In addition, there are significant areas dominated by mature and relatively undisturbed forests with trees between 60-100 years of age (Zager).

THE KINNICKINNIC RIVER WATERSHED

The Kinnickinnic River is located in Pierce and St. Croix counties in west-central Wisconsin. The entire watershed is officially located within the metropolitan area of Minneapolis and St. Paul according to the U.S. Census Bureau. The "Kinni" drains into the St. Croix River, a federally

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designated Wild and Scenic River, on the border of Wisconsin and Minnesota. It is 22 miles long and the watershed covers 140 square miles. The Kinnickinnic has been given the Wisconsin Department of Natural Resources' (WIDNR) highest designation as an "Outstanding Resource Water." Fifty percent of all bird species and 40 percent of all vascular plant species found in Wisconsin inhabit the Kinni watershed. Most of the native vegetation of the watershed includes both prairie and oak savanna ecosystems. The Canyon portion of the river is ten miles long, has 100 foot high cliffs, contains microclimates harboring rare and unique plant species, and bald eagles nest there.

The Kinnickinnic is a Class One trout stream, the highest rating given by the WIDNR. The river is cold, clean and has abundant, naturally reproducing Brown and Brook Trout and it has not been stocked for over forty years. Some stretches of the Kinni contain 8,000 trout per mile, with 1,000 trout/mile considered a good rating, and it is recognized as one of the finest trout streams in the Midwest. The watershed of the Kinnickinnic River is undergoing dramatic changes as growth from the Twin Cities metropolitan area moves to the east. St. Croix County, which includes the majority of the watershed, is the fastest growing county in Wisconsin.

U.S. FISH AND WILDLIFE SERVICE

In the late 1980's the U.S. Fish and Wildlife Service (USFWS) recognized the outstanding natural values and components of the Canyon. It held public meetings to discuss plans to designate the Canyon for special status as a natural area or another type of designation. While this type of protection never occurred, the USFWS interest in this area illustrates the Canyon's significance.

CURRENT DESIGNATIONS AND ACTIVITIES

The Canyon still is the focus of interest from both private conservation organizations and government agencies. The Nature Conservancy (TNC) and NatureServe recently released a report which identified the Kinnickinnic River as a priority area for protecting biodiversity (Nature Conservancy and NatureServe). TNC listed the following species as conservation "target" species in the Kinnickinnic River watershed:

- Hill's thistle (*Cirsium hillii*)
- Kittentails (*Besseyia bullii*)
- Prairie bush clover (*Lespedeza capitata*)
- Prairie fame flower (*Talinum rugospermum*)
- Timber rattlesnake (*Crotalus horridus*)

The Wisconsin Department of Natural Resources' (WIDNR) Land Legacy Report lists the Kinnickinnic River as one of only five legacy places in the western prairie ecological landscape classification (WIDNR). The report describes the western prairie ecological landscape as offering the best opportunity in the state to maintain a true prairie-pothole complex and is thus an important component of maintaining and recovering grassland birds and waterfowl in the state. Protection of remaining pothole wetlands and their associated uplands, prairie remnants, and oak savanna is very important according to the report. In addition, the northeastern portion of the Canyon is included in the "Western Prairie Habitat Restoration Area," a WIDNR project to restore 20,000 acres of grassland and wetland habitat. The 1,300 acre Kinnickinnic State Park is located at

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the mouth of the Canyon and at the confluence of the Kinnickinnic River and the St. Croix River. Within its boundaries is a 100 acre State Natural Area, "Kinnickinnic River Gorge and Delta" (No. 162), an undisturbed river gorge with a diversity of plant communities and features including small prairie openings, waterfalls, and dripping cliffs.

The **Kinnickinnic River Land Trust (KRLT)** was founded by a group of private landowners in 1993. The Canyon was the initial project area of the organization and the first easement held by the KRLT was located in the Canyon. As of December 31, 2005, the KRLT has protected 574 acres in the Canyon or approximately 34% of the total acres permanently protected to date. In 1995, the KRLT accepted its first two conservation easement donations and both parcels were located in the Canyon and contained threatened, endangered and special concern species. The KRLT staff and volunteers have conducted habitat restoration activities on its own land and assisted private landowners with prairie planting, invasive species removal, and controlled burns. The types of ecosystems and habitats located on these lands include goat prairies, oak savanna, restored tall grass prairie, wetlands, floodplains, algific cliffs, bluffs, springs, streams and river. Some of the threatened, endangered and/or special concern species located or historically found on these lands include: Prairie Turnip, Prairie bush clover, Bald eagle, Kitten tails, Northern harrier, Prairie plum, Timber rattlesnake, Great blue heron, Evening grosbeak and Osprey.

The **St. Croix Valley Chapter of The Prairie Enthusiasts (TPE)** has been active in on-the-ground species and habitat restoration activities in the Canyon area, and in particular, the Foster Hill area, for eight years. Foster Cemetery is the resting place of some of the first settlers in the area and has been designated as a "Conservation Area" by the City of River Falls. This designation will help to assure that the rich array of native plant species will be protected. Hundreds of volunteer hours have been spent here primarily doing invasive species removal and has resulted in the restoration of E/T species including Prairie bushclover, Prairie fame flower, Hill's thistle, Prairie plum and Kitten tails. The Chapter has also been very involved in the restoration efforts on the Alexander land.

PRAIRIE AND OAK SAVANNA ECOSYSTEMS

The Canyon is located in an area of Wisconsin identified as the "Western Prairie" region (WIDNR map) and the only part of the state with that designation. Here, the prairie ecosystem that once covered millions of acres in the upper Midwest, was a dominant feature. In addition, the oak savanna ecosystem was present here. Both types of ecosystems and their flora and fauna can be found in the Canyon and environs. As is well known, only about 1/10th of one percent of the original prairie remains intact and as a consequence, many of the species linked to this ecosystem are now rare. Of the prairie and grassland species found in Wisconsin, 41 (30 plants, 3 birds, 4 reptiles, and 4 insects) are listed as endangered or threatened (E/T). In addition to the E/T listed species, there are many rare and declining prairie/grassland species tracked in Wisconsin as species of special concern. These include 25 plants, 3 mammals, 15 birds, 2 reptiles, and dozens of insects. A number of these are found on project sites. **Table 1** shows the specific, currently listed Federal and State E/T species that will benefit from this project.

This project will recover, enhance, and expand habitat for **three Federally listed and 17 State listed species**. It will involve one private conservation land trust (KRLT), one private prairie conservation

organization (TPE), and **thirteen** private individual landowners. These remnant sites are being lost to invasive trees, shrubs, and non-native weeds because of insufficient resources to implement the level of management necessary to restore these sites.

To increase the long-term viability of these relatively small patches of habitat, they also need to be expanded as well as restored. Once the major recovery work is completed over a 5 to 10 year period, then existing available resources will be able to cover the routine maintenance of these sites.

The owners of these sites do not have the resources to adequately cover the high costs of the intensive restoration and management work that is required to get degraded sites, such as these, into a healthy, low maintenance condition. Other funding sources, outside of private donations, will continue to be applied for in the future until the management work becomes one of maintenance, rather than one of restoration or recovery. These non-private funding sources are not included as match in the budget. They include but are not limited to:

- 1) National Fish and Wildlife Federation—Species Recovery Fund
- 2) USDA Natural Resources Conservation Service – Wildlife Habitat Incentive Program
- 3) US Fish and Wildlife Service, Private Lands – Challenge Cost Share program

Impact on Federally Listed Species

Prairie bushclover (Lespedeza leptostachya)

A primary focus of this project is the prairie bush clover (*Lespedeza leptostachya*), a Midwest endemic restricted to the tall grass prairies of northern Illinois, west-central and southern Wisconsin, northern Iowa and southern and central Minnesota. The plant is very rare in Wisconsin with only two dozen known occurrences. The population near Foster Hill is restricted to three separate areas, separated up to one mile, all of which occur on ten (10) acres of original, unplowed prairie sod. Because of insufficient resources to implement the level of remedial management needed to improve and maintain the prairie bush clover's degraded remnants, the plants are threatened by invasive trees (e.g., Eastern red cedar), shrubs (e.g., European buckthorn), and non-native weeds.

Long-term viability of these small remnants depends on expansion of the surrounding prairie and restoration of adjacent buffer lands with prairie planting. The major recovery work is estimated take five to ten years, after which time existing available resources can be used for the routine maintenance of these sites. As its condition improves with restoration and management, the Foster Hill Conservation Area could be a likely candidate for designation as a Wisconsin State Natural Area.

The proposed project will affect six percent of the known prairie bush clover sites in Wisconsin, and approximately three (3) percent of the total number of plants in the state (based on counts over a ten year average). Proposed management will enhance a total of approximately 60 acres of prairie bush clover habitat that is now being slowly but steadily lost to woody plant invasion, and it will expand potentially useable habitat from 15 acres to 60 acres (a four-fold increase).

Proposed restoration and management are likely to reveal and release previously undetected prairie bush clover populations throughout the site, as well as increase overall population four to

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five-fold, as has occurred at the two largest prairie bush clover populations in Wisconsin. The proposed prescribed burns will likely increase the growth, reproduction, and recruitment of prairie bush clover. Prairie bush clover sites in this project area are critical sites for protection and management in the Federal Prairie Bush Clover Recovery Plan.

Bald eagle (*Haliaeetus leucocephalus*)

A bald eagle nest was located in the Canyon about halfway between the City of River Falls and the St. Croix River. It was an active nest that was used each year and in 2003, at least one bald eagle was hatched and raised there. In 2004, the nest was occupied by a nesting pair. In the summer of 2004 the nest was destroyed by a wind storm. A nesting pair soon found another nesting site and have used that site through the present. The Canyon portion of the Kinnickinnic River is used year-round by bald eagles since it never completely freezes, and connects to the St. Croix and Mississippi Rivers which are favorite wintering areas for eagles. The entire Canyon area is used by Bald Eagles for feeding, roosting and other activities and are regularly observed.

Higgins pearly eye mussel (*Lampsilis higginsii*)

This endangered species lives in the St. Croix River and likely at the mouth of the Kinnickinnic River. While this species of mussel is not found on the project sites, by enhancing and restoring the native plant communities within the Canyon, water quality of the Kinnickinnic River will be enhanced. This will help assure high quality aquatic environments for this and other mussel species.

Impact on Globally Rare (G1-G3), State Listed Species

Timber rattlesnake (*Crotalus horridus*)

The Canyon is an historic range for Timber rattlesnakes and they very likely still occur there on at least some of the project sites. In the past, farmers reported wearing protective leggings to guard against rattlesnake bites while haying and conducting other field work. We have also received reports of rattlesnakes in the City of River Falls and in Kinnickinnic State Park.

Hill's thistle (*Cirsium hillii*)

This Midwestern endemic prairie species is currently known from 55 sites in Wisconsin. However, 82% of those (90% of total numbers) are on private land. Nearly 30% of the private sites (12) support approximately 40% of the state's total population of *Cirsium hillii*. Approximately 50 acres of *Cirsium hillii* habitat will be improved or created by this project.

Northern harrier (*Circus cuaneus*)

This raptor species has been observed throughout the Canyon and particularly in open fields and restored prairies. It will benefit from the removal of invasive plant species, the restoration of native prairie and oak savanna ecosystems and the planting of prairie.

Osprey (*Pandion haliaetus*)

Ospreys can be observed in the Canyon as the Kinnickinnic River contains high populations of trout and is connected to the St. Croix and Mississippi Rivers.

Great Blue heron (*Ardea herodias*)

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Great Blue herons are found along the Kinnickinnic River in the Canyon in the Spring, Summer and Fall. The abundant populations of fish, extensive habitat, and the absence of houses in the Canyon provide ideal conditions for this species.

Prairie fame-flower (*Talinum rugospermum*)

This Wisconsin species of special concern has two areas of occurrence within the project area. One site is severely threatened by the presence of the non-native *Centaurea maculosa* or Spotted Knapweed. Knapweed will be removed from the site expanding habitat for Prairie Fame-flower.

Kitten-tails (*Besseyia bullii*)

This species, listed threatened in Wisconsin, will benefit from the extensive clearing of brush within the Oak savanna areas of the project. As has happened at other sites in the area, when brush was removed, many once dormant and suppressed propagules will be invigorated with additional sun and water availability.

PROJECT SITES

All of the project sites are located within or adjacent to the Kinnickinnic River Canyon. The exception is the Alexander site which is located approximately three miles from the Canyon. These sites contain high quality remnant prairie and oak savanna ecosystems including populations of Prairie bush-clover, Carolina anemone, Ground plum, Kitten tails and Prairie turnip. The most extensive restoration work has been conducted at Foster Hill by TPE and the Alexander site has had management work conducted by TPE, TNC, and others. The **Alexander site** contains a privately owned native prairie remnant; listed species include: Prairie bush-clover, Carolina anemone, Ground plum, Kitten tails and Prairie turnip. The **Anderson site** contains oak savanna, bluffs, floodplain, streams, springs, spring pond, and the Kinnickinnic River; listed species include: Kitten tails, Prairie turnip, Marble seed, Great blue heron, Bald eagle feeding/roost area. The **Erickson site** contains a bluff with a goat prairie and when restored will likely contain several of the listed species particularly Prairie turnip. The **Meyer site** contains oak savanna, prairie remnants, the Kinnickinnic River, bluffs, and floodplain. There is an historic population of Silky prairie clover that is being encroached upon by cedar trees. The restoration work here will also likely reveal several of the other listed species. The **Chambers site** contains oak savanna, goat prairie, and bluffs. Of particular importance is the existence of one of the strongest populations (Judziewicz, 1989) of Prairie turnip in a directly adjacent oak savanna. This restoration effort will likely result in an increase in this Prairie turnip population. The **Miller/Goode site** contains the Kinnickinnic River, bluffs, oak savanna, and goat prairie; listed species include: Prairie bush clover, Ground plum, Kittentails, Yellow evening primrose, Marbleseed, Prairie turnip, and Prairie ragwort.

The KRLT holds conservation easements on the Erickson and Chambers sites, but the easements do not require management or restoration activities as prescribed in this grant proposal. The distinct advantage of these two sites being protected with permanent easements is that they will never be built upon and the restored habitats will remain protected.

The total area of all project sites is approximately 75 acres.

PROJECT PARTNERS

The Kinnickinnic River Land Trust

The Kinnickinnic River Land Trust (KRLT) is a non-profit, 501 (c) 3 tax exempt, membership organization that was founded in 1993 by a group of concerned landowners and community leaders who were committed to the protection of the watershed of the Kinnickinnic River. The mission of the KRLT is to "work with the community to protect the natural resources and scenic beauty of the Kinnickinnic River watershed." The KRLT has been successful in protecting, restoring and managing land in the watershed of the Kinnickinnic River. By December 31, 2005 it had protected 1,759 acres through donated conservation easements, land and conservation easement acquisitions and land donations. Included in this total are over 6.5 miles of riverbank access permanently granted for the general public.

The Prairie Enthusiasts

The Prairie Enthusiasts (TPE) is a non-profit conservation organization operating in parts of Wisconsin, Minnesota, and Illinois with 950 members. Its mission is to conserve the prairies, savannas, and related fire-dependent ecosystems of the upper Midwest. In addition to providing permanent protection to land through acquisition of title and easements, it works extensively with private owners of prairie and savanna remnants to help them restore and maintain their natural areas. The St. Croix Valley Chapter of The Prairie Enthusiasts has completed a management plan and conducted extensive restoration activities at the Foster Conservation Area, at the head of the Canyon and the Alexander Prairie.

Project Statement of Work

Project Design

Activities

- 1) Invasive native and non-native tree and shrub cover will be removed to the greatest extent possible and practical. The long-term goal on these sites is to retain or establish a native prairie habitat or oak savanna. In those areas, native trees and shrubs will be retained at a species composition, density, and structure considered natural for oak savanna. Lastly, low growing native shrubs that are an integral and characteristic component of the prairie flora will not be removed. Trees and shrubs will be controlled by a combination of cutting and treating the cut stumps with herbicide, and mowing or chopping without herbicide. This work will be a multiple year process. This grant request is only for the first year. *USFWS grant monies will be applied to the first year and a half only.*
- 2) Control of invasive, non-native herbaceous plants will be done by hand cutting/pulling and selective mowing timed to eliminate seed production. This work will be a 5-year process. This grant request is only for the first year. *USFWS grant monies will be applied to the first year and a half only.*
- 3) Prescribed burns will be conducted in early spring or late fall on portions of selected sites. The long-term goal is to burn all portions of the sites, but on a staggered, rotational basis over multiple years. The average fire return interval will range from two to five years depending upon site condition and needs. Fire breaks will be cleared and mowed. No USFWS grant monies will be used for prescribed burns.

4) Project work on the site will be planned and supervised by TPE and the KRLT. Volunteers will primarily conduct prescribed burns. Volunteers will do an estimated 10 percent of the tree, brush, and weed control work. The remaining 90 percent will be done by outside contractors.

Responsible Parties

The Kinnickinnic River Land Trust will be the primary grant administrator and The Prairie Enthusiasts will take the lead in the restoration activities. Administration expenses associated with the project will also be paid for by the grant. Work conducted on private lands at the Foster Hill site, the Alexander site, and the Miller/Goode site will be planned and supervised by The Prairie Enthusiasts. The activities on the other sites will be coordinated by the KRLT.

Volunteers and staff of the cooperators will be conducting all of the prescribed burns. Volunteers will also be doing an estimated 10% of the tree, brush, and weed control work. Contractors will also be doing the rest of the tree, brush, and weed control work. Should one or more of the cooperators establish a student internship contract with one or more universities or colleges, supervised paid student interns may also assist on some of the less hazardous work.

Baseline Condition and Milestones

Heavy tree and brush invasion exists on the project sites to varying degrees from approximately 10 percent to 90 percent cover. About 40 percent of the sites have significant sweet clover problems along with minor infestations of crown-vetch and knapweed.

First year work, between October 1, 2006 to December 31, 2007, to progress as follows:

October-February	- control tree/brush (depending on snow depth and temperature) on remnant and non-remnant sod areas
October-November	- collect seed; mow fire-breaks; use prescribed burning
November	- plant prairie into degraded area
March-April	- use prescribed burning
May	- mow prairie plantings (1 st seasonal)
May-August	- control tree/brush on areas of non-prairie-remnant sod
June-September	- collect seed
September	- control tree/brush on remnant and non-remnant sod areas
June	- control yellow sweetclover, reed canary grass, leafy spurge, crown-vetch
July	- control white sweetclover, wild parsnip; mow prairie plantings (2 nd seasonal)

Project Evaluation

Success will be determined by surveys, inventories, and photos to assess:

- 1) Increases in populations of the targeted endangered/threatened species, particularly Prairie bush Clover.
- 2) Increase in establishment or recovery of the diversity and flowering of prairie vegetation and oak savanna ecosystems.
- 3) Percent reduction of tree and brush cover.
- 4) The number of acres burned.

Long-term Commitment

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The long-term goal is to protect and maintain the habitat on these sites through fee title, perpetual conservation easements, or management agreements with the landowners (preferably ten-year or longer agreements). We will work with the landowners by whatever means and extent they are comfortable. The conservation partners are committed to assisting the landowners with the maintenance management of these sites once the major remedial work is completed.

SPECIES LIST

(See Table 1)

PROJECT BUDGET

(See Table 2)

MAPS

(Attached)

PUBLICATION REFERENCES

- 1) The Nature Conservancy and NatureServe, "Conservation Priorities for Freshwater Biodiversity in the Upper Mississippi River Basin," Arlington, VA, 2003.
- 2) Wisconsin Department of Natural Resources, "Land Legacy Report, Draft," Madison, WI 2002.
- 3) Wisconsin Department of Natural Resources, "Ecological Landscapes of Wisconsin," map, Madison, WI, 1999.
- 4) Wisconsin Department of Natural Resources, Bureau of Endangered Resources, "Endangered, Threatened and Special Concern Vascular Plants in the Kinnickinnic River Valley, Pierce County, WI," Emmet J. Judziewicz, September 29, 1989.
- 5) Zager, Scott, email, Wildlands Ecological Services, Maplewood, MN, February 20, 2004.

PROFESSIONAL REFERENCES

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**TABLE 1
SPECIES LIST**

ELCODE	Scientific Name	Common Name	Global Rank	State Rank	USES A STATUS	WI STATUS
PDRAN04030	<i>Anemone caroliniana</i>	Carolina anemone	G5	S1		END
PDFAB0F2G0	<i>Astragalus crassicaulus</i>	Ground-plum	G5	S2		END
PDSCR09030	<i>Besseyia bullii</i>	Kitten tails	G3	S3S4		THR
PDONA02040	<i>Calytophus serrulatus</i>	Yellow evening primrose	G5	S2		SC
PDAST2E1C0	<i>Cirsium hillii</i>	Hill's thistle	G3	S3		THR
PDFAB1A1Q0	<i>Dalea villosa</i>	Silky prairie-clover	G5	S2		SC
PDFAB27090	<i>Lespedeza leptostachya</i>	prairie bush-clover	G3	S2	LT	END
PDAST6P020	<i>Nothocalais cuspidata</i>	Prairie false-dandelion	G5	S2		SC
PDBOR0S030	<i>Onosmodium molle</i>	Marbleseed	G4G5	S3		SC
PDORO04070	<i>Orobanche ludoviciana</i>	Louisiana broomrape	G5	S1		END
PDORO040F0	<i>Orobanche uniflora</i>	One-flowered broomrape	G5	S3		SC
PDFAB5L0B0	<i>Pediomelum esculentum</i>	Prairie turnip	G5	S3		SC
PDPOR080G0	<i>Talinum rugospermum</i>	Prairie fame-flower	G3G4	S3		SC
ABNKC01010	<i>Pandion haliaetus</i>	Osprey	G5	S3S4B		THR
IMBIV21100	<i>Lampsilis higginsii</i>	Higgin's eye	G1	S1	LE	END
ARADE02040	<i>Crotalus horridus</i>	Timber rattlesnake	G4	S2S3		SC/H
ABNKC11010	<i>Circus cyaneus</i>	Northern harrier	G5	S3B		SC/M
ABNGA04010	<i>Ardea herodias</i>	Great Blue heron	G5	S3B		SC/M
ABPBY09020	<i>Coccothraustes vespertinus</i>	Evening grosbeak	G5	S2B		SCM
ABNKC10010	<i>Haliaeetus leucocephalus</i>	Bald eagle	G4	S3B	LT, PD	SC/FL

TABLE 2. BUDGET - KINNICKINNIC RIVER CANYON PRAIRIE AND OAK SAVANNA RECOVERY PROJECT - 2006

SITE NUMBER	SITE NAME	Brush and Tree Removal	Weed Control	Burns*	Total Costs	Match In-Kind	Total Match	Request	
1		16,700	800		17,500	1,580	1,580	15,750	
2			600		12,000	1,800	1,800	10,200	
3			600		3,000	300	300	2,700	
4			600		4,000	400	400	3,600	
5			7,000	2,875	38,875	7,291	7,291	31,585	
6	MILLER/GOODE	20,000	3,500	1,300	24,800	3,246	3,246	21,554	
7	ALEXANDER	15,000	2,250	1,300	18,550	3,246	3,246	15,304	
					TOTAL	118,725	TOTAL	17,863	100,693
							Administration	15,789	
							TOTAL REQUEST	116,482	

* No USFWS funds will be used on the prescribed burns, the burns will be conducted by volunteers as in-kind match contributions only

The rate used to calculate the in-kind match is based off the National Park Service rate of \$16/hour per volunteer effort, efforts will include cutting, hauling, piling, and burning brush cut by volunteers or by contractors.

The value of in-kind prescribed burns is based on acres burned, using a sliding scale. The rate used is \$100/acre for burns <5 acres, \$80/acre for burns 6 - 10 acres, \$60/acre for burns 11 - 20 acres, \$40/acre for burns 21 - 40 acres, and \$20/acre for burns >40 acres

KINNICKINNIC RIVER CANYON PRAIRIE AND OAK SAVANNA RECOVERY PROJECT

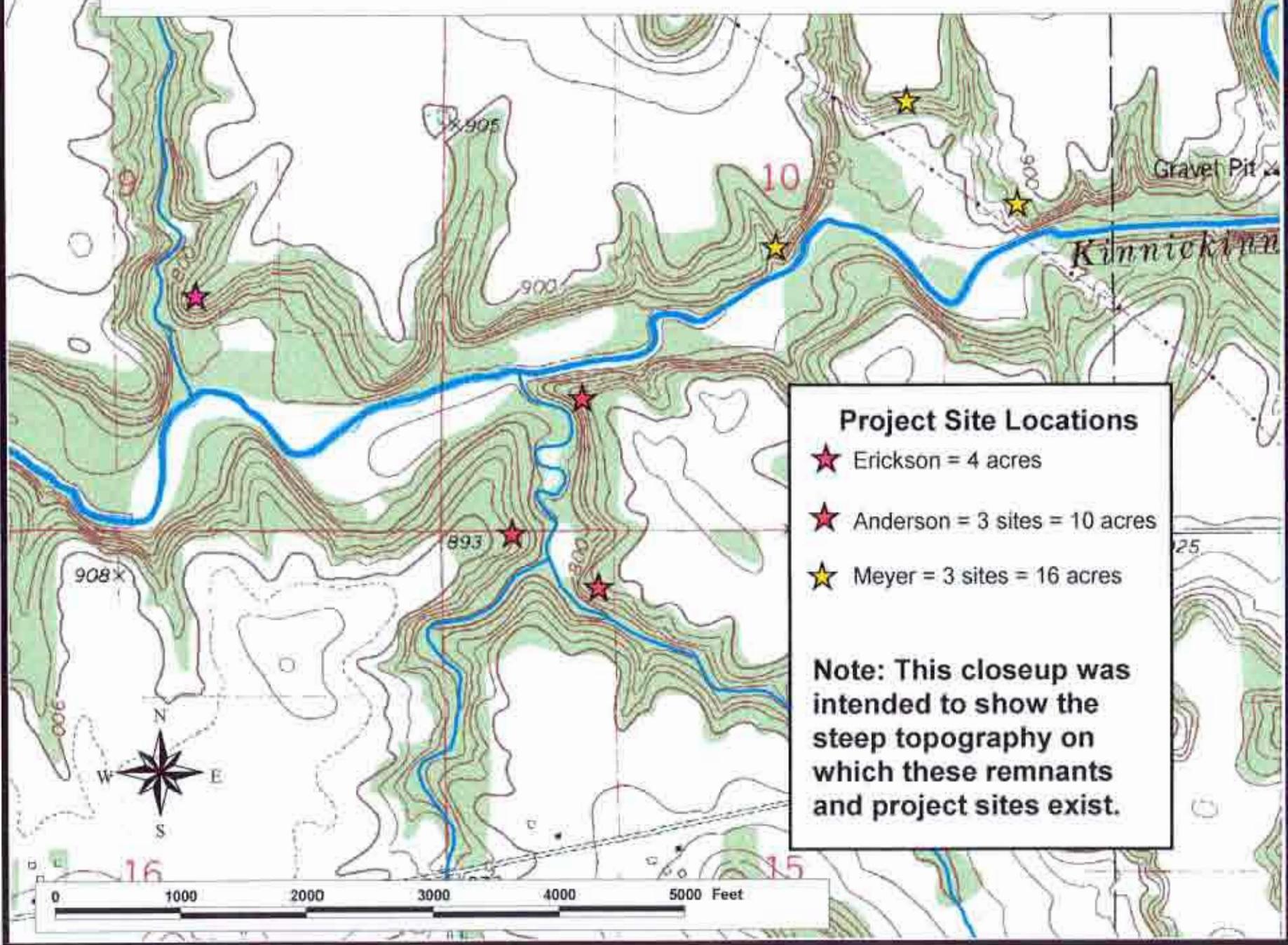
CITY OF RIVER FALLS

Project Site Locations

- ★ Miller/Goode = 15 acres
- ★ Chambers = 3 acres
- ★ Erickson = 4 acres
- ★ Anderson = 3 sites = 10 acres
- ★ Meyer = 3 sites = 16 acres
- ★ Foster Hill = 7 sites = 12 acres
- ★ Alexander = 15 acres

0 1 2 3 4 5 Miles

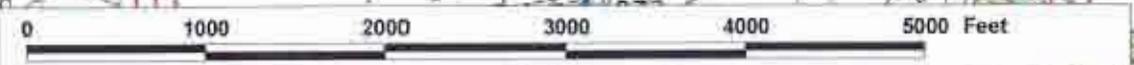
KINNICKINNIC RIVER CANYON PRAIRIE AND OAK SAVANNA RECOVERY PROJECT



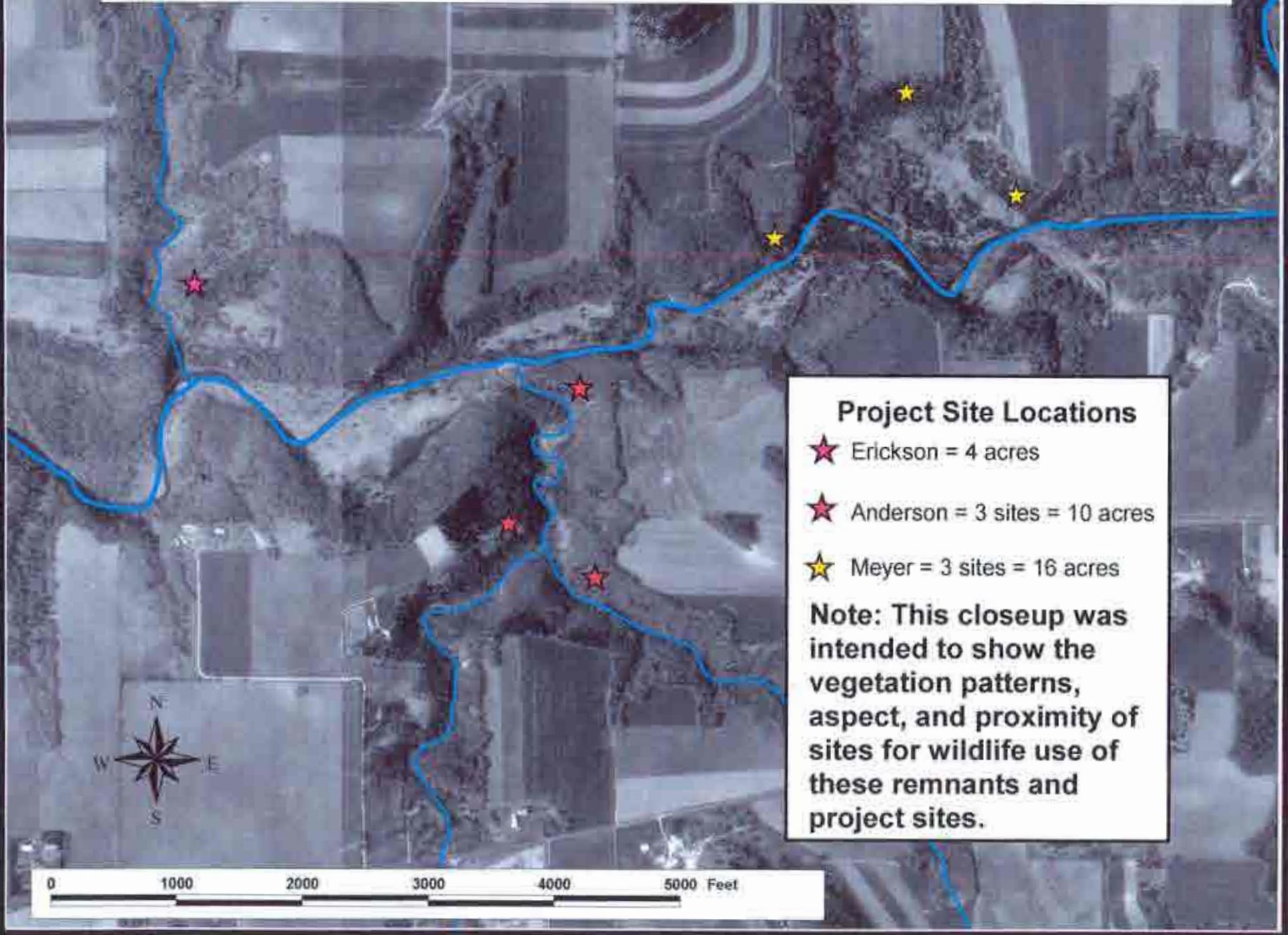
Project Site Locations

- ★ Erickson = 4 acres
- ★ Anderson = 3 sites = 10 acres
- ★ Meyer = 3 sites = 16 acres

Note: This closeup was intended to show the steep topography on which these remnants and project sites exist.



KINNICKINNIC RIVER CANYON PRAIRIE AND OAK SAVANNA RECOVERY PROJECT



Project Site Locations

- ★ Erickson = 4 acres
- ★ Anderson = 3 sites = 10 acres
- ★ Meyer = 3 sites = 16 acres

Note: This closeup was intended to show the vegetation patterns, aspect, and proximity of sites for wildlife use of these remnants and project sites.

