

UW-Platteville Land Management Plan, 12/18/15

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Introduction

UW-Platteville is steward to approximately 816 acres of land in southwest Wisconsin. The “mound” accounts for 90 acres, the Pioneer Farm for another 400, and campus proper makes up 362 of these acres. The following land management plan guides decisions affecting those 362 acres of campus proper. Any individual or group planning activities that could affect the biodiversity or management of these lands should consult this plan and the UW-Platteville Campus Planning Commission.

Campus Open Space Vision

UW-Platteville strives to create open space that:

- Contains diverse, accessible habitats that reflect the Driftless Region and supports a variety of activities.
- Is ecologically and economically sound,
- Is integrated with campus, community, and curriculum.

In order to best achieve this vision, we have divided our open space into distinct areas based upon native plant communities, uses, and built boundaries and documented how well each area currently meets this vision (see page 3). We further offer recommendations for helping UW-Platteville advance this vision by providing a set of recommended priorities for both the natural and mowed areas of campus (see page 10).

Background

UW-Platteville mission defines how our campus operates and functions. The land and, concurrently, our land management practices, are critical to supporting this

University of Wisconsin-Platteville Mission Statement

The University of Wisconsin-Platteville provides associate, baccalaureate, and master’s degree programs in a broad spectrum of disciplines including: science, technology, engineering, and mathematics; criminal justice; education; business; agriculture; and the liberal arts. We promote excellence by using a personal, hands-on approach to empower each student to become broader in perspective, intellectually more astute, ethically more responsible, and to contribute wisely as an accomplished professional and knowledgeable citizen in a diverse global community.

mission. Campus lands provide the space and backdrop for both classroom learning and outdoors learning. The landscape both inspires and informs a student’s time at UW-Platteville.

Before campus existed, the land was a mix of deciduous forest and grasslands and was likely actively managed by Native Americans who burned the prairies. Campus once only claimed a tiny portion of the eastern side of what we now consider campus. As enrollment grew, the campus expanded west, adding what we call “Memorial Park” in 1926. See Appendix A for a timeline of campus land acquisitions and significant investments.

Over the years, in addition to academic and residential buildings, campus has been host to a farm, gardens, and wild areas. Faculty have always used the open space as a teaching tool and as a place to convene and build community. The campus lands serve numerous functions critical to the UW-Platteville mission, to name a few:

- *Applied learning* – at least 40 unique classes between two of our three schools (BILSA and LAE) made regular use of outdoor areas for relevant coursework in 2015 (Appendix B),
- *Gathering and social networking* – Residence Life and Campus Programming make regular use of campus open space through both planned and unplanned activities,
- *Athletic opportunities* – Many clubs and individuals take advantage of our 5+ miles of trails and many sports fields for both recreational and competitive sports,
- *Stormwater management*- in order to maintain compliance with DNR Law NR 216.07(8) Wis. Adm. Code, we have carefully managed our natural areas to help capture and disperse stormwater which both helps prevent costly disasters in times of heavy precipitation, and prevents habitat damage.
- *Carbon sequestration*- open space helps to offset CO2 produced by campus activities, helping assure that our University contributes positively to the region and world.

23.9% of UW-Platteville Students would like to see more native plants and landscaping on campus.
-UW-Platteville Sustainability Survey, April 2015

The challenge is how to balance the many needs of our campus lands with the available resources. In the summer of 2014, an F2 tornado touched down on campus, damaging over 60 acres of campus a felling 1,484 trees, and bringing with it heightened awareness to the need for a proactive and well managed land resource. Ensuing discussions prompted the creation of this plan.

Planning Process

The plan process began in spring of 2015 with a community forum on May 6th to document the variety of uses currently present on campus and begin establishing a vision for the future of campus lands. Over 15 people attended this event where our collective land interests were documented and prioritized. A draft 20 year vision for open space was constructed.

Over the summer, an ad hoc committee met monthly to dig further into our land decisions and finalize the vision statement. The group received staffing support from Dr. Yari Johnson, Reclamation Faculty, Doug Stephens, Campus Planner, and Amy Seeboth-Wilson, Campus Sustainability Coordinator. Over the course of the summer, the group convened three times to cover the following topics:

1. Tuesday 7/7, 1 - 3 p.m.: Approve vision statement and define land objectives
2. Tuesday 7/21, 1 - 3 p.m.: Vet sections 1 & 2 (overview and status of natural areas & history of campus land)
3. Tuesday 8/11, 1 - 3 p.m.: Review Future Land Map

During the planning process, the following information was gathered:

- Faculty and staff were surveyed to identify the ways that campus lands are integrated into curriculum and research (see Appendix B),
- Campus grounds were extensively surveyed for uses and biodiversity (see Appendix C),
- A tree inventory was conducted in fall 2015 (see Appendix F),
- Past plans and studies were inventoried for relevant data.

Combined, these resources inform the recommendations found in this plan and align with the mission and strategic goals of UW-Platteville.

Also during the summer of 2015, UW-Platteville hired Dr. Johnson and two students from the Reclamation program to oversee post-tornado restoration work in the campus open spaces. With the severe destruction of campus grounds there was a very real concern that invasive plants would move in quickly and rapidly degrade the quality of campus lands if campus was not able to stay ahead of the problem. See Appendix E for a summary of restoration work accomplished.

On December 12, 2015 the Committee convened one last time to review and approve the draft plan.

**Ad Hoc Land Management
Committee Members**

Ellen Hughes, Admission and
Enrollment Services

Kim Schmelz, Alumni Association

Tim Zauche, Sustainable and
Renewable Energy Systems

Kelly Aldworth, Markee Pioneer
Student Center

William Hoyer, Office of Research and
Sponsored Programs

Donita Cartmill, Horticulture Faculty

Mike Penn, Civil Engineering Faculty

Kris Wright, Biology Faculty

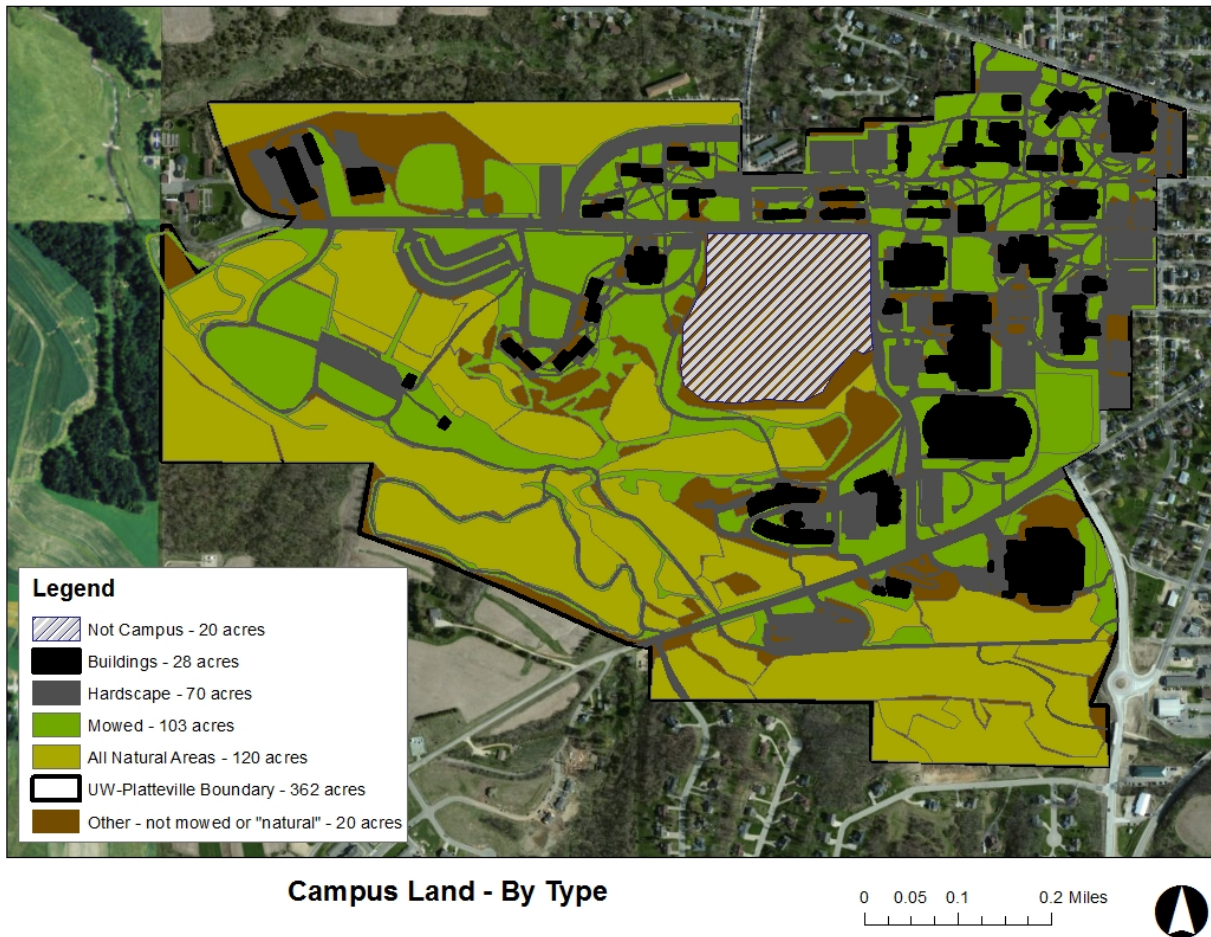
Curt Fatzinger, Athletics / Outdoor
Recreation

Matt Zielinski, Residence Life

Steve Cullen, Grounds

Evan Larson, Geography Faculty

Present Conditions



For the purposes of this plan, we have divided campus proper into two types of land:

1. Mowed Areas, which make up 30% of campus proper (107 acres) and are mowed, and
2. Natural Areas, which make up the other 33% of campus proper (120 acres). The natural areas tend to be only minimally managed (e.g. they may have trailed mowed through them and receive occasional management primarily for restoration purposes).

This mix is reflected in the open space vision of the 2011 Campus Master Plan, which proposes to contain the majority of campus buildings (and potential growth) along the eastern portion of campus, while maintaining the south and western portion of campus as “natural areas.” There is a very functional reason for this division: most of the western half of campus is not easily developable due to either steep slopes or floodplain concern.

For both land types, we review their present conditions relative to the vision of campus open space:

UW-Platteville strives to create open space that:

- Contains diverse, accessible habitats that reflect the Driftless Region and supports a variety of activities.
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- Is integrated with campus, community, and curriculum.

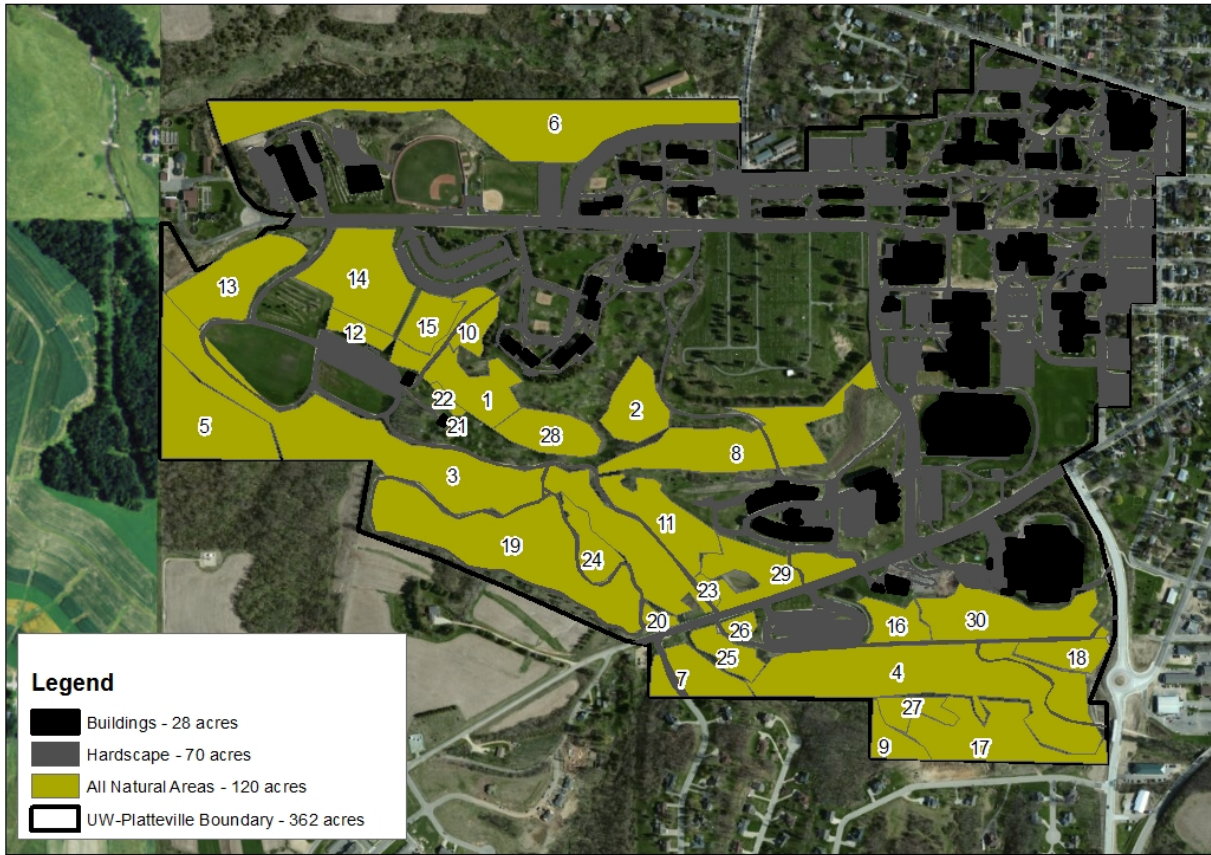
Natural Areas

Campus currently is home to approximately 120 acres of “natural areas.” This acreage contains native prairies, trails, arboretum signage, a parcourse, a disc golf course, and heavily wooded areas. Currently, we spend an estimated \$8,000 on maintaining the campus natural areas each year, primarily on spraying, cutting, and mowing trails. Occasional restoration work is done on these areas but it is typically driven by a particular faculty’s interests or a construction project. In the summer of 2015 we planted nearly 5,000 trees (4,075 seedlings and 52 large diameter trees) in this area (see Appendix) after a loss of an estimated 1,484 trees due to a tornado that hit and damaged approximately 60 acres of campus on June 16th, 2014. This tree planting effort was funded by \$19,000 grant from the Wisconsin Department of Natural Resources.

To document the present conditions of campus natural areas, we divided natural areas of campus into 30 distinct “native plant communities” or defined areas of plants that that interact with each other and with their environment in ways not greatly altered by modern human activity or by introduced organisms. We then graded each area against criteria that support the the vision of this plan. Each natural area was reviewed based upon the following criteria:

- *Ecological health* - This criteria is measured by the amount and diversity of native plants species versus invasive plant species and the plant community’s resemblance to a fully functioning ecosystem. An “A” grade for ecological health represents a site that functions independently as a high quality natural ecosystem, while an “F” represents a site that has few to no native plant species, requires ample intervening maintenance to restore basic ecosystem functions, and lacks the appropriate plant community structure (e.g., a prairie that has many over story trees would have inappropriate structure).
- *Educational value* - In order to assess the ecological value, an email survey was sent to campus faculty and academic staff asking for information about classes and number of students using each natural area. An “A” ranking represents an area that is used by multiple classes, while a “C” ranking represents an area used by one class or lab session annually. A “D” ranking represents areas that are not used annually, while an “F” ranking is for spaces that have no known educational use.
- *Land utilization* – This criteria documents whether or not a natural area is being used to its full potential. Most of the university’s natural areas are on steep land or floodplain and there are few other potential uses for the land (other than recreation and greenspace). If an area is used for its most practical it received an “A” for land utilization. If an area was poorly suited for greenspace and had better potential uses, then it received an “F.”

- *Safety and security* – This criteria was based on the amount of brush and small trees obstructing view of the surrounding area. Open areas with no brush were given a ranking of “A,” while areas with overgrown trails and lots of brush were given an “F.”
- *Wildfire concern* – This criteria is measured by fuel load, continuity of fine fuels, and proximity to structures. A mature hardwood forest with little understory vegetation that is far away from structures has a low fire risk and was graded as an “A.” An area received an “F” if it was near structures with heavy fuel loads and continuous fine fuels capable of carrying fire.
- *Maintenance needs* – This criteria is based on the estimated amount of work by the Grounds Department required to maintain trails and paths in a particular area. Areas with little to no maintenance needs received an “A,” while areas with many trails and paths received an “F.”
- *Invasive species* – Areas with only a trace of invasive species, or species not native to the area and known for having a negative impact on our economy, environment, or health, received an “A” and areas completely overtaken with invasive species received an “F.” Most natural areas on campus received a low score for invasive species due to the vast abundance of such species.
- *Prescribed fire* – Here, each area is ranked based on its need for prescribed fire. This ranking was based on fire need for maintenance purposes (e.g., to keep down brush in a prairie) and for ecosystem health (e.g., to encourage germinations of native seeds). Sites with no need for prescribed fire received an “A” and sites with an immediate need for prescribed fire an “F.”



Campus Land - Natural Areas

0 0.05 0.1 0.2 Miles



Number	Name	Acres	Overall Grade	Ecological health	Educational value	Land utilization	Safety/security	Fire concern	Maintenance needs	Invasive species	Prescribed fire
1	Oak Woodland 1	2.9	B-	C+	A	B	C	A	B	D	B
2	Oak Woodland 2	2.6	B	C+	A	B+	C+	A	A	C	B
3	Floodplain Forest	17.8	B	C+	A	B+	B+	A	C	C+	A
4	Rountree Flooplain Forest	13.3	C+	C	C+	C-	B	A	B	C+	A
5	Mixed Hardwood-Pine Forest 1	5.6	C	C+	D	C-	B	A	A	C+	A
6	Mixed Hardwood-Pine Forest 2	12.0	F	D	F	C-	B	A	B+	C	A
7	Mixed Hardwood-Pine Forest 3	2.6	C	C-	F	B	A	A	A	C+	A
8	Mixed Hardwood-Pine Forest 4	7.1	B-	C+	B+	B	B-	B	C+	C+	A
9	Mixed Hardwood Forest 1	1.2	C+	B-	F	B+	A	A	A	B-	A
10	Mixed Hardwood Forest 2	2.4	C+	C-	B	B	B-	B	B	C-	B
11	Mixed Hardwood Forest 3	3.5	C+	C-	C+	B	B+	B	A	C-	B
12	Pine Plantation	0.9	C	D-	C+	B+	A	A	A	C	A
13	Pioneer Prairie	4.6	C+	C	B	B+	A	B	B	C	F
14	Prairie 1	5.5	C	D	B	C-	A	C+	B+	C-	F
15	Prairie 2	1.8	C-	D-	B	C-	A	C+	B+	C-	F
16	Prairie 3	1.6	C	D-	B	B	A	C+	B	C-	F
17	Prairie 4	5.1	C-	C+	D	D-	A	C+	A	C	F
18	Cullen's Prairie	1.6	B-	B	C	A	A	C	B+	B	D

19	Rountree Prairie	11.1	B-	C	A	B	A	C	C+	B-	F
20	Rountree Prairie Annex	0.4	B-	C	A	B	A	C	C+	B-	F
21	Submergent March	0.1	B	B-	A	B-	A	A	B	D	A
22	Memorial Park Fen	0.2	B-	D+	A	A	A	A	A	D	B
23	Streamside Fen	0.3	C+	D+	B	A	A	A	A	D	B-
24	Wet Prairie 1	1.6	C+	C-	B	A	A	A	A	D	B-
25	Wet Prairie 2	1.4	C	D-	C+	A	A	A	B+	D	B-
26	Wet-mesic Prairie	0.5	C	D-	C+	A	A	A	B+	D	B-
27	Sedge Meadow	1.3	C+	C+	C	C+	A	A	A	C	B-
28	Oak Savanna 1	2.6	B-	C	A	B-	B+	A	B+	D-	C
29	Oak Savanna 2	3.9	C+	D	A	C	A	C	A	D	C
30	Oak Savanna 3	5.3	C	C-	C	B-	C+	B	B+	C	C

Grading Criteria	Value (A-F)
Ecological health	A - Currently in good ecological health
Educational value	A - Used by many classes
Land utilization	A - Currently in best use of land
Safety/security	A - Safe for people
Fire concern	A - Low fire risk
Maintenance needs	A - Currently have low maintenance needs
Invasive species	A - Few invasive species
Prescribed fire	A - Low current need for prescribed fire

See Appendix C for a full description of each natural area and a set of recommendations for improving and maintaining the health of each area.

Mowed Areas

Mowed areas provide an important backdrop to the built environment of campus. Students, staff, and campus visitors see these areas daily as they enter campus buildings. The mowed areas help keep a clean and safe atmosphere for the core functions of campus life. These areas are typically seeded with Kentucky Blue Grass. Frequently, they feature landscaped areas with trees, shrubs, annual and perennial plantings. Currently, we spend approximately \$50,000 on maintaining the Mowed Areas of campus each year (staff time, gas, equipment costs).



Campus Land - Mowed Areas

0 0.05 0.1 0.2 Miles



The Mowed Areas on campus are managed primarily by the Facilities Management Grounds Crew (made up of management and many students). Grounds crew typically mows campus twice / week during summer months (depending upon the weather), apply mulches, repair damaged areas, and apply light applications of herbicides to manage weed growth. The University does not currently have a policy governing management techniques such as chemical applications, species selection, or plant siting.

Seen above, the Mowed Areas can be divided into those that are “high use or visibility” (e.g. park areas, trails, sports fields), and “low traffic areas” or spaces that serve a visible role in campus operations, but are not necessarily walked upon or used for a particular activity.

The “high use or visibility” areas tend to provide a critical link between the built environment of campus and the natural areas.

1. They often serve an important recreational function for athletics,
2. They often serve as gathering spaces for academics or social events, and, finally,
3. They provide a vital access corridor from which to engage in and view the natural areas of campus.

The “low traffic” areas, conversely, while visually important, do little to contribute to the vision of this plan. Instead they can result in costly maintenance while contributing little to learning opportunities, habitat diversity, or ecological health of campus.

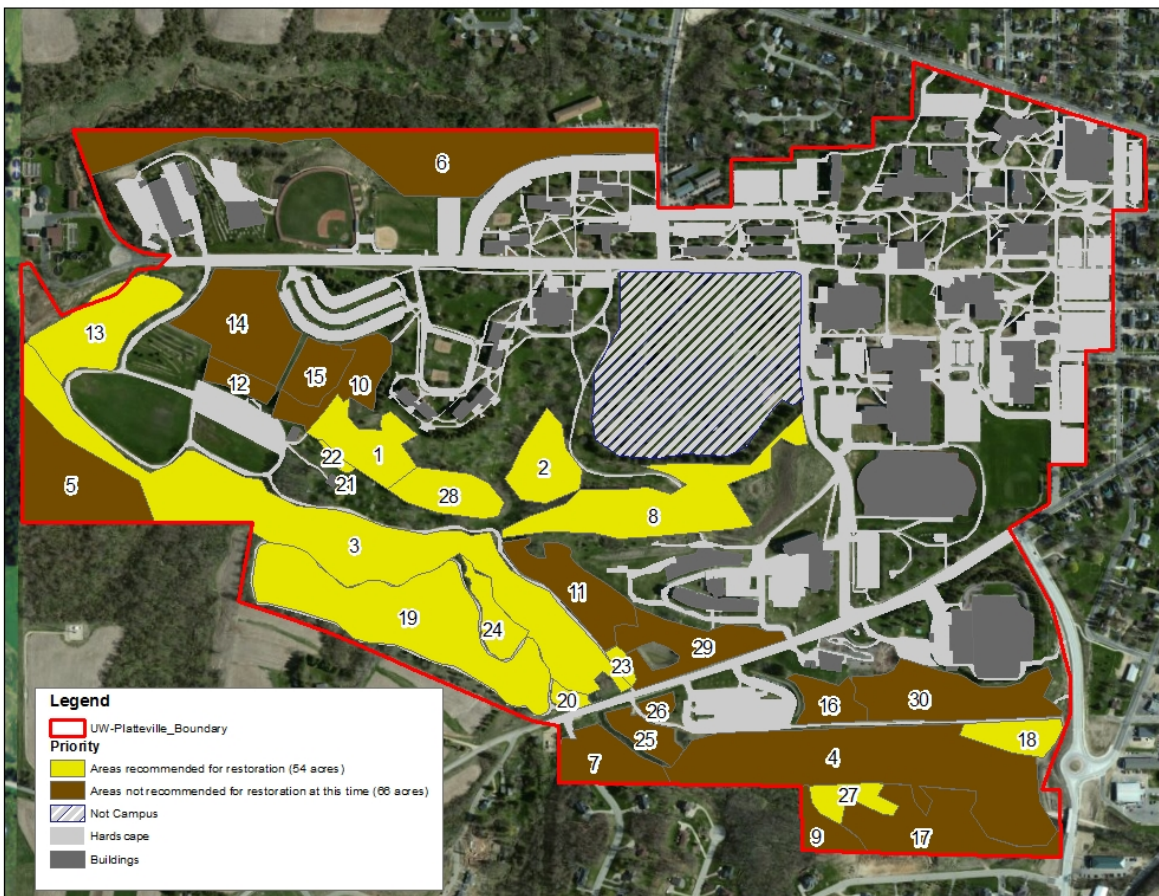
Recommendations

Again, the stated vision of UW-Platteville is to create open space that:

- Contains diverse, accessible habitats that reflect the Driftless Region and supports a variety of activities.
- Is ecologically and economically sound,
- Is integrated with campus, community, and curriculum.

In order to progress toward our campus vision for open space, we provide several recommendations below:

Native Areas

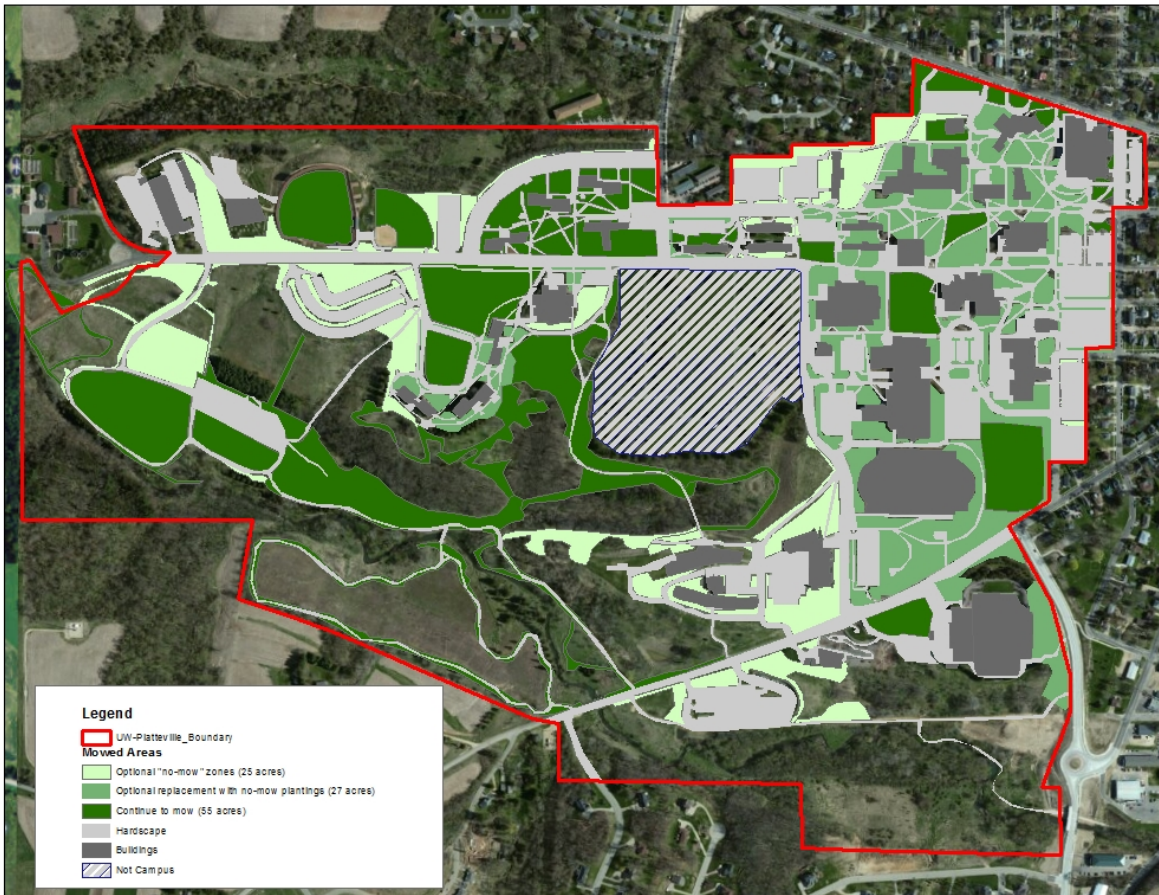


We recommend investing in restoration of approximately 54 acres of our native areas on campus by applying the prescriptive restoration measures described in Appendix C. These 54 acres are selected for ranking the highest or best acreage in the analysis described on page 7 of this plan; these areas are in relatively good ecological health and require relatively low maintenance. When resources are limited it is most efficient to invest in maintaining the best areas before investing in the areas that need the most work.

We estimate that by investing approximately \$12,530 per year for the first three years into this restoration, \$4,120 per year after the first three years, will substantially advance the quality of our native areas and the vision of this plan. After three to five years of this restoration work, the University should review whether it would like to extend restoration efforts into the other 66 acres of native areas on campus.

Our cost breakdown is as follows: Cost years 1-3: 2 students, full time for summer, \$10.00 / hour, part time manager (\$4,000), and supplies (\$500), Cost after year 3: 1 student, half time for the summer, \$10.00 / hour, part time manager (\$1,500), and supplies (\$500). Note that these costs are in addition to the approximately \$8,000 currently spent each year on maintenance of campus native areas.

Mowed Areas



Below are three options for future maintenance of campus Mowed Areas. For each option, four separate scenarios are offered that reduce the need to mow and instead replace the mowing with more diverse plant life that is low maintenance. Each scenario progressively advances the vision of this plan.

Scenario 1: No mow zones. In this scenario areas are let to grow with just two mowing's / year. The perimeter remains mowed to help create a tidy appearance, but otherwise the grass is left to grow long with only minimal maintenance. Signage is put up to educate the view. No mow zones is not native and does little to further the ecological health or diversity of campus. Taller grass does help provide increase wildlife habitat.

Scenario 2: No-mow grass with annual rye. In this scenario the current grass would be removed and replaced with a seed variety



called “no mow” that does never grow much higher than 8” tall. This grass typically has a very pleasant appearance and, if installed correctly, it will remain low maintenance (requiring a mow twice/year). No-mow grass is not native and does little to further the ecological health or diversity of campus.

Scenario 3: Little bluestem. In this scenario, the current grass would be removed and replaced with a seed variety called little bluestem. Little bluestem is a taller grass (typically 24” tall) that has a very attractive green hue in summer and orange hue in fall. The grass is native and it’s deep roots create many benefits including drought tolerance, stormwater recharge, and carbon sequestration. Little bluestem does advance the vision of this plan and is extremely low maintenance and attractive.



Scenario 4: Native prairie. In this scenario, the current grass would be removed and replaced with a mix of native prairie plants. Prairie plants can come in a variety of heights and mixes can be made to thrive under different conditions. The plants are native and it’s deep roots create many benefits including drought tolerance, stormwater recharge, and carbon sequestration. Native prairie does the most of the above three scenarios to advance the vision of this plan and is attractive, but it can require more long-term maintenance.



Recommendations

	Acres	Stop Mowing	Little Bluestem	No-Mow Grass	Erosion Prairie
Total Installation Costs (seed, spry + tillage, irrigation)					
Option 1: Status Quo	107	0	0	0	0
Option 2: Low Traffic	35	0	\$7,198	\$36,445	\$19,491
Option 3: Low + Medium Traffic	51	0	\$10,507	\$53,198	\$28,451
Annual Maintenance Costs (after installation)					
Option 1: Status Quo	107	n/a	n/a	n/a	n/a
Option 2: Low Traffic	35	\$597	\$973	\$973	\$1,946
Option 3: Low + Medium Traffic	51	\$872	\$1,420	\$1,420	\$2,840
Years to Break Even (Installation Costs)					
Option 2 & 3		0	0.46	2.35	1.26
Annual Savings after Installation					
Option 1: Status Quo	107	0	0	0	0
Option 2: Low Traffic	35	\$14,928	\$14,552	\$14,552	\$13,579
Option 3: Low + Medium Traffic	51	\$24,236	\$23,688	\$23,688	\$22,267

Revenue generation

Campus open space provides many benefits for the University and broader community, but these benefits currently do not have financial value associated with them. We recommend that campus actively explore ways that fund the restoration and maintenance of this open space. Campus could explore establishing a use fee and promoting more events in Memorial Park (e.g. weddings). We also recommend the formation of a Foundation Account dedicated to campus open space. In conjunction with this campus should create an adoption program, where trees, plants, or infrastructure such as benches can be sponsored at fixed prices. All proceeds would be returned to campus land management

Future decision-making process

Finally, the Plan recommends that campus institutionalize a process for decisions regarding the future of campus open space. To date, these decisions have fallen on various parties at different times and subject matters. A streamlined process can dramatically improve the use and value of the open space.

We recommend that rather than the creation of a new campus committee, that open space decisions be granted to the current Campus Planning Commission. This Commission already is host to many positions pertinent to land decisions on campus and could help oversee decisions such as:

- (1) Placement of future trails and recreational areas,
- (2) Outdoor infrastructure requests,
- (3) Review of land management practices.
- (4) Develop a recommended list of tree and shrub species for future campus plantings.

Appendix A - History of Campus Lands

Prior to 1916 - UW-Platteville was founded in 1866 as the first state teacher preparation institution in Wisconsin, then called the Platteville Normal School. Classes were held in Rountree Hall, located at the corner of Main and Elm streets. Rountree Hall was actually built 13 years earlier in 1853 to accommodate the rapidly increasing enrollment of the Platteville Academy, founded in 1839 (even before Wisconsin's statehood) by the city's Presbyterian Church.

The university also has roots in the Wisconsin Mining Trade School, established in 1907 to train specialized technicians to work in the mining operations surrounding Platteville. When the Normal School vacated Rountree Hall for its new quarters in Main Hall, the mining school moved in. In 1917, a third year was added to the curriculum, making the Wisconsin Mining School the first school in the United States to offer a three-year course in mining engineering, upon completion of which a student received a diploma.

During this period, campus was very small and dispersed throughout the city. Greenwood Cemetery had been built much earlier (1850's).

◊ *Source: UW-Platteville History (<https://www.uwplatt.edu/150/uw-platteville-history>) and UW System Land Acquisition Report*

1916 - 1926- In addition to the two major acquisitions below (125 acres), campus acquired approximately 4 acres from a total of 8 property transactions along Jay St., W Main, and Greenwood Ave. during this period.

◊ *Source: UW System Land Acquisition Report*

- **1916**- Campus made its first major expansion to develop west- the State Normal School bought 23 acres from George Johns and Lena Johns west of Jay Street. This area marks the beginning of the westward development of campus and was primarily used for the "school farm." Campus contained two buildings at this time ("Old Main" where the Center for the Arts is now located, and Ullrich, built in 1916).

◊ *Source: UW-System Land Acquisitions Report, Exponent Articles, and "The History of Agricultural Education at the University in Platteville" by Dr. Ken Killian, October 2002, Campus building dates obtained from UW-Platteville Campus Planning*

- **1926** - Campus made its second major expansion west by purchasing 102 acres of farmland which wrapped south and west of Greenwood Cemetery from William Boyle and Catherine Boyle for \$20,400. This area would become known as Memorial Park in 1946. Between 1926 and the 1960's, this area was farmed as the "school farm," with a portion of it (the flat bottom by the Rountree Branch of the Little Platt River) known as "Picnic Grounds".

◊ *Source: UW-System Land Acquisitions Report and "The History of Agricultural Education at the University in Platteville" by Dr. Ken Killian, October 2002*

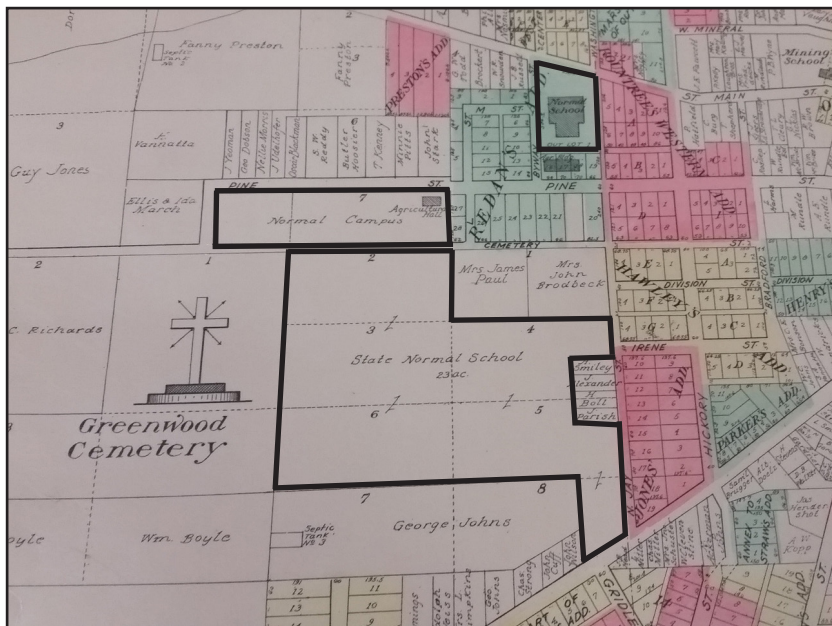


Image 1:

Campus property, 1918, outlined in bold
Source: 1918 Grant County Plat Book, UW-Platteville Southwest Room

1927-1950- Campus experienced modest growth during this period, acquiring an additional 45 acres, primarily along W. Pine St., W. Main St, Union St., Adams St., and Jay St. The majority of these acquisitions (30 acres) occurred along Greenwood Ave. During this period the Art Building and Brigham Hall were constructed.

◊ *Source: UW System Land Acquisition Report, Campus building dates obtained from UW-Platteville Campus Planning*

• **1946** - West side of campus was renamed to Memorial Park at May 7th, 1946 dedication.

◊ *Source: UW-Platteville Exponent. Memorial Park Dedicated May 7; Honors 33 dead. Date: 5/21/1946 Volume: 46 Issue: 8 Page: 3 Column: 1*



Image 2: Campus aerial photo, 1940 *Source: Memorial Park History <http://www.uwplatt.edu/memorial-park/aerial-photos>*

1951-1969- A period of rapid growth for campus. During this time, campus acquired a total of 586 acres. 400 of these were “Pioneer Prairie Farm” (now called “Pioneer Farm”) and 90 were “The Mound.” The remaining 96 acres acquired during this period were made in 75 separate acquisitions. During this time, campus expanded along its northern, eastern, and southern perimeter. During this period Doudna Hall, Royce Hall, McGregor Hall, Gardner Hall, the Williams Fieldhouse, Warner Hall, Wilgus Hall, Dobson Hall, Central Heating Plant, Porter Hall, Melcher Hall, Ottensman Hall, Ullsvik Hall, Glenview Commons, Hugunin Hall, Brockert Hall, Morrow Hall, Pickard Hall, Giese Facilities Management, Karrmann Library, Russell Hall, and Pioneer Tower were constructed.

◊ *Source: UW System Land Acquisition Report, Campus building dates obtained from UW-Platteville Campus Planning*

1960- In 1960 the “Pioneer Prairie Farm” opened. Over the course of the decade the “school farm” (on campus proper) was gradually replaced with buildings and had moved completely out to the Pioneer Prairie Farm by 1970.

◊ *Source: “The History of Agricultural Education at the University in Platteville” by Dr. Ken Killian, October 2002*

• **1968 -1970** -The “driving range” (now the rugby fields, tennis court, and parking lots in Memorial Park) was added to Memorial Park between these years .

◊ *Source: Facilities Management 1968 & 1970 Aerial Photographs of campus*



Image 3: Campus aerial photo from west, 1968
 Source: Facilities Management



Image 4: Campus aerial photo from west, 1970
 Source: Facilities Management

1970-1979- Rapid expansion continued, with campus acquiring an additional 38 acres in 31 transactions. During this period Pioneer Stadium was constructed.

◊ Source: *UW System Land Acquisition Report, Campus building dates obtained from UW-Platteville Campus Planning*

- **1973** - The natural area behind Glenview was expanded through a land acquisition funded in half by a Land and Water Conservation Department (LAWCON) grant. It was funded partly because the land is a flood plain and with the idea that it would be a park-type facility and open to the public.

◊ Source: *UW-Platteville Exponent. Hannan starts plans for picnic grounds. Date: 9/13/1973 Volume: 75 Issue: 3 Page: 1 Column: 1*

- **1974** - According to Walt Hannan, director of Campus Planning, the Greenbelt started in 1974. In 1979 it ran parallel along the Rountree Branch of the Platte River from the trailer court at South Chestnut Street to the City's sewage treatment plant. At that time, they were working with the City to expand it along the south side of the City. It was intended to serve as a conservation area, a buffer to campus, and an outdoor laboratory for academics. The project was planned to have three phases: tree planting (some of which were planned to be not native), stream restoration, and development including trails, a shelter house, and several small parking lots.

◊ Source: *UW-Platteville Exponent. Habitat plans made for area. Date: 10/11/1979 Volume: 81 Issue: 6 Page: 1 Column: 1*

- **1978** - The par course opened in spring of 1978. It was $\frac{3}{4}$ miles and 18 stations. It was funded through a \$975 grant from Union Pacific, with a local match raised by student organizations and dormitories. All other items (lumber, hardware) were donated and Wisconsin Power and Light donated building equipment. Members of ROTC volunteered to help with course construction. The effort was led by Dennis Palmer, assistant to the director of housing at UW-Platteville.

◊ Source: *UW-Platteville Exponent. Exercise Course Opens this Spring - Date: 3/24/1977 Volume: 78 Issue: 21 Page: 1 Column: 1 Photo: NO*

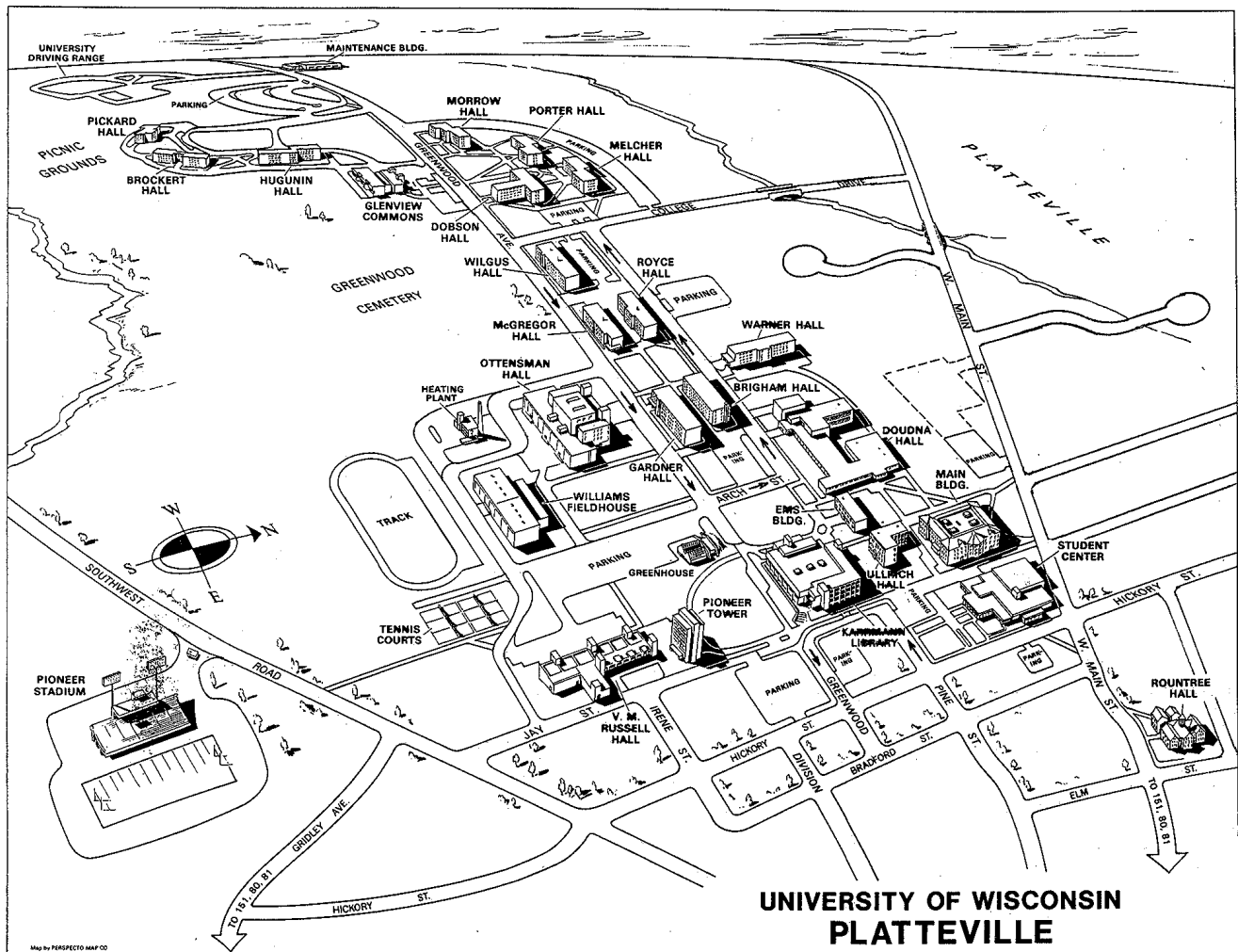


Image 5: Campus map, 1970's Source: UW-Platteville Southwest Wisconsin Room

1980-1997- Growth began to slow, campus only acquired 16 acres during this period in 26 transactions. During this period Boebel Hall, Center for the Arts, and the Children's Center were constructed.

◊ Source: *UW System Land Acquisition Report, Campus building dates obtained from UW-Platteville Campus Planning*

- **1980** - According to the student coordinator Paul Hahn, during this period the Greenbelt Project, running parallel along the Rountree Branch of the Platte River from the trailer court at South Chestnut Street to the City's sewage treatment plant, was "trying to encourage wildlife, wildlife food and shelter, and erosion prevention. We are trying to develop a more natural setting." Rose White, streambank restoration coordinator, said it would be "like an arboretum, a nature walk, and an outdoor classroom." The project was controlled by the Soil Conservation Services (SCS) and the DNR (with input from UW-Platteville) has the final authority on decisions. Funded by the University with matching funds from the Federal Government, the project was overseen by many partners including the Dept. of Agriculture, faculty and student representatives from agriculture, biology and geosciences. Engineers worked on bank stabilizations and stream development from at least 1975-1980. Soil Morphology class was mapping soils that run along the river. Student organizations were involved and there were plans to buy and plant trees from the Boscobel Nursery. They still had to decide what trees to plant where. Environmental Student Club worked on the prairie across from the maintenance building and above the driving range and put up bird houses. Roger Higgs from the Dept. of Ag. was credited with getting the project going.

◊ Source: *UW-Platteville Exponent. Students Help Wildlife, Date: 12/11/1980 Volume: 82 Issue: 13 Page: 5 Column: 3*

- **1991-** Frisbee Golf Course built - The course contains 18 holes and was planned for three years before it was built. Two students along with Dennis Palmer, assistant director of UW-Platteville Auxiliary Services, designed the course. It is a loop and is supposed to take about 1 hour to complete.

- ◇ *Source: UW-Platteville Exponent. Frisbee Golf Finds a Home at UW-Platteville. Date: 4/18/1991 Volume: 90 Issue: 25 Page: 8 Column: 1*
- During this period, the campus received the following grants for restoration work:
 - ◇ *1992- Land and Water Conservation (LAWCON) Grant # 55-01793 for the UW-Platteville Greenbelt Development Area (\$292,200 project, \$73,050 grant)*
 - ◇ *1994 - Land and Water Conservation (LAWCON) Grant # 55-01793, for the City of Platteville/UW Systems Platteville Recreation Area (\$300,000 project, \$150,000 grant)*
 - ◇ *1994 - Urban Rivers Grant Program Grant# URGP-036, Rountree Branch Randall Acquisition (3.6 acres) - 8/31/94-6/30/97, (\$51,000 project, \$25,500 grant)- 3.6 acres*

Appendix B: Survey of land use for educational purposes, summer 2015

An email was sent to campus faculty during the summer of 2015 asking if and how Faculty use campus open space for learning. Below are the responses received. No responses were received from EMS; the request was not passed on to faculty in this college.

Name	Course	Title	Where
Sharon Klavins	BIOL 1350	General Botany	Main campus, Rountree Prairie, Memorial Park, Rountree Branch
Sharon Klavins	BIOL 3550	Morphology and Evolution of Vascular	Main campus, Platte Mound
Beth Frieders	BIOL 3650	Plant Communities of Wisconsin	Main campus, Pioneer Prairie, Memorial Park, Rountree Branch, Rountree Prairie
Ben Grady	BIOL 3650	Plant Communities of Wisconsin	Main campus, Pioneer Prairie, Memorial Park, Rountree Branch, Rountree Prairie
Ben Grady	BIOL 1350	General Botany	Main campus, Pioneer Prairie, Memorial Park, Rountree Branch
Sharon Klavins	BIOL 4150	Forensic Botany	Main campus, Forensic Investigation Crime Scene House
Scott Ringgenberg	HHP 1100	Seasonal Activities	All campus greenspace
Scott Ringgenberg	HHP 3400	Outdoor Activities	All campus greenspace
Scott Ringgenberg	HHP 3330	Lifetime Activities	All campus greenspace
Scott Ringgenberg	HHP 2430	Adventure Education Practicum	All campus greenspace
Scott Ringgenberg	HHP 2330	Intro to Adventure Education	All campus greenspace
Eugene Tesdahl	HIST 3520		Memorial Park
Eugene Tesdahl		American Women	Greenspace around campus
Angela Jones	ENGL 1130		Greenspace around campus
Ulz Daeuber	HHP 1100	Seasonal Activities	Memorial Park, Trails along Rountree Branch and throughout campus
Ulz Daeuber	HHP	Advanced Fitness Training	Memorial Park, Trails along Rountree Branch and throughout campus
Beth Frieders	BIOL 2450	Fungi, Algae and Bryophytes	Memorial Park and all campus wooded areas
Beth Frieders	BIOL 2420	Fundamentals of Biological Investigation	Prairies, wooded areas
Kristopher Wright	BIOL 3750	Freshwater Biology	Rountree Branch and all surrounding riparian areas
Becky Doyle-Morrin	BIOL 1750	Diversity of Life	Rountree Branch and all surrounding riparian areas
Mark Miner			Campus greenspace near buildings
Richard Bockhop	AGET	Soil & Water Conservation Engineering	Memorial Park, areas next to Rugby Fields
Evan Larson	GEOG 3340	Biogeography	Memorial Park, wooded areas, Rountree Prairie
Lynnette Dornak		Intro to Geographic Information Systems	All campus greenspace
Jessica Brogley		Educational Media Apps	All campus greenspace
Jessica Brogley		Educational Theory	All campus greenspace
Mari Vice	GEOG 1140	Physical Geology	Rountree Branch and all surrounding riparian areas (from Platte Mound to the sewer treatment plant)
Mari Vice	GEOG	Hydrogeology	Rountree Branch and all surrounding riparian areas (from Platte Mound to the sewer treatment plant)
Donita Cartmill	ENVHORT 1320	Introduction to Environmental Horticulture	Mansel and Dottie Johns Pioneer Gardens
Donita Cartmill	ENVHORT 2280	Woody Landscape Plants	Memorial Park
Donita Cartmill	ENVHORT 3320	Landscape Management	Memorial Park
Richard Moninski	ART 2310	Drawing II	Memorial Park
Carole Spelic	ART 2430	Art Survey	All campus greenspace
Carole Spelic	ART 1520	3D Design	All campus greenspace
John Peterson	BIOL 2420	Fundamentals of Biological Investigation	Wetlands on campus
John Peterson	BIOL 3040	Comparative Anatomy of Vertebrates	Wetlands on campus
John Peterson	BIOL 4410	Amphibians and Reptiles of Wisconsin	Woods, Rountree Branch, Wetlands, Prairies
Dawn Lee	SCSCI	Weed Science	Prairies, wooded areas, Memorial Park

Appendix C - Native Area Management Plan

Introduction

UW-Platteville is host to a variety of plant communities ranging from riparian hardwoods to grasslands and spring-fed marshes. These areas serve as a living laboratory for students in all three colleges. The university and local community use these areas for recreational purposes. They provide habitat for plants, insects, and animals native to the Driftless Area and a potential refuge for some of Grant County's 189 state-imperiled species.

In this report, the natural areas are arranged by plant community type. Most plant community classifications are approximations since many of the natural areas on campus are heavily degraded. A map of each natural area is included along with a brief explanation that includes the dominant native plant species, invasive species, and land use, if any. A "snapshot" table for each natural area that ranks its ecological health, educational value, land utilization, safety/security, wildfire concern, maintenance needs, invasive species, and need for prescribed fire is also included. See page 5 in the Land Management Plan for a complete explanation of each ranking.

Number	Name
1	Oak Woodland 1
2	Oak Woodland 2
3	Floodplain Forest
4	Rountree Floodplain Forest
5	Mixed Hardwood-Pine Forest 1
6	Mixed Hardwood-Pine Forest 2
7	Mixed Hardwood-Pine Forest 3
8	Mixed Hardwood-Pine Forest 4
9	Mixed Hardwood Forest 1
10	Mixed Hardwood Forest 2
11	Mixed Hardwood Forest 3
12	Pine Plantation
13	Pioneer Prairie
14	Prairie 1
15	Prairie 2
16	Prairie 3
17	Prairie 4
18	Cullen's Prairie
19	Rountree Prairie
20	Rountree Prairie Annex
21	Submergent March
22	Memorial Park Fen
23	Streamside Fen
24	Wet Prairie 1
25	Wet Prairie 2
26	Wet-mesic Prairie
27	Sedge Meadow
28	Oak Savanna 1
29	Oak Savanna 2
30	Oak Savanna 3

Woodlands and Forests

Oak Woodland 1



0 15 30 60 Meters



Oak Woodland 1 (3 acres)

0 40 80 160 Feet

Oak woodland 1 is located in Memorial Park and covers an area of 3 acres. The overstory is mostly composed of white oak (*Quercus alba*) and burr oak (*Quercus macrocarpa*). Other canopy species include a few cottonwood (*Populus deltoides*) and black walnut (*Juglans nigra*). The understory is exclusively composed of non-oak species with basswood (*Tilia americana*), green ash (*Fraxinus pennsylvanica*), boxelder (*Acer negundo*), and elm (*Ulmus spp.*) dominating. There are also quite a few invasive bush honeysuckle (*Lonicera spp.*) in the understory. Other invasives include garlic mustard (*Alliaria petiolate*) and burdock (*Arctium spp.*).

This forest is highly trafficked. Memorial Park Walkway forms the northwestern border. The southern edge is mowed lawn. There are numerous unofficial dirt paths winding throughout and a mowed trail along the northeastern edge.

Parts of the northwest corner were salvage logged after the June 2014 tornado.

Table 1. Oak Woodland 1 Snapshot

Category	Grade
Ecological health	C+
Educational value	A
Land utilization	B
Safety/security	C
Fire concern	A
Maintenance needs	B
Invasive species	D
Prescribed fire	B

Oak Woodland 2



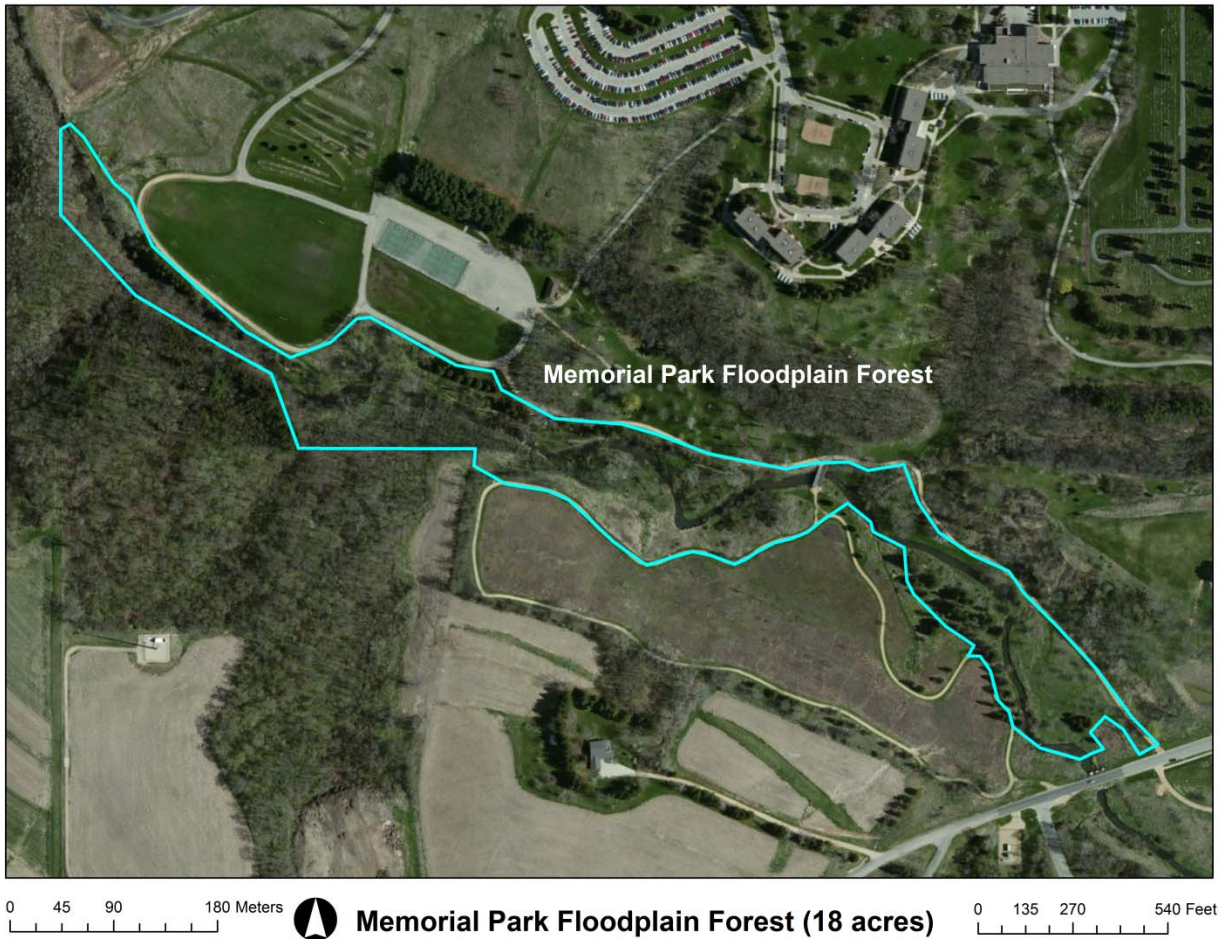
Oak woodland 2 is located in Memorial Park and covers an area of 2.6 acres. The overstory is mostly composed of white oak (*Quercus alba*) with a couple burr oak (*Quercus macrocarpa*). The understory is exclusively composed of non-oak species with mulberry (*Morus alba*), black cherry (*Prunus serotina*), and black walnut (*Juglans nigra*) dominating. There are also a few invasive bush honeysuckle (*Lonicera spp.*) in the understory. Other invasives include garlic mustard (*Alliaria petiolate*).

This forest is highly trafficked. The Frisbee golf course surrounds it on three sides with mowed paths. The northeastern edge is a paved path heading to Bridgeway Commons.

The southwestern corner was salvage logged after the June 2014 tornado leaving the area open. In May, 2014, volunteers planted ~175 northern red oaks (*Quercus rubra*) to replace trees lost to the tornado. Due to Department of Natural Resources grant stipulations tied to the planting, white oaks could not be planted. This open area is heavily invaded with non-native thistles (*Cirsium vulgare* & *Cirsium arvense*) and burdock (*Arctium spp.*); a few areas of wild parsnip (*Pastinaca sativa*), bush honeysuckles (*Lonicera spp.*), garlic mustard (*Alliaria petiolate*), and dame's rocket (*Hesperis matronalis*) are also present.

Table 2. Oak Woodland 2 Snapshot

Category	Grade
Ecological health	C+
Educational value	A
Land utilization	B+
Safety/security	C+
Fire concern	A
Maintenance needs	A
Invasive species	C
Prescribed fire	B



The Memorial Park floodplain forest is a narrow band of trees along the banks of Rountree Branch totaling 18 acres. It starts at Southwestern Road and continues west until the UW-Platteville property boundary. The forest is composed of cottonwood (*Populus deltoides*), boxelder (*Acer negundo*), elm (*Ulmus spp.*), basswood (*Tilia americana*), black willow (*Salix nigra*), white oak (*Quercus alba*), green ash (*Fraxinus pennsylvanica*), black cherry (*Prunus serotina*), black walnut (*Juglans nigra*), silver maple (*Acer saccharinum*), black locust (*Robinia pseudoacacia*), and hackberry (*Celtis occidentalis*). There are a few ornamental spruces (*Picea spp.*) planted along the paths.

The Rountree Branch flood plain is covered with about 3-6 ft (1-2 m) of cultural sediment. As a result, the banks are steep and this floodplain forest does not function as such, except during extreme 10 to 20-year flood events. There is one small section that is tied into the stream and shows evidence of annual flooding. This area is directly south of the basketball courts on the south side of Rountree Branch.

The forest lost many trees during the June 2014 tornado. More than 1000 river birch (*Betula nigra*), sycamore (*Platanus occidentalis*), swamp white oak (*Quercus bicolor*), butternut (*Juglans cinerea*), hackberry (*Celtis occidentalis*), silky dogwood (*Cornus amomum*) seedlings etc were planted in May, 2015, by volunteers to replace the lost trees. Fifty-two 1-2 inch dbh trees were planted by a contractor the same month. These plantings will help to fill in many of the open patches created by the tornado.

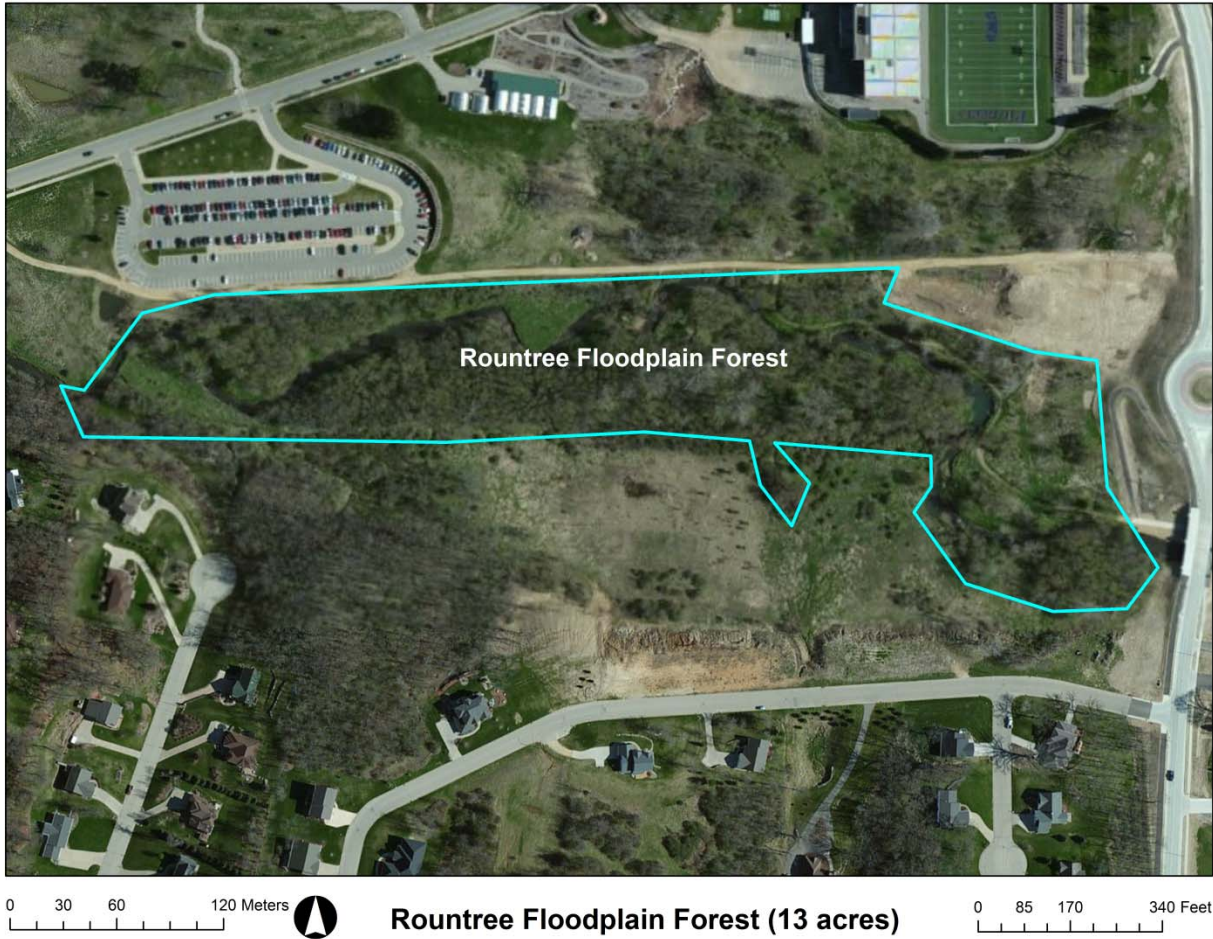
Invasive species are a problem, especially around the edges. The most common include garlic mustard (*Alliaria petiolate*), non-native thistles (*Cirsium vulgare* & *Cirsium arvense*), wild parsnip (*Pastinaca sativa*), bush honeysuckles (*Lonicera spp.*), burdock (*Arctium spp.*), and dame’s rocket (*Hesperis matronalis*).

A gravel trail borders the northern edge of the forest. The Rountree Prairie gravel trail borders part of the southern edge of the forest. There are a few dirt and mowed paths that meander through the forest on the northern side of Rountree Branch. There are several benches along the stream that allow visitors to enjoy the scenery and tranquility of the water.

Table 3. Memorial Park Floodplain Forest Snapshot

Category	Grade
Ecological health	C+
Educational value	A
Land utilization	B+
Safety/security	B+
Fire concern	A
Maintenance needs	C
Invasive species	C+
Prescribed fire	A

Rountree Floodplain Forest



This forest is 13 acres in size. It is located south of the Rountree Branch trail, west of Rountree Hall and east of Southwest Road. The overstory isn't as diverse as the Memorial Park floodplain forest. The dominate trees are cottonwood (*Populus deltoides*), boxelder (*Acer negundo*), black walnut (*Juglans nigra*), silver maple (*Acer saccharinum*), and black willow (*Salix nigra*). The understory is mostly a solid wall of invasive bush honeysuckle (*Lonicera spp.*).

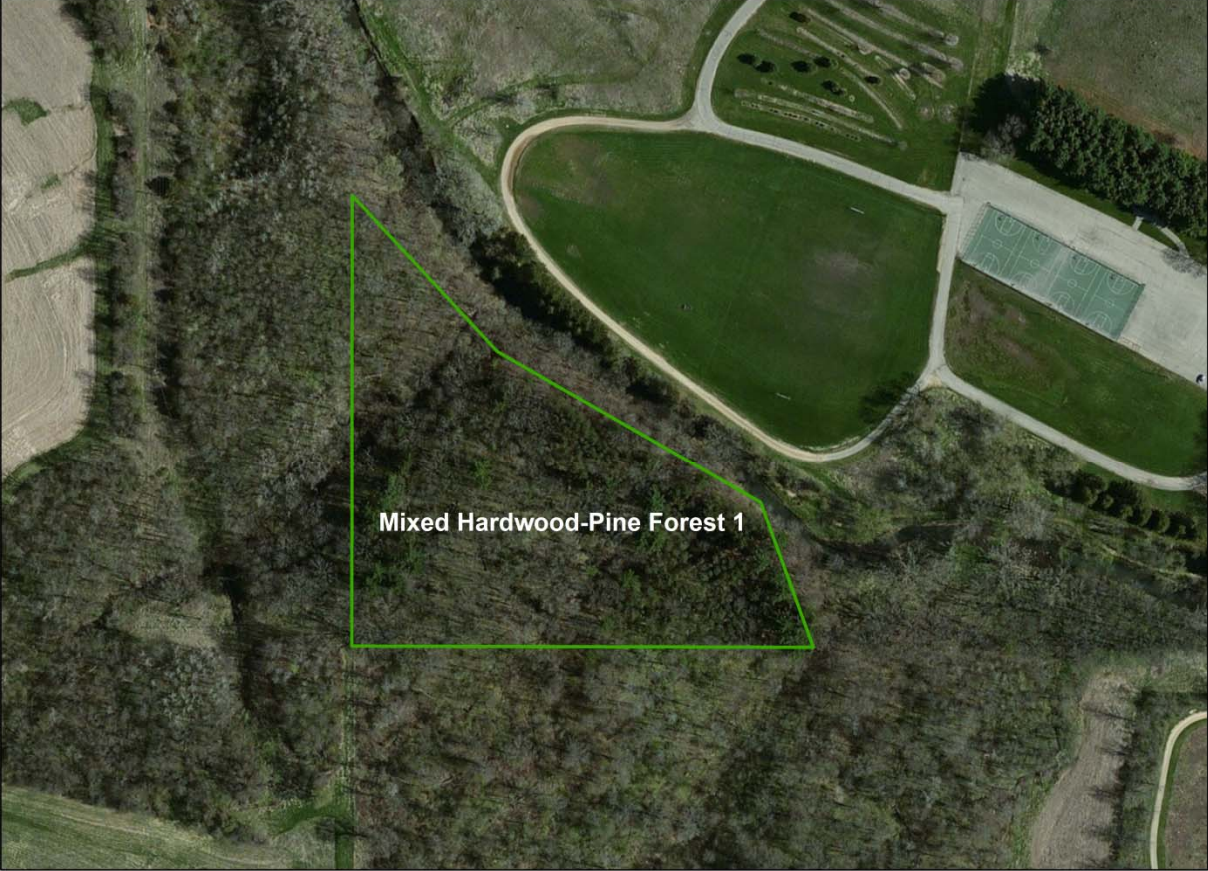
The Rountree Branch gravel trail runs along the northern edge of the forest. A dirt path winds through the eastern one-third, adjacent to Rountree Branch. There are a couple of older wooden benches along this dirt path.

Table 4. Rountree Floodplain Forest Snapshot

Category	Grade
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Ecological health	C
Educational Value	C+
Land utilization	C-
Safety/security	B
Fire concern	A
Maintenance needs	B
Invasive species	C+
Prescribed fire	A

Mixed Hardwood-Pine Forest 1



0 20 40 80 Meters  **Mixed Hardwood-Pine Forest 1 (5.7 acres)** 0 70 140 280 Feet

This forest is roughly 6 acres in size. It is located south of Rountree Branch, on the southwestern boundary of campus. This forest was heavily damaged by the June 2014 tornado. Before the tornado, the eastern half was mostly white pine (*Pinus strobus*) with an occasional red pine (*Pinus resinosa*) while the western half was mostly oak. There are 5 red pines and one white pine remaining in the overstory. Overstory hardwoods include white oak (*Quercus alba*), black walnut (*Juglans nigra*), boxelder (*Acer negundo*), basswood (*Tilia americana*), green ash (*Fraxinus pennsylvanica*), and black locust (*Robinia pseudoacacia*) (a few are >75 ft tall). Understory trees include black cherry, boxelder, elm (*Ulmus spp.*), and mulberry (*Morus spp.*). There are also a few invasive bush honeysuckle (*Lonicera spp.*) in the

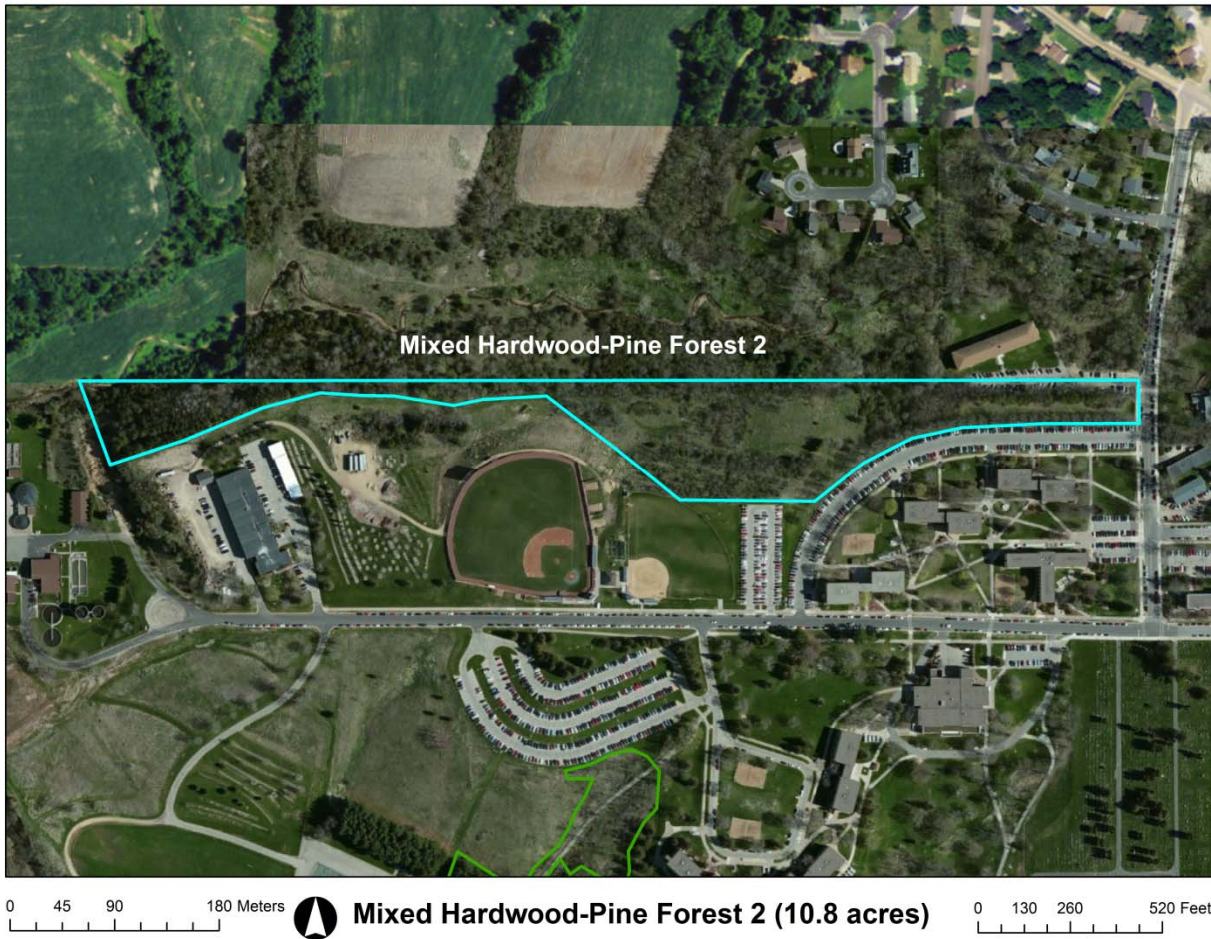
understory. Other invasives include garlic mustard (*Alliaria petiolate*), non-native thistles (*Cirsium vulgare* & *Cirsium arvense*), and wild parsnip (*Pastinaca sativa*).

Fifty white pine (*Pinus strobus*) and two-hundred fifty eastern hemlock (*Tsuga canadensis*) seedlings were planted in the eastern half after the tornado in May 2015 to replace the lost trees.

Table 5. Mixed Hardwood-Pine Forest 1 Snapshot

Category	Grade
Ecological health	C+
Educational value	D
Land utilization	C-
Safety/security	B
Fire concern	A
Maintenance needs	A
Invasive species	C+
Prescribed fire	A

Mixed Hardwood-Pine Forest 2



This forest is roughly 11 acres in size and is located along the northern border of campus. It is heavily degraded with large patches of invasive bush honeysuckle (*Lonicera spp.*). A single row of red pine (*Pinus resinosa*) is planted along the border. There is also a 1-acre plantation of red pine on the western edge of this forest. Overstory hardwoods include a few sparse white oak (*Quercus alba*), black walnut (*Juglans nigra*), boxelder (*Acer negundo*), and numerous mulberry (*Morus spp.*). Invasives include garlic mustard (*Alliaria petiolate*), non-native thistles (*Cirsium vulgare* & *Cirsium arvense*), and wild parsnip (*Pastinaca sativa*). Black locust (*Robinia pseudoacacia*) is dominant near the baseball fields

Table 6. Mixed Hardwood-Pine Forest 2 Snapshot

Category	Grade
Ecological health	D
Educational value	F
Land utilization	C-
Safety/security	B
Fire concern	A
Maintenance needs	B+
Invasive species	C
Prescribed fire	A

Mixed Hardwood-Pine Forest 3



0 15 30 60 Meters



Mixed Hardwood-Pine Forest 3 (2.6 acres)

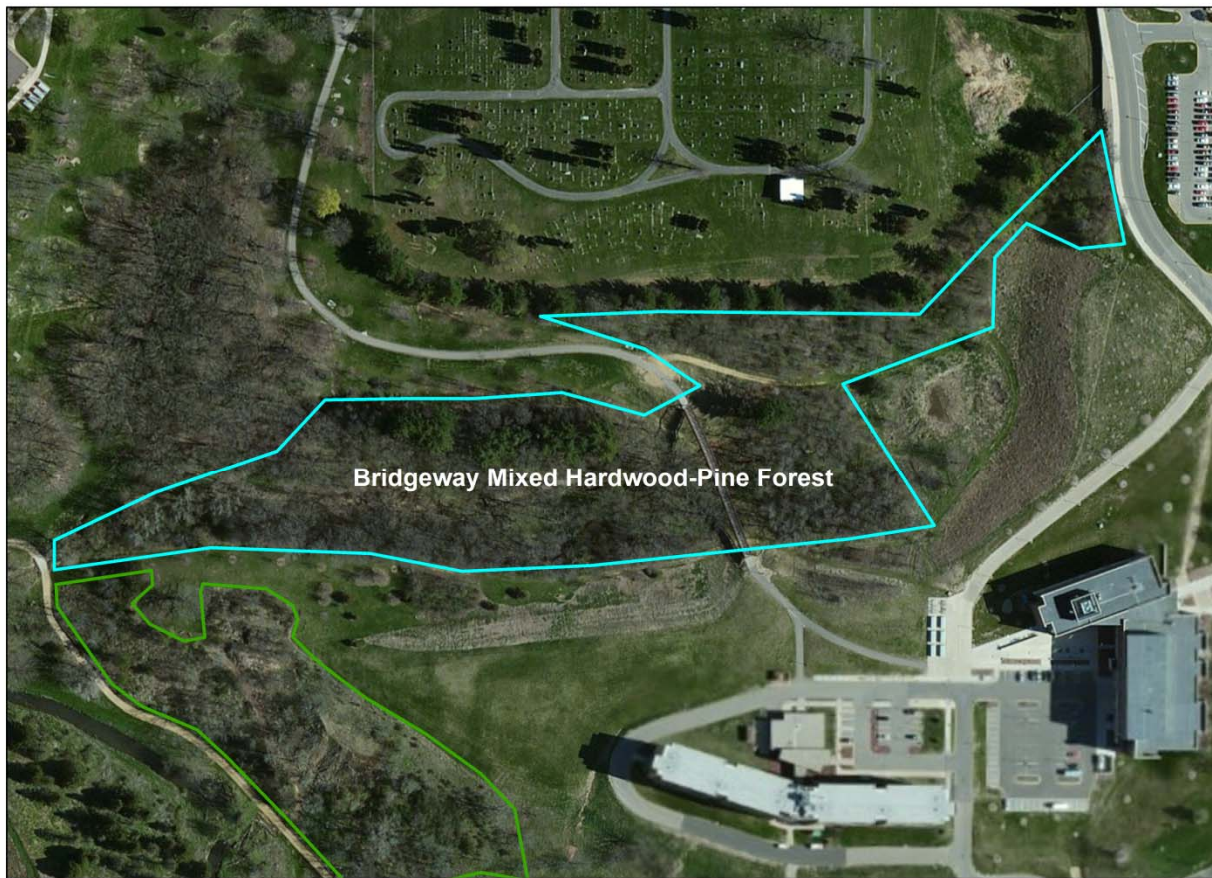
0 40 80 160 Feet

This forest is roughly 3 acres in size and is located along the southern border of campus. It is a heavily degraded, marginal forest with large patches of invasive bush honeysuckle (*Lonicera spp.*) in the understory. The overstory is a mixture of hardwoods and pine. It serves as a buffer between a subdivision and campus.

Table 7. Mixed Hardwood-Pine Forest 3 Snapshot

Category	Grade
Ecological health	C-
Educational value	F
Land utilization	B
Safety/security	A
Fire concern	A
Maintenance needs	A
Invasive species	C+
Prescribed fire	A

Bridgeway Mixed Hardwood-Pine Forest



0 20 40 80 Meters



Bridgeway Mixed Hardwood-Pine Forest (7.1 acres)

0 70 140 280 Feet

The Bridgeway mixed hardwood-pine forest is a narrow band of trees surrounding two stormwater retention ponds north of Bridgeway Commons. The forest is composed of white oak (*Quercus alba*) with some planted white pine (*Pinus strobus*). Other overstory hardwoods include black walnut (*Juglans nigra*), boxelder (*Acer negundo*), basswood (*Tilia americana*), black cherry (*Prunus serotina*), green ash (*Fraxinus pennsylvanica*), black oak (*Quercus velutina*), burr oak (*Quercus macrocarpa*), and northern red oak (*Quercus rubra*). There is one 24-inch dbh scarlet oak (*Q. coccinia*) which appears to be native. This would be the only documented species in Grant County. There is also one 10-inch dbh sycamore

(*platanus occidentalis*) which might have been planted since it is located between two paths. Understory trees include black cherry, boxelder, elm (*Ulmus spp.*), and mulberry (*Morus spp.*). There are also a few invasive bush honeysuckle (*Lonicera spp.*) in the understory. Other invasives include garlic mustard (*Alliaria petiolate*) and almost a carpet of burdock (*Arctium spp.*) in the tornado damaged sections that were salvage logged.

The western one-third of this forest lost many trees during the June 2014 tornado, including most of the white pine. One hundred shagbark hickory (*Carya ovata*) and burr oak were planted in May, 2015, by volunteers to replace the lost trees.

This forest is highly trafficked. The Bridgeway “bridge” crosses over the forest. There is a paved path along parts of the northern edge and gravel/mowed trails circling most of the forest.

Table 8. Bridgeway Mixed Hardwood-Pine Forest Snapshot

Category	Grade
Ecological health	C+
Educational value	B+
Land utilization	B
Safety/security	B-
Fire concern	B
Maintenance needs	C+
Invasive species	C+
Prescribed fire	A

Mixed Hardwood Forest 1

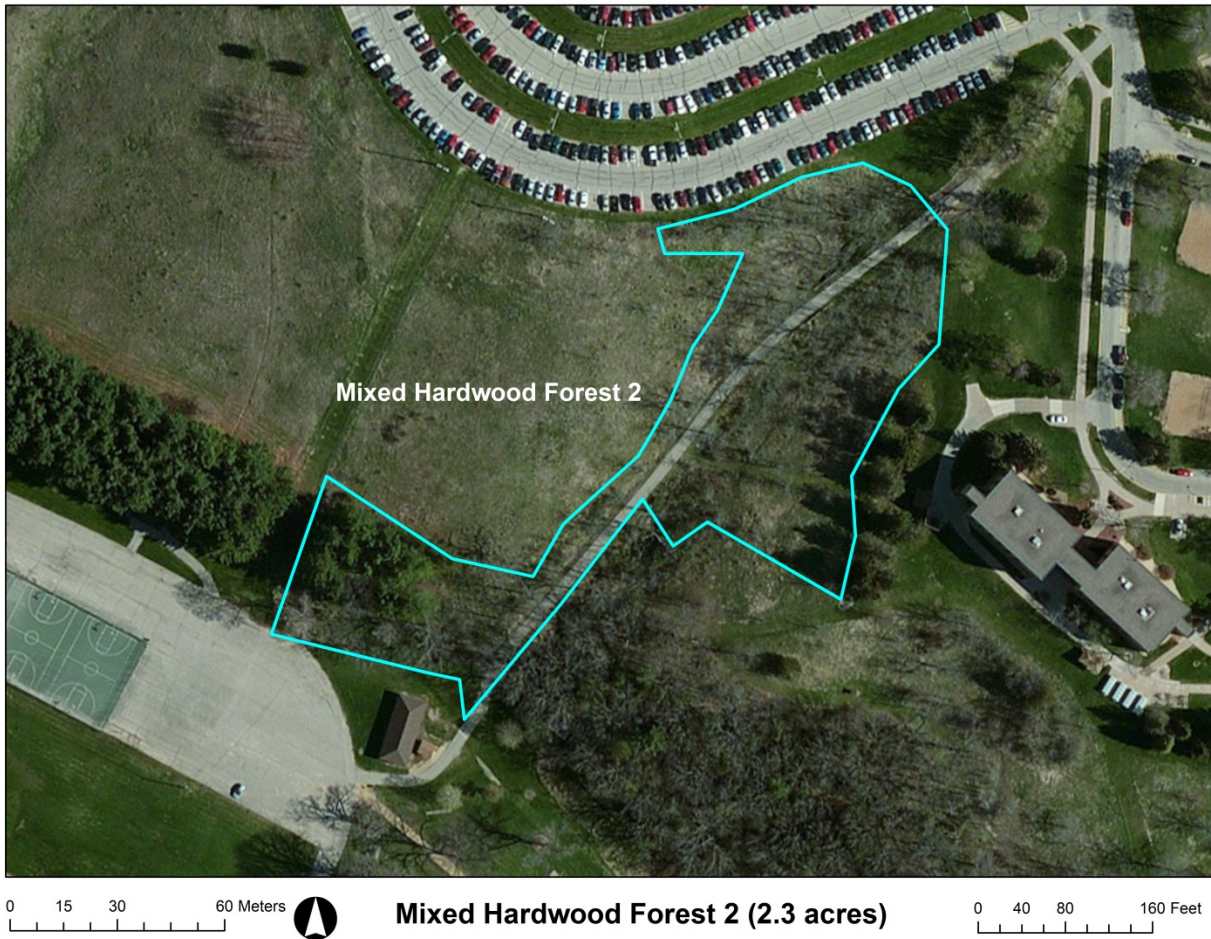


This forest is roughly 1 acre in size and is located along the southern border of campus north of Reddy Drive. It is a marginal forest with some patches of invasive bush honeysuckle (*Lonicera spp.*) in the understory. The overstory is a mixture of hardwoods. It serves as a buffer between a subdivision and campus.

Table 9. Mixed Hardwood Forest 1 Snapshot

Category	Grade
Ecological health	B-
Educational value	F
Land utilization	B+
Safety/security	A
Fire concern	A
Maintenance needs	A
Invasive species	B-
Prescribed fire	A

Mixed Hardwood Forest 2

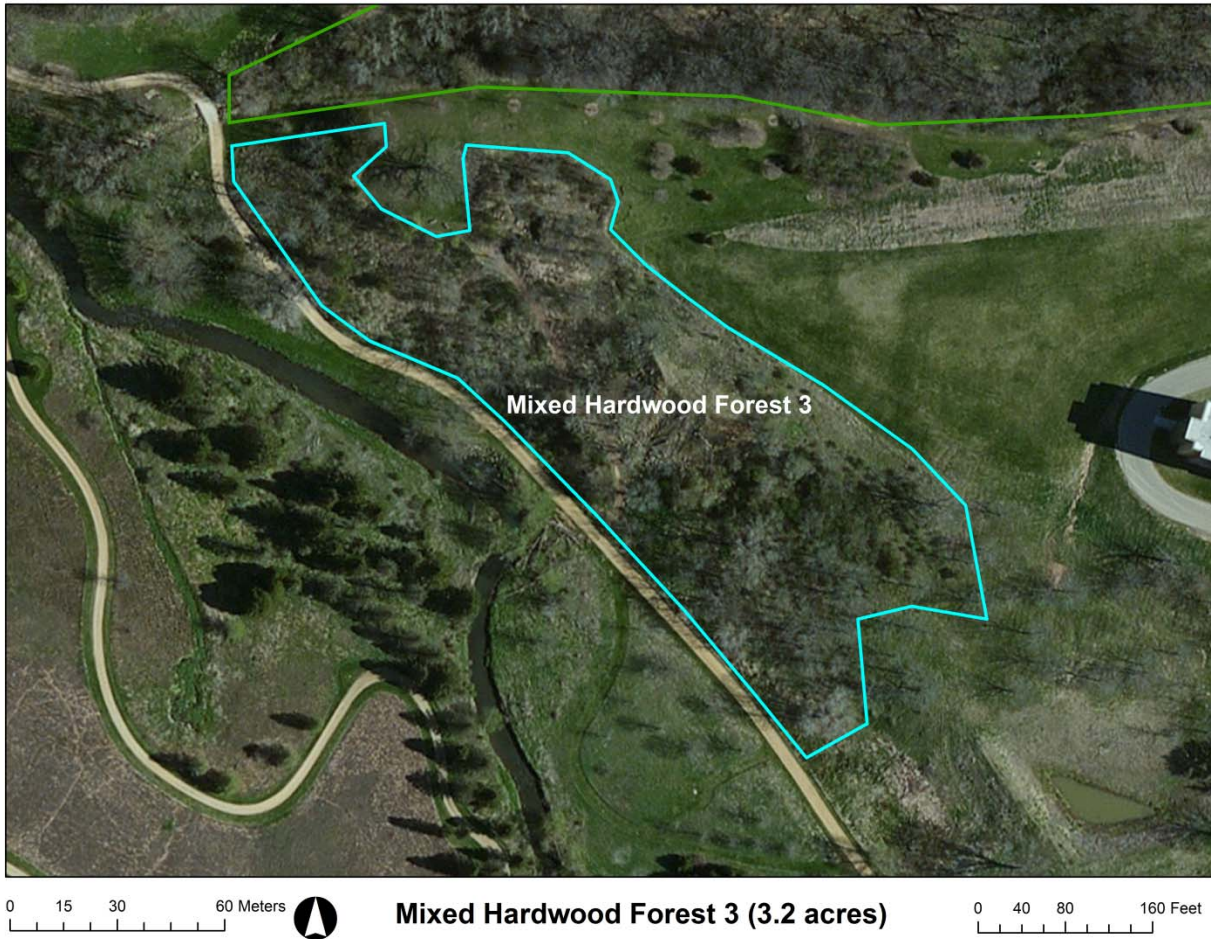


This forest is roughly 2 acres in size and is located along Memorial Park Walkway. It is a degraded forest with an overstory of black walnut (*Juglans nigra*) and an understory of invasive bush honeysuckle (*Lonicera spp.*) with frequent patches of garlic mustard (*Alliaria petiolate*). The pines shown in the above photo were lost during the tornado.

Table 10. Mixed Hardwood Forest 2 Snapshot

Category	Grade
Ecological health	C-
Educational value	B
Land utilization	B
Safety/security	B-
Fire concern	B
Maintenance needs	B
Invasive species	C-
Prescribed fire	B

Mixed Hardwood Forest 3



This area is hard to classify. It is not really a forest. It is more of a degraded shrub land with a partial forest canopy. The area is roughly 3 acres in size and is located west of Southwest Hall and northeast of Rountree Branch. It is a steep, rocky debris covered sloped. The dominant overstory trees include black walnut (*Juglans nigra*), cottonwood (*Populus deltoides*), and green ash (*Fraxinus pennsylvanica*). The understory in the eastern half is a solid wall of invasive bush honeysuckle (*Lonicera spp.*). Other invasives include non-native thistles (*Cirsium vulgare* & *Cirsium arvense*), wild parsnip (*Pastinaca sativa*), and dame's rocket (*Hesperis matronalis*). There are a number of planted prairie forbs in a few openings with an occasional eastern red cedar (*Juniperus virginiana*). The forbs include black-eyed susan, yellow coneflower, purple coneflower, and pale-purple coneflower.

Table 11. Mixed Hardwood Forest 2 Snapshot

Category	Grade
Ecological health	C-
Educational value	C+
Land utilization	B
Safety/security	B+
Fire concern	B
Maintenance needs	A
Invasive species	C-
Prescribed fire	B

Pine Plantation



The pine plantation is roughly one acre in size and is located directly north of the basketball courts in Memorial Park. It was mostly destroyed by the June 2014 tornado. There are 10 remaining white pines (*Pinus strobus*) along the western edge. 450 red, white, and jack pines (*Pinus banksiana*) were planted by the Reclamation Club in early May, 2015, to replace the lost trees. The site is heavily invaded by non-native thistles (*Cirsium vulgare* & *Cirsium arvense*), burdock (*Arctium spp.*), and garlic mustard (*Alliaria petiolate*).

There is a mowed path along the eastern edge. There are no paths through the plantation. However, the site is viewable from the basketball courts and adjacent restrooms.

Table 12. Pine Plantation Snapshot

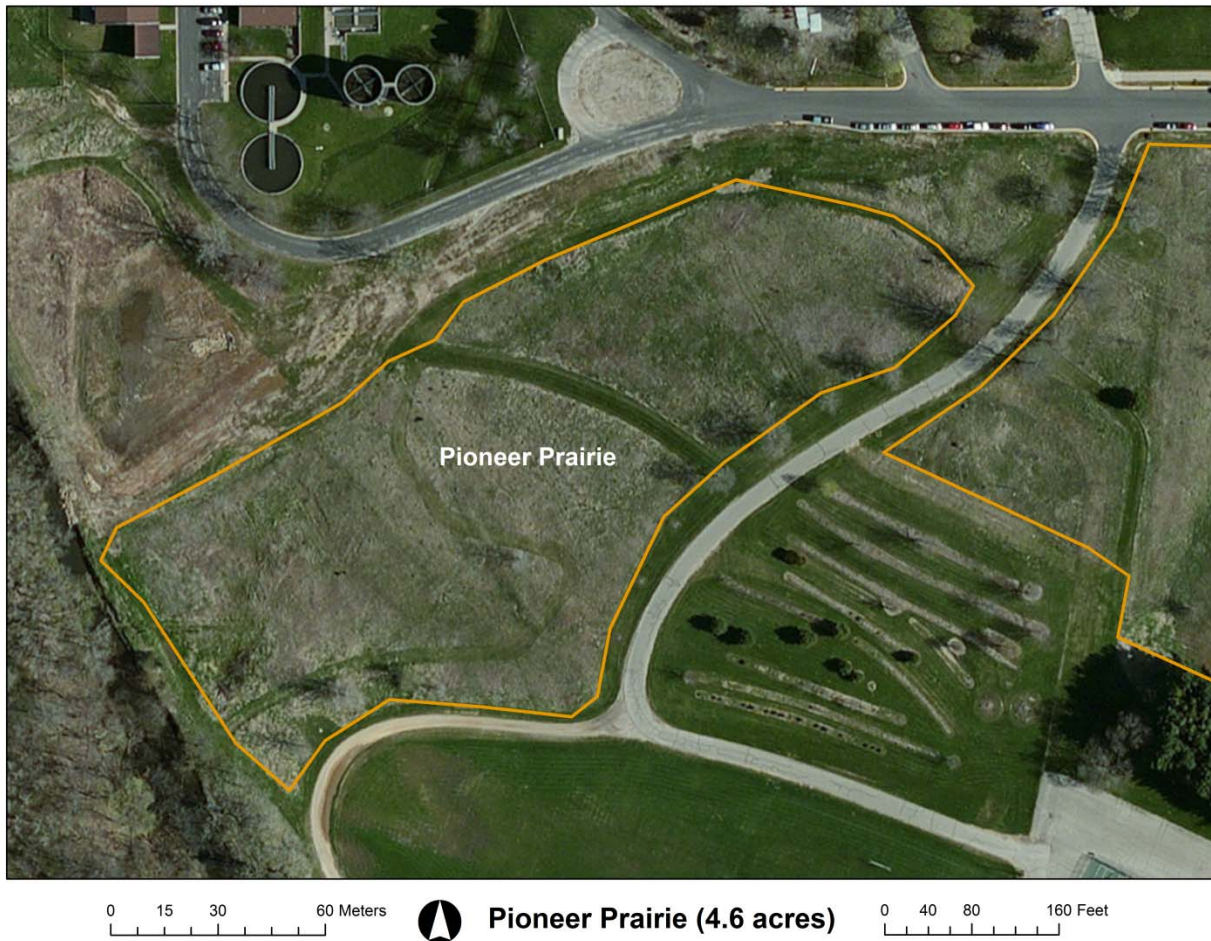
Category	Grade
Ecological health	D-
Educational value	C+
Land utilization	B+
Safety/security	A
Fire concern	A
Maintenance needs	A
Invasive species	C
Prescribed fire	A

Prairies

There are seven mesic to dry-mesic prairies and three wet prairies on campus. The wet prairies are dealt with under the wetlands subsection.

No prairie soils (Mollisols) are found on the campus proper. However, most of campus is surrounded by prairie soils. The vast majority of prairie soils in Grant County have been converted to agricultural lands and therefore, having examples of this community type on campus are helpful for educational purposes.

Pioneer Prairie



This prairie is roughly 4.6 acres and is located on the western side of campus south of Greenwood Avenue. The northern one-third is quite diverse with many prairie forbs, *e.g.*, Ohio spiderwort (*Tradescantia ohioensis*) and compass plant (*Silphium laciniatum*). The southern two-thirds are dominated by non-native forbs and goldenrods (*Solidago sp.*).

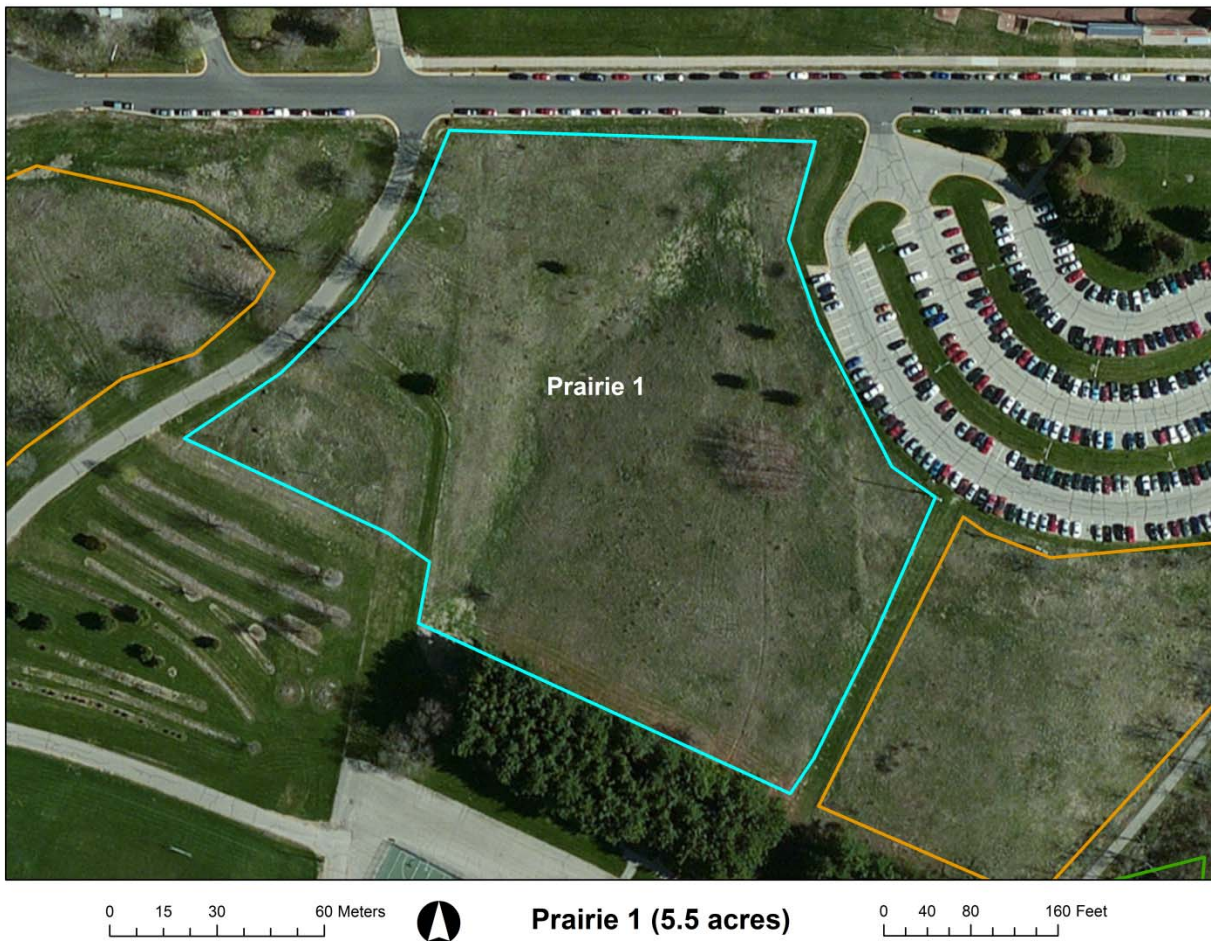
There is a circular mowed path around the prairie, one cross path through the middle, and one winding path through the southern half.

Major invasives include wild parsnip (*Pastinaca sativa*), common St. John's wort (*Hypericum perforatum*), cutleaf teasel (*Dipsacus laciniatus*), Queen Anne's lace (*Daucus carota*), & autumn olive (*Elaeagnus umbellate*). Green ash seedlings and saplings are started to invade the prairie from the east side (there are ornamental green ash trees planted on the road that forms the eastern boundary of Pioneer Prairie).

Table 13. Pioneer Prairie Snapshot

Category	Grade
Ecological health	C
Educational value	B
Land utilization	B+
Safety/security	A
Fire concern	B
Maintenance needs	B
Invasive species	C
Prescribed fire	F

Prairie 1



This prairie is roughly 5 acres and is located on the western side of campus south of Greenwood Avenue, immediately east of Pioneer Prairie. This prairie is currently a surrogate grassland mostly composed of non-native species.

There are many shrubs and trees scattered throughout the site with one large (100 ft x 100 ft) grove of 7-inch dbh black locust trees (*Robinia pseudoacacia*). Common St. John's wort (*Hypericum perforatum*),

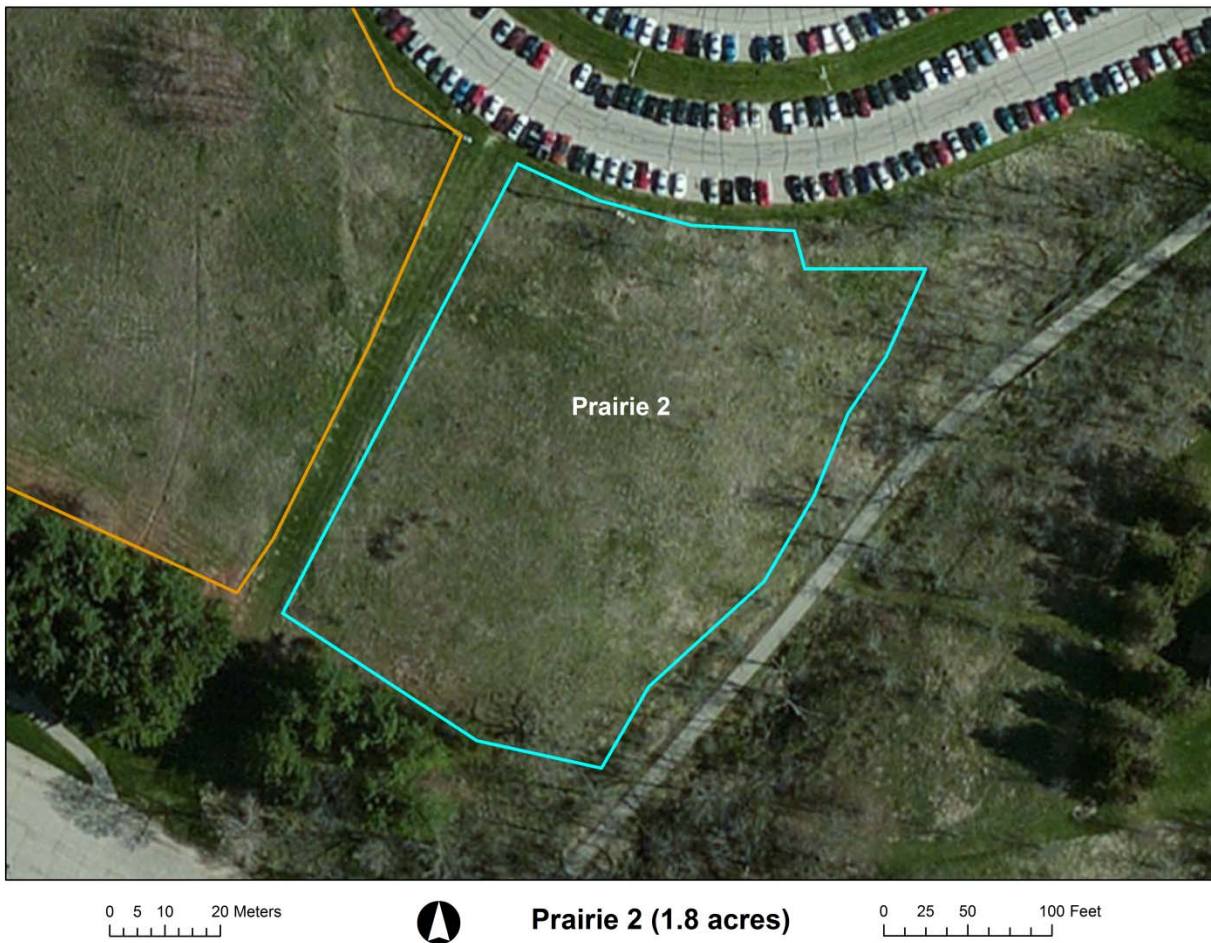
wild parsnip (*Pastinaca sativa*), and bush honeysuckles (*Lonicera spp.*) are prevalent throughout the site. There is a patch of cutleaf teasel (*Dipsacus laciniatus*) near the northwestern corner and along the southern edge.

There is a circular mowed path around the prairie and one curved path through the southwestern edge.

Table 14. Prairie 1 Snapshot

Category	Grade
Ecological health	D
Educational value	B
Land utilization	C-
Safety/security	A
Fire concern	C+
Maintenance needs	B+
Invasive species	C-
Prescribed fire	F

Prairie 2



This prairie is roughly 2.2 acres and is located on the western side of campus south of Greenwood Ave, immediately east of Prairie 1 and west of Pickard Hall. This prairie is currently a surrogate grassland

mostly composed of non-native species. Black walnut (*Juglans nigra*) and invasive bush honeysuckle (*Lonicera spp.*) dominate the eastern edge and northeastern one-third along Memorial Park Walkway (see Appendix B for a growing season aerial photo of prairie 2). This prairie is technically a continuation of Prairie 1. However, due to the amount of trees along the eastern edge and the large mowed path on the western edge, it makes sense to treat it as a separate management unit.

There is a mowed path along the western and northern edge; access from Memorial Park Walkway is limited due to brush and steep banks.

Table 15. Prairie 2 Snapshot

Category	Grade
Ecological health	D-
Educational value	B
Land utilization	C-
Safety/security	A
Fire concern	C+
Maintenance needs	B+
Invasive species	C-
Prescribed fire	F

Prairie 3



0 5 10 20 Meters



Prairie 3 (1.6 acres)

0 25 50 100 Feet

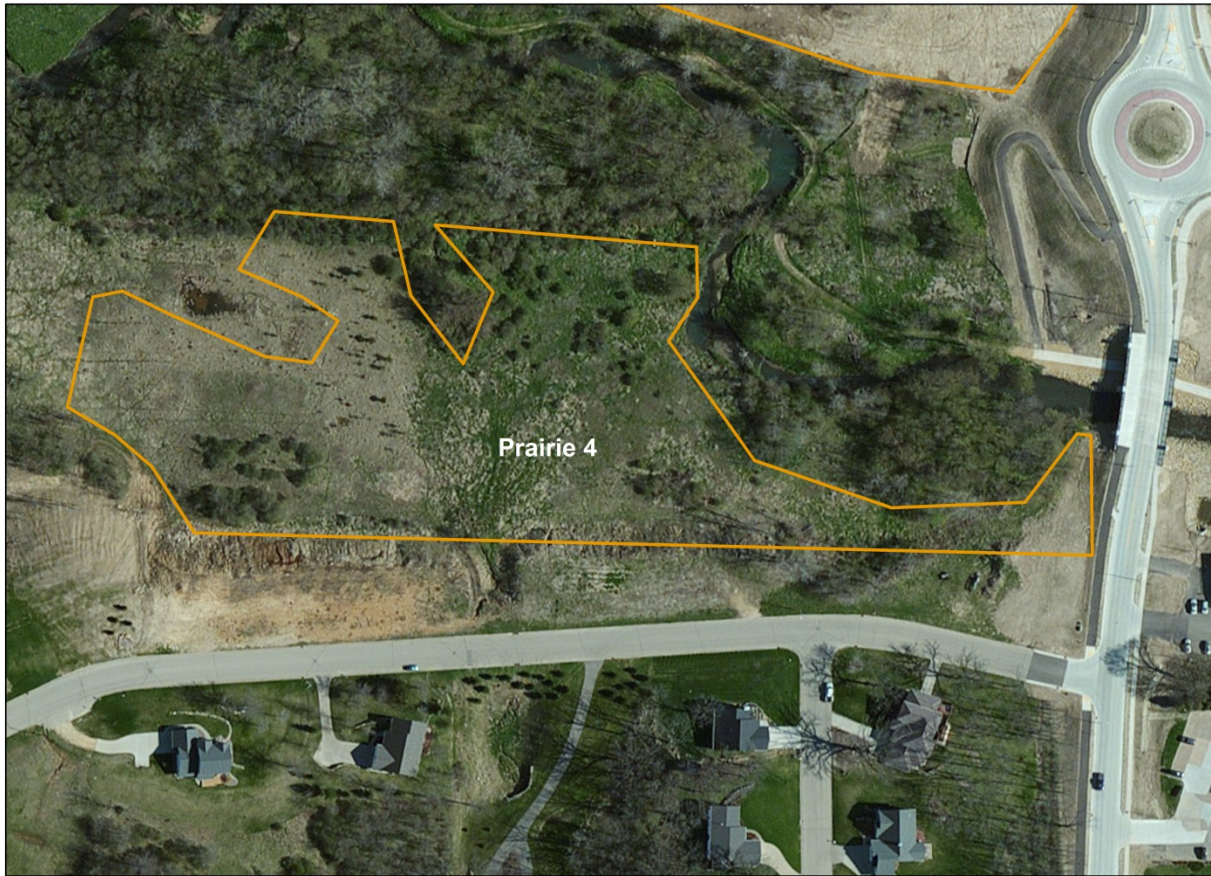
This prairie is roughly 1.6 acres and is located on the southern side of campus south of Pioneer Greenhouse. This prairie is currently a surrogate grassland mostly composed of non-native species. Dame’s rocket (*Hesperis matronalis*), cutleaf teasel (*Dipsacus laciniatus*), and wild parsnip (*Pastinaca sativa*) are the dominant invasives.

There is a gravel trail along the southern edge. A council ring is located next to the trail at the southern end of the unit.

Table 16. Prairie 3 Snapshot

Category	Grade
Ecological health	D-
Educational value	B
Land utilization	B
Safety/security	A
Fire concern	C+
Maintenance needs	B
Invasive species	C-

Prairie 4



0 15 30 60 Meters



Prairie 4 (5.1 acres)

0 50 100 200 Feet

This mesic prairie is roughly 5.1 acres and is located on the southern side of campus south of Rountree Branch and north of Reddy Drive. This prairie is currently a mixture of native and non-native species. Invasive reed canarygrass (*Phalaris arundinacea*) dominates the middle section while invasive bush honeysuckle (*Lonicera spp.*) is common throughout in small numbers.

There are no paths or trails.

Table 17. Prairie 4 Snapshot

Category	Grade
Ecological health	C+
Educational value	D
Land utilization	D-
Safety/security	A
Fire concern	C+
Maintenance needs	A
Invasive species	C

Cullen's Prairie



0 12.5 25 50 Meters  Cullen's Prairie (1.6 acres) 0 35 70 140 Feet

This dry-mesic prairie is roughly 1.6 acres and is located west of Markee Avenue and south of Pioneer Stadium. It has a decent variety of native species, e.g., brown-eyed susan (*Rudbeckia triloba*), foxglove beardtongue (*Penstemon digitalis*), and wild white indigo (*Baptisia alba*).

There are some shrubs and small trees scattered along the southern edge. There are a few invasives, including cutleaf teasel (*Dipsacus laciniatus*), Queen Anne's lace (*Daucus carota*), and wild parsnip (*Pastinaca sativa*).

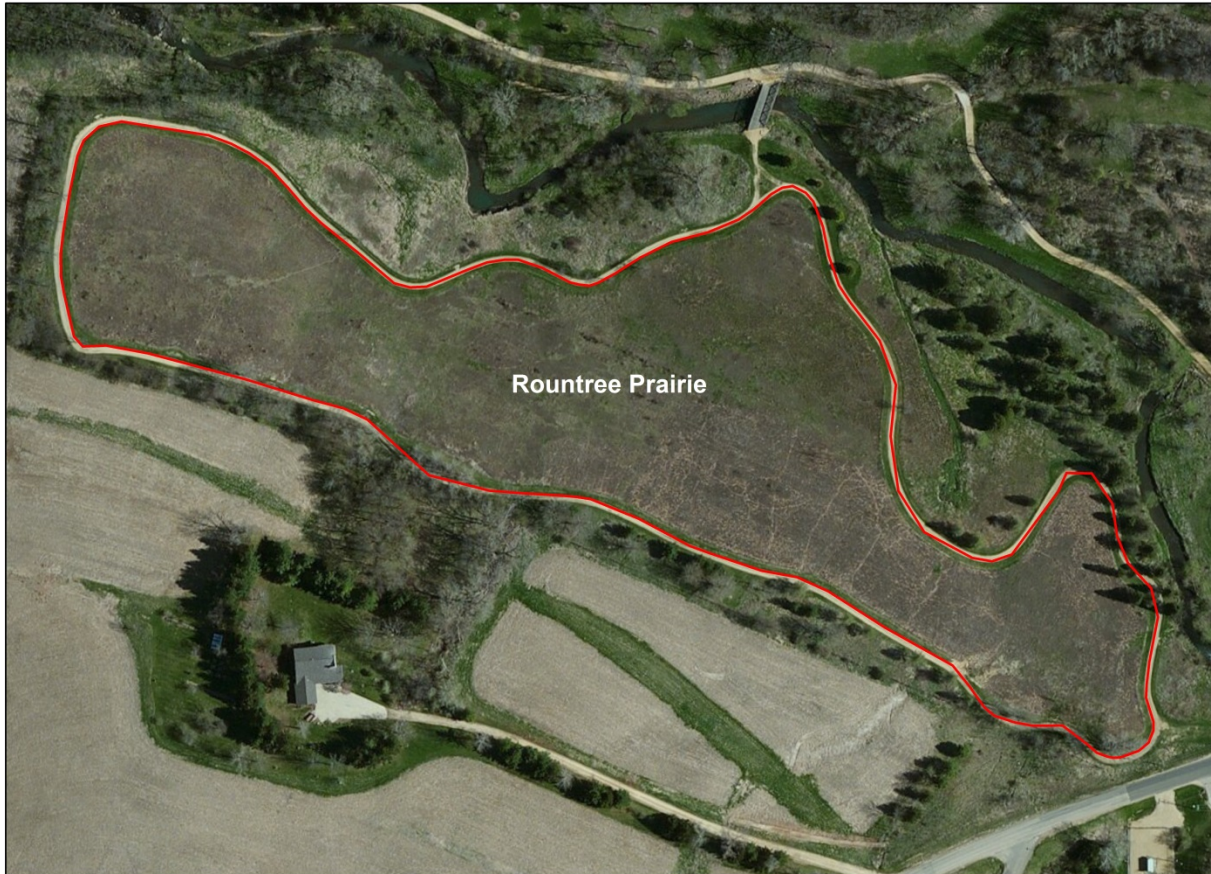
There is a gravel trail along the northern edge. Parts of the prairie are viewable from the dirt path that runs along Rountree Branch.

Table 18. Cullen's Prairie Snapshot

Category	Grade
Ecological health	B
Educational value	C

Land utilization	A
Safety/security	A
Fire concern	C
Maintenance needs	B+
Invasive species	B
Prescribed fire	D

Rountree Prairie



0 20 40 80 Meters



Rountree Prairie (11 acres)

0 65 130 260 Feet

This mesic prairie is roughly 11 acres and is located on the southwestern side of campus, south of Rountree Branch and west of Southwestern Road. The eastern one-third is dominated by big bluestem (*Andropogon gerardii*), the middle one-third is dominated by non-native forbs and goldenrods (*Solidago sp.*), and the western one-third is dominated by indiagrass (*Sorghastrum nutans*).

There is a circular gravel path around the prairie.

Major invasives include wild parsnip (*Pastinaca sativa*), common St. John’s wort (*Hypericum perforatum*), Queen Anne’s lace (*Daucus carota*), & crownvetch (*Securigera varia*). While invasive bush

honeysuckle (*Lonicera spp.*), black locust (*Robinia pseudoacacia*), and sweetclover (*Melilotus officinalis*) are scattered throughout.

Table 19. Rountree Prairie Snapshot

Category	Grade
Ecological health	C
Educational value	A
Land utilization	B
Safety/security	A
Fire concern	C
Maintenance needs	C+
Invasive species	B-
Prescribed fire	F

Rountree Prairie Annex



0 5 10 20 Meters



Rountree Prairie Annex (0.4 acres)

0 25 50 100 Feet

This prairie is part of Rountree Prairie. However, due to differences in past management (Rountree Prairie has had regular prescribed fire while the Annex has not) and current species composition, it will be treated as a separate natural area for this report. It is dominated by non-native forbs and goldenrods (*Solidago sp.*). There is some invasive reed canarygrass (*Phalaris arundinacea*) in low spots and wild parsnip (*Pastinaca sativa*) throughout.

Wetlands

Submergent Marsh (aka Memorial Park Koi Pond)



This spring-fed marsh is roughly 0.1 acres in size and is surrounded by decorative rocks. It is located in the middle of Memorial Park, directly southeast of Memorial Park Fen, a wetland restoration. The marsh is dominated by submergent aquatic plants, mostly invasive curly-leaf pondweed (*Potamogeton crispus*), with an occasional arrowhead (*Sagittaria spp.*) along the edges. Duckweed (*Lemna minor?*) is prevalent along the margins.

Two sides of the marsh are mowed. There is a bench swing adjacent to the marsh.

Table 20. Submergent Marsh Snapshot

Category	Grade
Ecological health	B-
Educational value	A
Land utilization	B-
Safety/security	A
Fire concern	A
Maintenance needs	B
Invasive species	D
Prescribed fire	A

Memorial Park Fen



0 5 10 20 Meters



Memorial Park Fen (0.4 acres)

0 25 50 100 Feet

This spring-fed fen is roughly 0.4 acres in size. It is located in the middle of Memorial Park, directly northwest of the submergent marsh. The fen is dominated by cattails (*Typha spp.*) and jewelweed (*Impatiens capensis*). Reed canarygrass (*Phalaris arundinacea*) and Canada thistle (*Cirsium arvense*) are the two main invasives. The fen was restored by the Reclamation Program under Dr. Tom Hunt’s direction.

Two sides of the fen are mowed.

Table 21. Memorial Park Fen Snapshot

Category	Grade
Ecological health	D+
Educational value	A
Land utilization	A
Safety/security	A
Fire concern	A
Maintenance needs	A
Invasive species	D
Prescribed fire	B

Streamside fen



This streamside fen is roughly 0.15 acres in size. It is located north of Southwest Road. The fen is dominated by reed canarygrass (*Phalaris arundinacea*) and Canada thistle (*Cirsium arvense*). There is one large black willow (*Salix nigra*) tree and several willow shrubs on the south side.

The west side of the fen is a gravel trail.

Table 22. Streamside fen Snapshot

Category	Grade
Ecological health	D+
Educational value	B
Land utilization	A
Safety/security	A
Fire concern	A
Maintenance needs	A
Invasive species	D
Prescribed fire	B-

Wet prairie 1



This spring-fed wet prairie is roughly 1.5 acres in size. It is located north of Rountree Prairie. A spring runs from the southeast to the northwest through the middle of the prairie. The perimeter is mostly goldenrod (*Solidago spp.*). There is some reed canarygrass (*Phalaris arundinacea*) and Canada thistle (*Cirsium arvense*). There are a couple of ornamental tamarack (*Larix laricina*) and spruce (*Picea spp.*) trees on the southern edge. The west side of the prairie is a gravel trail. A full plant inventory of the area is needed in order to have a better list of species.

Table 23. Wet prairie 1 Snapshot

Category	Grade
Ecological health	C-
Educational value	B
Land utilization	A
Safety/security	A
Fire concern	A
Maintenance needs	A
Invasive species	D
Prescribed fire	B-

Wet prairie 2



0 5 10 20 Meters



Wet prairie 2 (1.3 acres)

0 20 40 80 Feet

This wet prairie is roughly 1.3 acres in size. It is located north of Rountree Branch. Most plant species are non-native. There are patches of cattails (*Typha spp.*) and some reed canarygrass (*Phalaris arundinacea*) throughout. The north side of the prairie is a gravel trail. A full plant inventory of the area is needed in order to have a better list of species.

Table 24. Wet prairie 2 Snapshot

Category	Grade
Ecological health	D-
Educational value	C+
Land utilization	A
Safety/security	A
Fire concern	A
Maintenance needs	B+
Invasive species	D
Prescribed fire	B-

Wet-mesic prairie



This wet-mesic prairie is roughly 0.5 acres in size. It is located north of Rountree Branch. Most plant species are non-native. There is a patch of cattails (*Typha spp.*) in the middle and some reed canarygrass (*Phalaris arundinacea*) throughout. The south side of the prairie is a gravel trail. A full plant inventory of the area is needed in order to have a better list of species.

Table 25. Wet-mesic prairie Snapshot

Category	Grade
Ecological health	D-
Educational value	C+
Land utilization	A
Safety/security	A
Fire concern	A
Maintenance needs	B+
Invasive species	D
Prescribed fire	B-

Sedge meadow



This sedge meadow is roughly 1.3 acres in size. It is located south of Rountree Branch and north of Reddy Drive. Sedge and grass species dominate. The western half is mostly reed canarygrass (*Phalaris arundinacea*). There are two areas with open water in the eastern half of the meadow. These were possibly former ponds created by Dr. Mike Molitor in the early 1990s that have subsequently filled in with sediment from annual floods. A full plant inventory of the area is needed in order to have a better list of species.

There are no paths or trails.

Table 26. Sedge meadow Snapshot

Category	Grade
Ecological health	C+
Educational value	C
Land utilization	C+
Safety/security	A
Fire concern	A

Maintenance needs	A
Invasive species	C
Prescribed fire	B-

Oak Savanna 1



Oak savanna 1 is located in Memorial Park and covers an area of 2.4 acres. The overstory is mostly composed of white oak (*Quercus alba*) and burr oak (*Quercus macrocarpa*). The understory is exclusively composed of non-oak species with boxelder (*Acer negundo*), elm (*Ulmus spp.*), mulberry (*Morus spp.*), and silver maple (*Acer saccharinum*) dominating. Invasives include garlic mustard (*Alliaria petiolate*), burdock (*Arctium spp.*), and non-native thistles (*Cirsium vulgare* & *Cirsium arvense*).

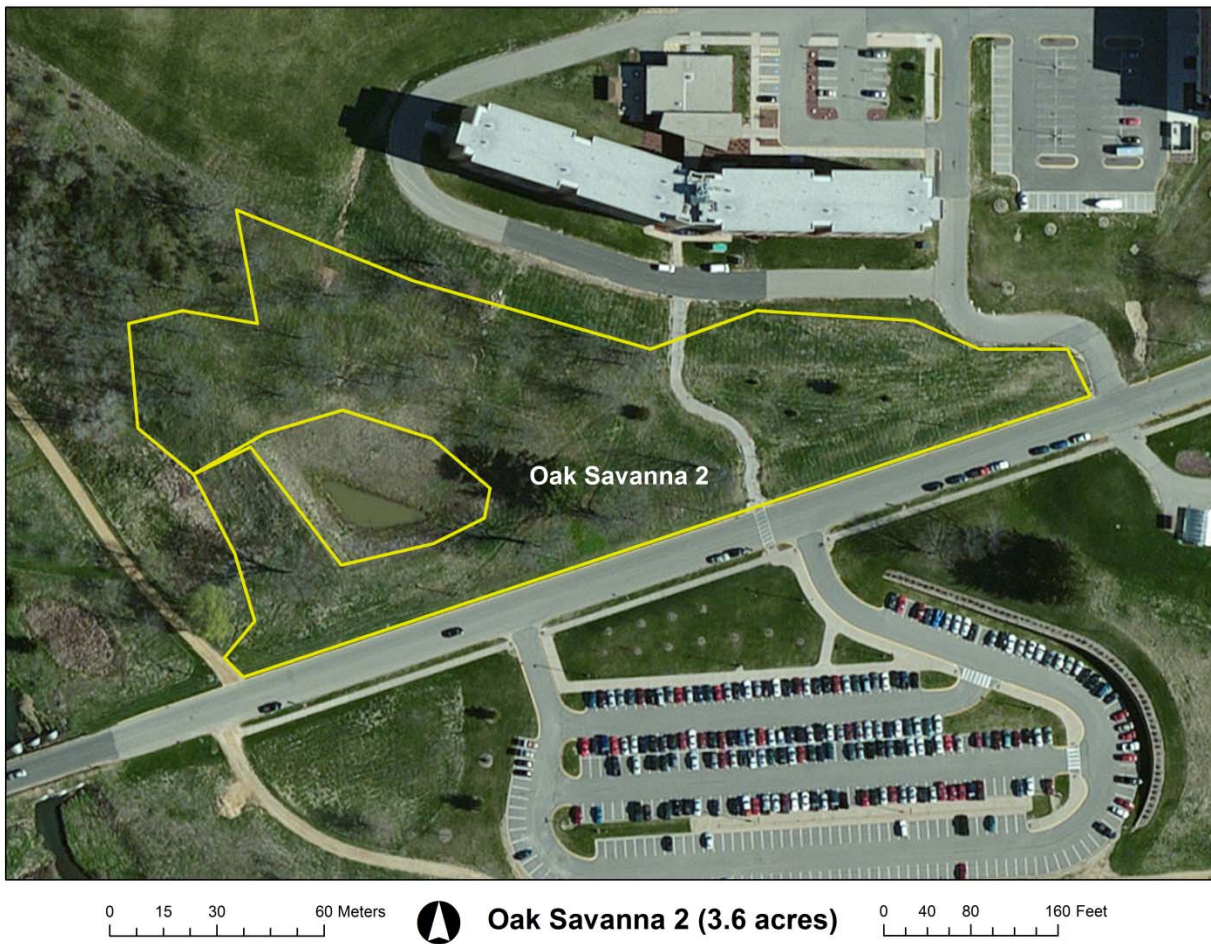
This part of Memorial Park was heavily damaged by the June 2014 tornado. Many large oaks and understory hardwoods were salvage logged after the tornado. The structure before the tornado was almost identical to Oak Woodland 1; however, after the tornado the canopy is much more open. Due to disturbance from the tornado and logging, this site is quite weedy in the understory and needs restoration work.

This forest is moderately trafficked. Memorial Park Frisbee golf course surrounds it on three sides. There are numerous unofficial dirt paths winding throughout and a mowed trail along the northeastern edge.

Table 27. Oak Savanna 1 Snapshot

Category	Grade
Ecological health	C
Educational value	A
Land utilization	B-
Safety/security	B+
Fire concern	A
Maintenance needs	B+
Invasive species	D-
Prescribed fire	C

Oak Savanna 2



Oak savanna 2 is located directly north of Southwest Road and covers an area of 3.6 acres. The overstory is mostly composed of black walnut (*Juglans nigra*) and boxelder (*Acer negundo*); there are four total

white oak (*Quercus alba*) and burr oak (*Quercus macrocarpa*) trees across the site. Structurally the site resembles a savanna in the sense that there is a sparse overstory, no understory trees, and grasses on the ground. There is oak regeneration occurring in areas not over-taken by bush honeysuckle.

Invasives include wild parsnip (*Pastinaca sativa*), bush honeysuckles (*Lonicera spp.*), dame's rocket (*Hesperis matronalis*), sweet clover (*Melilotus officinalis*), and cutleaf teasel (*Dipsacus laciniatus*). Daylilies (*Hemerocallis fulva* var. *fulva*) are prevalent along Southwest Road.

There is a concrete path that cuts through the eastern portion of the site.

Three-hundred burr oaks (*Quercus macrocarpa*) and shagbark hickories (*Carya ovata*) were planted by volunteers in May, 2015, to replace some of the overstory trees that were lost during the June 2014 tornado.

Table 28. Oak Savanna 2 Snapshot

Category	Grade
Ecological health	D
Educational value	A
Land utilization	C
Safety/security	A
Fire concern	C
Maintenance needs	A
Invasive species	D
Prescribed fire	C

Oak Savanna 3



Oak savanna 3 (sometimes referred to as Pioneer Oak Savanna in older UW-Platteville maps) is located directly south of Pioneer Stadium and covers an area of 5.3 acres. The overstory is mostly composed of black walnut (*Juglans nigra*) boxelder (*Acer negundo*), and cottonwood (*Populus deltoides*); there are five total white oak (*Quercus alba*) and burr oak (*Quercus macrocarpa*) overstory trees across the site. This area lost many large oaks during the June 2014 tornado. Structurally the eastern two-thirds of the site resemble a savanna in the sense that there is a sparse overstory, few understory trees, and grasses on the ground. The western one-third is more like a mixed hardwood forest. There is some considerable oak regeneration along the southeastern edge next to the gravel trail.

Invasives include bush honeysuckles (*Lonicera spp.*), garlic mustard (*Alliaria petiolate*), dame's rocket (*Hesperis matronalis*), and burdock (*Arctium spp.*).

There is a gravel trail along the southern border.

Table 29. Oak Savanna 3 Snapshot

Category	Grade
Ecological health	C-
Educational value	C
Land utilization	B-
Safety/security	C+
Fire concern	B
Maintenance needs	B+
Invasive species	C
Prescribed fire	C

Other areas of note

Naturalized runoff basin

This site is roughly 0.6 acres. It is located west of the Giese Facilities Management Building and south of Platteville’s waste water treatment plant. It was created by the Reclamation Program in 2011. It was planted with a variety of native prairie plants. However, adjacent cottonwoods have seeded in and there are 100s of cottonwood seedlings throughout the area.

There is a mowed path around the basin with interpretive signage.

Rountree cattail runoff basin

This basin is adjacent to Rountree Branch, immediately west of Southwest Road. It is less than 0.25 acres in size. There are a few ornamental spruces planted on the western edge.

Oak planting

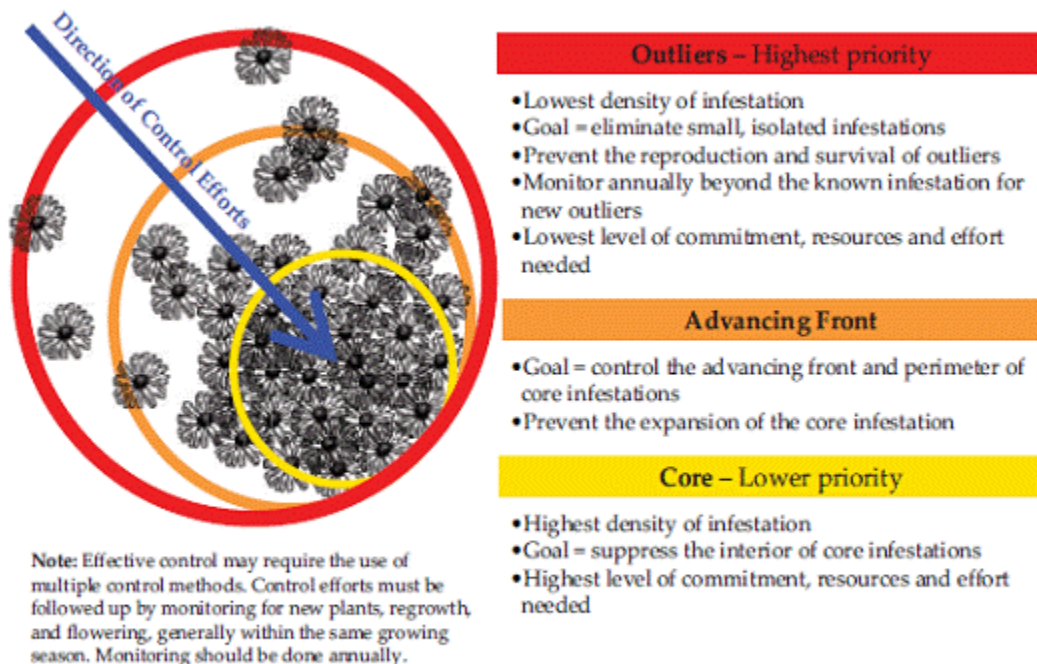
There is a one-acre planting of oak (*Quercus rubra* & *Quercus alba*) trees north of Engineering Hall along Longhorn Drive. The ground is completely covered with invasive crownvetch (*Securigera varia*).

Appendix D: Invasive species management

This appendix details invasive species and other general habitat management activities by calendar month. In addition, there is a one-age sheet for each of the main invasive species found on UW-Platteville's campus. Detailed control/management methods are provided by species.

Invasive species control priorities were guided by Wisconsin Department of Natural Resources recommendations (Figure 1B) and the National Invasive Species Council *Guidelines for Ranking Invasive Species Control Projects*. Further guidance on controlling invasive species in the UW-Platteville region can be found at <http://dnr.wi.gov/topic/invasives/control.html>

Prioritizing Control Efforts for a Single Species by Density of Infestation



Adapted from work by Fred Clark, Clark Forestry, Inc. and Wisconsin DNR-Urban Forestry

Figure B1. Highest priority is given to areas with lowest density of infestation with the goal of isolating small pockets before they become widespread.

Table B1. Invasive species and other general habitat management activities by calendar month

Month	Invasive species management	Other habitat management
January	<ul style="list-style-type: none"> - Bush Honeysuckle: Cut and Spray Treatment (Glyphosate or Tordon) - Autumn Olive: Cut and Spray (Glyphosate or Triclopyr) - Black Locust: Cut and Spray (Glyphosate or Garlon 3A or Tordon) - Cutleaf Teasel: Spray (Glyphosate, Triclopyr, 2, 4-D) - White Mulberry: Pull Seedlings, Cut and Spray Trunks 	<ul style="list-style-type: none"> - Fell unwanted trees - Clear brush - Burn brush piles
February	<ul style="list-style-type: none"> - Bush Honeysuckle: Cut and Spray Treatment (Glyphosate or Tordon) - Autumn Olive: Cut and Spray (Glyphosate or Triclopyr) - Black Locust: Cut and Spray (Glyphosate or Garlon 3A or Tordon) OR Basal Bark Spray (triclopyr herbicides in 2% solution with diesel) - Cutleaf Teasel: Spray (Glyphosate, Triclopyr, 2, 4-D) - White Mulberry: Pull Seedlings, Cut and Spray Trunks 	<ul style="list-style-type: none"> - Fell unwanted trees - Clear brush - Burn brush piles
March	<ul style="list-style-type: none"> - Bush Honeysuckle: Cut and Spray Treatment (Glyphosate or Tordon) - Sweet Clover: Burn 1st year - Curly Leaf Pond Weed: Raking - Autumn Olive: Hand-Pull Seedlings - Black Locust: Cut and Spray (Glyphosate or Garlon 3A or Tordon) OR Basal Bark Spray (triclopyr herbicides in 2% solution with diesel) - Cutleaf Teasel: Spray (Glyphosate, Triclopyr, 2, 4-D) - White Mulberry: Pull Seedlings, Cut and Spray Trunks 	<ul style="list-style-type: none"> - Fell unwanted trees - Clear brush - Burn brush piles - Conduct prescribed burns
April	<ul style="list-style-type: none"> - Bush Honeysuckle: Cut and Spray Treatment (Glyphosate or Tordon) OR Foliar Application - Day Lily: Dig Up OR Spray (Glyphosate) - Sweet Clover: Burn 1st Year - Curly-leaf Pondweed: Raking OR Chemical Control OR Cutting OR Dye - Wild Parsnip: Hand-Pull OR Cut OR Chemical (Glyphosate) - Canada Thistle: Tillage and/or Cover Crop OR Chemical (Glyphosate or effective Systemic Herbicide) - Black Locust: Cut and Spray (Glyphosate or Garlon 3A or Tordon) OR Basal Bark Spray (triclopyr herbicides in 2% solution with diesel) - Crown Vetch-Pull: Mow, Spray (Glyphosate, 	<ul style="list-style-type: none"> - Conduct prescribed burns

	<p>Triclopyr, 2,4-D)</p> <ul style="list-style-type: none"> - Common St. John's Wort- Pull, Mow, Spray (Glyphosate, Picloram, 2,4-D) - Cutleaf Teasel: Dig Up, Pull, Cut, - Reed Canarygrass: Dig, Spray (Glyphosate, Dalapon, Amitrol) - White Mulberry: Pull Seedlings, Cut and Spray Trunks - Garlic Mustard: Dig Up, Pull, Propane Torch, Burn, Cut, Spray (Glyphosate, Triclopyr, 2,4-D) - Dame's Rocket: Pull, Burn, Spray (Glyphosate, Triclopyr) - Queen Anne's Lace: Pull, Mow, Spray (Triclopyr, 2,4-D) - Bull Thistle: Pull, Dig Up, Mow, Spray (Glyphosate, Triclopyr, 2,4-D) 	
May	<ul style="list-style-type: none"> - Bush Honeysuckle: Cut and Spray Treatment (Glyphosate or Tordon) OR Foliar Application - Day Lily: Dig Up - Sweet Clover: Burn 2nd year OR Hand-Pull - Curly-leaf Pondweed: Raking OR Cutting OR Dye - Burdock: Digging and Pulling OR Chemical (Glyphosate) - Wild Parsnip: Hand-Pull OR Cut OR Chemical (Glyphosate) - Canada Thistle: Chemical (Glyphosate or effective Systemic Herbicide) - Black Locust: Cut and Spray (Glyphosate or Garlon 3A or Tordon) OR Basal Bark Spray (triclopyr herbicides in 2% solution with diesel) - Crown Vetch: Pull, Mow, Burn, Spray (Glyphosate, Triclopyr, 2,4-D) - Common St. John's Wort: Pull, Mow, Spray (Glyphosate, Picloram, 2,4-D) - Cutleaf Teasel: Dig Up, Pull, Cut, - Reed Canarygrass: Dig, Spray (Glyphosate, Dalapon, Amitrol) - White Mulberry: Pull Seedlings, Cut and Spray Trunks - Garlic Mustard: Dig Up, Pull, Propane Torch, Burn, Cut, Spray (Glyphosate, Triclopyr, 2,4-D) - Dame's Rocket: Pull, Burn, Spray (Glyphosate, Triclopyr) - Queen Anne's Lace: Pull, Mow, Spray (Triclopyr, 2,4-D) - Bull Thistle: Pull, Dig Up, Mow, Spray (Glyphosate, Triclopyr, 2,4-D) 	<ul style="list-style-type: none"> - Conduct prescribed burns (up until May 15) - Collect native plant seed - Conduct ecological surveys
June	<ul style="list-style-type: none"> - Bush Honeysuckle: Cut and Spray Treatment 	<ul style="list-style-type: none"> - Collect native plant seed

	<p>(Glyphosate or Tordon)</p> <ul style="list-style-type: none"> - Day Lily: Dig Up - Sweet Clover: Hand-Pull OR Cut - Curly-leaf Pondweed: Raking OR Cutting OR Dye - Burdock: Digging and Pulling OR Chemical (Glyphosate) - Wild Parsnip: Hand-Pull OR Cut OR Chemical (Glyphosate) - Canada Thistle: Chemical (Glyphosate or effective Systemic Herbicide) - Black Locust: Cut and Spray (Glyphosate or Garlon 3A or Tordon) OR Basal Bark Spray (triclopyr herbicides in 2% solution with diesel) - Crown Vetch: Pull, Mow, Burn, Spray (Glyphosate, Triclopyr, 2,4-D) - Common St. John's Wort: Pull, Mow, Spray (Glyphosate, Picloram, 2,4-D) - Cutleaf Teasel: Dig Up, Pull, Cut, - Reed Canarygrass: Dig, Cut, Burn, Spray (Glyphosate, Dalapon, Amitrol) - White Mulberry: Pull Seedlings, Cut and Spray Trunks - Garlic Mustard: Dig Up, Pull, Propane Torch, Burn, Cut, Spray (Glyphosate, Triclopyr, 2,4-D) - Dame's Rocket: Pull, Burn, Spray (Glyphosate, Triclopyr) - Queen Anne's Lace: Pull, Mow, Spray (Triclopyr, 2,4-D) - Bull Thistle: Pull, Dig Up, Mow, Spray (Glyphosate, Triclopyr, 2,4-D) 	<ul style="list-style-type: none"> - Conduct ecological surveys
July	<ul style="list-style-type: none"> - Bush Honeysuckle: Cut and Spray Treatment (Glyphosate or Tordon) - Day Lily: Dig Up - Sweet Clover: Cut - Curly-leaf Pondweed: Raking OR Cutting - Autumn Olive: Cut and Spray (Glyphosate or Triclopyr) - Burdock: Chemical OR Cutting (Glyphosate) - Wild Parsnip: Hand-Pull OR Cut - Canada Thistle: Chemical (Glyphosate or effective Systemic Herbicide) - Black Locust: Cut and Spray (Glyphosate or Garlon 3A or Tordon) OR Basal Bark Spray (triclopyr herbicides in 2% solution with diesel) - Crown Vetch: Pull, Spray (Glyphosate, Triclopyr, 2,4-D) - Common St. John's Wort: Pull - Cutleaf Teasel: Cut, 	<ul style="list-style-type: none"> - Collect native plant seed - Conduct ecological surveys

	<ul style="list-style-type: none"> - Reed Canarygrass: Dig, Cut, Burn, Spray (Glyphosate, Dalapon, Amitrol) - White Mulberry: Pull Seedlings, Cut and Spray Trunks - Garlic Mustard: Dig Up, Pull, Burn, Cut, Spray (Glyphosate, Triclopyr, 2,4-D) - Dame's Rocket: Pull, Spray (Glyphosate, Triclopyr) - Queen Anne's Lace: Pull, Mow, Spray (Triclopyr, 2,4-D) - Bull Thistle: Pull, Dig Up, Mow, Spray (Glyphosate, Triclopyr, 2,4-D) 	
August	<ul style="list-style-type: none"> - Bush Honeysuckle: Cut and Spray Treatment (Glyphosate or Tordon) - Day Lily: Dig Up or Spray (Glyphosate) - Curly-leaf Pondweed: Raking OR Cutting - Autumn Olive: Cut and Spray (Glyphosate or Triclopyr) - Burdock: Chemical OR Cutting (Glyphosate) - Black Locust: Cut and Spray (Glyphosate or Garlon 3A or Tordon) - Crown Vetch: Pull, Mow, Spray (Glyphosate, Triclopyr, 2,4-D) - Common St. John's Wort: Pull - Cutleaf Teasel: Spray (Glyphosate, Triclopyr, 2, 4-D) - Reed Canarygrass: Dig, Cut, Burn - White Mulberry: Pull Seedlings, Cut and Spray Trunks - Garlic Mustard: Dig Up, Burn, Spray (Glyphosate, Triclopyr, 2,4-D) - Dame's Rocket: Burn, Spray (Glyphosate, Triclopyr) - Queen Anne's Lace: Pull, Mow, Spray (Triclopyr, 2,4-D) - Bull Thistle: Pull, Dig Up, Mow, Spray (Glyphosate, Triclopyr, 2,4-D) 	<ul style="list-style-type: none"> - Collect native plant seed - Conduct ecological surveys
September	<ul style="list-style-type: none"> - Bush Honeysuckle: Cut and Spray Treatment (Glyphosate or Tordon) - Day Lily: Dig Up OR Spray (Glyphosate) - Curly-leaf Pondweed: Raking OR Cutting - Autumn Olive: Cut and Spray (Glyphosate or Triclopyr) - Burdock: Chemical OR Cutting (Glyphosate) - Black Locust: Cut and Spray (Glyphosate or Garlon 3A or Tordon) - Crown Vetch: Pull, Mow - Common St. John's Wort: Pull - Cutleaf Teasel: Spray (Glyphosate, Triclopyr, 2, 4-D) - Reed Canarygrass: Dig, Cut - White Mulberry: Pull Seedlings, Cut and Spray 	<ul style="list-style-type: none"> - Collect native plant seed - Conduct ecological surveys

	<ul style="list-style-type: none"> - Trunks - Garlic Mustard: Dig Up, Burn, Spray (Glyphosate, Triclopyr, 2,4-D) - Dame's Rocket: Burn, Spray (Glyphosate, Triclopyr) - Bull Thistle: Spray (Glyphosate, Triclopyr, 2,4-D) 	
October	<ul style="list-style-type: none"> - Bush Honeysuckle: Cut and Spray Treatment (Glyphosate or Tordon) - Sweet Clover: Hand-Pull - Black Locust: Cut and Spray (Glyphosate or Garlon 3A or Tordon) - Crown Vetch: Pull, Mow - Common St. John's Wort: Pull - Cutleaf Teasel: Spray (Glyphosate, Triclopyr, 2, 4-D) - Reed Canarygrass: Dig, Cut, Burn - White Mulberry: Pull Seedlings, Cut and Spray Trunks - Garlic Mustard: Dig Up, Burn, Spray (Glyphosate, Triclopyr, 2,4-D) - Dame's Rocket: Burn, Spray (Glyphosate, Triclopyr) 	<ul style="list-style-type: none"> - Collect native plant seed - Conduct ecological surveys
November	<ul style="list-style-type: none"> - Bush Honeysuckle: Cut and Spray Treatment (Glyphosate or Tordon) - Autumn Olive: Cut and Spray (Glyphosate or Triclopyr) - Black Locust: Cut and Spray (Glyphosate or Garlon 3A or Tordon) - Cutleaf Teasel: Spray (Glyphosate, Triclopyr, 2, 4-D) - White Mulberry: Pull Seedlings, Cut and Spray Trunks - Reed canarygrass: Burn 	<ul style="list-style-type: none"> - Fell unwanted trees - Clear brush - Burn brush piles - Conduct prescribed burns
December	<ul style="list-style-type: none"> - Bush Honeysuckle: Cut and Spray Treatment (Glyphosate or Tordon) - Autumn Olive: Cut and Spray (Glyphosate or Triclopyr) - Black Locust: Cut and Spray (Glyphosate or Garlon 3A or Tordon) - Cutleaf Teasel: Spray (Glyphosate, Triclopyr, 2, 4-D) - White Mulberry: Pull Seedlings, Cut and Spray Trunks 	<ul style="list-style-type: none"> - Fell unwanted trees - Clear brush - Burn brush piles

NOTE: A different version of Table B1 is available that includes an additional column with natural areas. The vast presence of invasive species across all of our campus natural areas made the table difficult to read and not as helpful as the one above.

Tables B2-19. Detailed control methods for invasive species commonly found in campus natural areas

Garlic Mustard (*Alliaria petiolate*)

Control Methods	Life Stage	When	Follow-Up
Dig up	Anytime (make sure to get root)	Spring-Fall	Revisit and pull weeds that resprouted from left behind roots
Hand Pull and Bag	Flowering	Spring-Early Summer	Repeat as necessary
Propane Torch	Newly emerged seedlings	Spring	Hand pull what was missed
Burn	Any	Spring-Fall	Hand pull what was missed
Cut	Flowering	Spring-Early Summer	Revisit site to look for missed plants
Chemical Spraying (Glyphosate, Triclopyr, 2,4-D)	Before seeds ripen	Early Spring, Late Fall When native plants are dormant, but garlic mustard is still green	Revisit to make sure spray was not washed off; revisit in a few weeks to pull all plants that were missed
<i>Do not mow after May 10; it will only distribute seeds!</i>			

Dame's Rocket (*Hesperis matronalis*)

Control Methods	Life Stage	When	Follow-Up
Hand Pulling	Any time before seed pods are ready to distribute; if pulled when seeds are ready, bag weeds and dispose of properly	Spring-Early Summer	Revisit and pull plants that have resprouted from left behind roots; revisit yearly for 3-4 years
Burning	Spring-Seedlings Fall-Rosettes	Spring, Fall	May only act as a disturbance and stimulate the seed bank; monitor for several years and spray/pull as necessary
Chemical Spraying (Glyphosate, Triclopyr)		Early Spring, Late Fall When native plants are dormant, but dame's rocket is still green, and above 50°, so chemicals are absorbed	Revisit in a few weeks and pull leftover weeds

Queen Anne's Lace (*Daucus carota*)

Control Methods	Life Stage	When	Follow-Up
Hand Pull	Any time before seeds are ready to distribute; if pulled when seeds are ready, bag weeds and dispose of properly	Spring-Late Summer	Revisit and pull plants that have resprouted from left behind roots
Mow	Any time before seeds are ready to distribute	Spring-Late Summer	
Chemical Spraying (Triclopyr, 2,4-D)	While growing	Spring-Late Summer	Retreat as necessary and check annually

Bull Thistle (*Cirsium vulgare*)

Control Methods	Life Stage	When	Follow-Up
Hand Pull	After bolting but before flowering	Spring-Summer	Leaves behind the roots, so they will regrow
Digging	After bolting but before flowering	Spring-Summer	Cut off root 1-2 inches below soil surface; bag all flower heads as they can still form seeds; repeat for 3 years as seed from seedbank will grow
Mow	After bolting but before flowering	Spring-Summer	Repeat throughout season to mow off regrowths
Chemical Spraying (Glyphosate, triclopyr, 2,4-D)	Before flowering	Early Spring-Late Summer	Bag all flowering head

Wild Parsnip (*Pastinaca sativa*)

CAUTION: Contact with this plant's sap can lead to serious injury

Control Method	Life Stage	When	Follow-Up
Hand-Pulling	Any (before it lays seed preferably)	Any time before seeds are dropped	Repeat until effective or move to different methods
Cutting	Flowering stem	Anytime spring or early summer before it lays seed	Repeat until effective or move to different methods
Chemical (use Glyphosate or selective metsulfuron)	Most effective during the burning season, after a burn, when plant re-sprouts	Spring at first bloom or during burn season	Use sparingly in quality habitats but repeat until effective or move to different methods

Canada Thistle (*Cirsium arvense*)

Control Method	Life Stage	When	Follow-Up
<u>Tillage</u>	Budding	Early Spring	Must be done about every three weeks during the season to completely deplete root system
<u>Cover Crop</u> (Perennial forage crop Or winter-annual crop)	Based on specific crop's planting season not thistle's	Based on specific crop's planting season not thistle's	Repeat until effective; these crops compete well with thistle's and will not only deplete thistle population but produce a profit
<u>Chemical</u> (systemic herbicides i.e. Glyphosate, 2, 4-D, dicamba, MCPA)	Bud stage	Spring	Will need to be applied periodically until it is completely effective

Black Locust (*Robinia pseudoacacia*)

Control Method	Life Stage	When	Follow-Up
<u>Basal Bark Spray</u> (triclopyr herbicides 2% solution per gallon Diesel fuel)	Live, standing trees (only specimen 6 in or less in diameter)	Anytime, best during active growth of the tree	Once or twice a year; if it appears ineffective you will need to move to Cut and Spray
<u>Cut & Spray</u> <u>Garlon 3A</u> : Rate of 50/50 with water <u>Glyphosate</u> : 20-50% per gallon of water (25- 64 ounces)	Any	Any	If re-sprout occurs, use this method on sprouts until they do not reappear
<p><i>Glyphosate can be used as a foliar spray on smaller subjects or sprouts. Use Anytime tree has live leaves. Mixture should be 2 ounces per gallon of water. Repeat as needed or just move to cut and spray.</i></p> <p><i>Mechanical methods of removal are almost completely ineffective and have been observed to cause increased growth after application, making them a “1 step forward, 2 steps back” approach.</i></p>			

Bush Honeysuckle (*Lonicera spp.*)

Control Method	Life Stage	When	Follow-Up
<u>Dig up</u> (Only viable method of hand removal)	Any	When ground is not frozen and you can identify the entire plant	If ANY of the plant is left in the ground, re-sprout will most likely occur
<u>Foliar Application</u>	When first buds appear	Spring	May have no effect; use and observe results to decide whether to reapply or use another method
<u>Cut & Spray</u>	Any	Any	Plant may re-sprout if cut incorrectly or if herbicide used is not taken into the plant; repeat until effective
<i>This plant is extremely resilient. They grow in colonies and you may need to sweep an area twice to find all the sprouts. Apply herbicide liberally where surrounding plant life is at low risk.</i>			

Crown Vetch (*Securigera varia*)

Control Methods	Life Stage	When	Follow-Up
Hand Pull	Mature plants	Whenever	Take care to get root
Mow	Before seeds mature; after second leaf-out	Spring Fall	Repeat several times per year for 2 to 3 years
Burn		Late Spring	Repeat for several years. Will not help in huge patches because there is no fire fuel; may stimulate seed germination
Chemical Spraying (Glyphosate, Triclopyr, Metsulfuron)	Actively growing	Spring-Summer	Repeat as necessary

Common St. John's Wort (*Hypericum perforatum*)

Control Methods	Life Stage	When	Follow-Up
Hand Pull		Whenever	Repeat as necessary for several years to ensure complete removal of plant and lateral roots; bagging plant is best as to keep seeds from growing
Mow	Before seed formation	Spring	Several cuts per year for several years
Burn	Not recommended: stimulates seed germination and encourages further establishment.		
Chemical Spraying (Glyphosate, Picloram, 2, 4-D)	Seedling and pre-bloom	Spring	Repeat as necessary

Control Methods	Life Stage	When	Follow-Up
Dig Up	Young rosettes	Spring	Repeat as necessary for several years; get as much root as possible
Hand Pull	Small seedlings	Moist soil	Repeat as necessary for several years; hard to get bigger plants or

			when the soil is dry
Cut	Flowering, before seed set	Spring-Early Summer	Remove heads from area; repeat as necessary for several years
Chemical Spraying (Glyphosate, Triclopyr, 2, 4-D)	Best before sending up flowering stalk	Any time of year; stays green most of winter, easy to find	Best on warm days, so rosettes are photosynthesizing

Cutleaf Teasel (*Dipsacus laciniatus*)

Reed Canarygrass (*Phalaris arundinacea*)

Control Methods	Life Stage	When	Follow-Up
Dig	Preferably before seeds set	Late Spring	Remove full roots; bag if dug after seed set; repeat as necessary for several years
Cut	While flowering	Spring	Repeat several times per year for 5-6 years
Burn		Late Spring, Late Fall	Repeat for 5-6 years
Chemical Spraying (Glyphosate, Dalapon, Amitrol)	Preferably before seeds set	Late Spring	Repeat as necessary for several years

White Mulberry (*Morus alba*)

Control Methods	Life Stage	When	Follow-Up
Pull	Seedling	Any time soil can be worked	Make sure to get roots
Cut-stump	Any	Anytime, Fall and Spring are best	Spray stump with glyphosate

Control Methods	Life Stage	When	Follow-Up
Dig up	Anytime (make sure you get root)	Spring-Fall	Be sure to remove entire root or resprout will occur; revisit sites to be sure this does not happen

<p>Chemical Spraying (Glyphosate, other Systemic Action Herbicides; 2% Solution in water)</p>	<p>Any</p>	<p>Early Spring before other plants bloom or Late Summer/Early Fall when plants are sending resources to their roots</p>	<p>Revisit to confirm effectiveness of treatment</p>
<p><i>Chemical methods are most efficient for overtaken areas where digging would be too time consuming.</i></p>			

Day Lilies (*Hemerocallis fulva var. fulva*)

Sweet Clover (*Melilotus officinalis*)

Control Methods	Life Stage	When	Follow-Up
Burning	First year does not matter; second year must be after bud development or there will be resprout	Before green-up first year (April) then mid-May the second year	Must be done two years in a row to be effective; the burned area should be checked late summer for first-year plants
Hand-Pulling	After first year plants root-crown develops OR when second-year plants first flower	Late Fall OR May or June	Check for resprouts or late blooming plants
Cutting	Before seeds set	Summer	Check for resprouts or late blooming plants
<p><i>Burning regime may need to be repeated in heavily affected areas. Seeds can remain viable for 30 years. Chemical controls can work for this plant but it can be controlled by mechanical methods quite well, so chemicals are not a necessity.</i></p>			

Curly-leaf Pondweed (*Potamogeton crispus*)

Control Methods	Life Stage	When	Follow-Up
Chemical – Active ingredients to use (most effective first): <ul style="list-style-type: none"> - Endothall - Fluridone - Diquat - Copper w/ diquat - Imazamox - Bispyribac - Flumioxazin 	Any	Spring when water temperatures are between 50 and 60 degrees, on the rise	Apply evenly; retreat if needed and if the pond can take the treatment and remain healthy
Dye	Actively Growing	Spring-Summer	Used to block sunlight to inhibit plant growth; use care with this method it can cause as much harm as good on aquatic food chains
Raking or Seining	Any	Any	Can work but plants will most likely resprout from roots left behind; semi-ineffective
Cutting	Any	Spring-Summer	Cut plants may need to be removed to be effective
<p><i>This plant is hard to control once it is established. It may be a better goal to control its spread rather than eradicate it. Take out as much as possible then maintain so that the pond can become healthy and compete again.</i></p>			

Autumn Olive (*Elaeagnus umbellata*)

Control Methods	Life Stage	When	Follow-Up
Cut and Spray Use: Glyphosate, triclopyr, or picloram. 20-50% in solution with water.	Any	July-September OR When dormant (not as effective)	Check for resprouts
Hand-Pulling	Seedling or Sprout	Early Spring	Check for resprouts
<i>This plant is easily found in spring because it is one of the first plants to leaf out. Does not respond to burning or purely mechanical methods of removal once the plant is passed the seedling stage.</i>			

Burdock (*Arctium spp.*)

Control Methods	Life Stage	When	Follow-Up
Chemical	Prior to bud formation (very effective on first year plants)	Late Summer is best (ensures late emerging seedlings are treated)	Check for effectiveness; repeat as needed
Mowing and Cutting	After Flower Stalk Forms	Summer	Check for resprouts or late blooming plants; if ineffective use herbicide
Digging and Pulling	Any time the plant is not dormant	Any time the plant is not dormant	For this method to work, the tap root has to be mostly, if not completely, removed; check back to make sure the plant has not survived
<i>Burdocks are easier to kill than many undesirable plants. Chemicals like Glyphosate can be very effective. If done at the right time, cutting and mowing can do just as much damage.</i>			

Table B20. Native seed collection dates by species. Bold denotes known species on campus.

Seed collecting dates	Latin name	Common name
Late May	<i>Anemone patens</i>	Pasque flower
Late May	<i>Erigeron pulchellus</i>	Robin's plantain
Late May	<i>Geum triflorum</i>	Prairie smoke
Late May-Early June	<i>Antennaria neglecta</i>	Field pussytoes
Late May-Early June	<i>Antennaria plantaginifolia</i>	Plantain-leaved pussytoes
Late May-Early June	<i>Packera</i> (Senecio) <i>plattensis</i>	Prairie ragwort
Late May-Mid June	<i>Viola pedata</i>	Bird's foot violet
Early June	<i>Oxalis violacea</i>	Violet wood-sorrel
Early June	<i>Sanguinaria canadensis</i>	Blood root
Early-Mid June	<i>Pedicularis canadensis</i>	Wood betony
Early-Late June	<i>Thalictrum dioicum</i>	Early meadow-rue
Mid June	<i>Ranunculus abortivus</i>	Small-flowered buttercup
Mid June	<i>Saxifraga pensylvanica</i>	Swamp saxifrage
Mid June	<i>Scheuchzeria palustris</i>	Arrow grass
Mid June	<i>Sisyrinchium angustifolium</i>	Narrow-leaved blue-eyed grass
Mid June	<i>Viola canadensis</i>	Tall whiteviolet
Mid June-Early July	<i>Scutellaria sp</i>	Skullcap
Mid June-Early July	<i>Sisyrinchium campestre</i>	Blue-eyed grass
Mid June-Mid July	<i>Aquilegia canadensis</i>	Wild columbine
Mid-Late June	<i>Geranium maculatum</i>	Wild geranium
Mid-Late June	<i>Heuchera richardsonii</i>	Prairie alum-root
Mid-Late June	<i>Lupinus perennis</i>	Wild lupine
Mid-Late June	<i>Packera</i> (Senecio) <i>pauperculus</i>	Balsam ragwort
Mid-Late June	<i>Stipa spartea</i>	Needle grass
Late June-Early July	<i>Krigia biflora</i>	FALSE dandelion (Cynthia)
Late June-Early July	<i>Polemonium reptans</i>	Jacob's ladder
Late June-Early July	<i>Polygala senega</i>	Seneca snakeroot
Late June-Mid July	<i>Lithospermum incisum</i>	Fringed puccoon
All July	<i>Angelica atropurpurea</i>	Great angelica
Early July	<i>Allium canadense</i>	Wild garlic
Early July	<i>Camassia scilloides</i>	Wild hyacinth
Early July	<i>Ceanothus herbaceous</i>	Inland New Jersey tea
Early July	<i>Comandra umbellata</i>	FALSE toadflax
Early July	<i>Helianthemum bicknellii</i>	Bicknell's rock rose
Early July	<i>Panicum latifolium</i>	Broad-leaved panic grass
Early-Mid July	<i>Tradescantia ohioensis</i>	Common spiderwort
Early-Mid July	<i>Pediomelum esculentum</i>	Pomme-de-prairie

Mid July	<i>Blephilia ciliata</i>	Downy wood mint
Mid July	<i>Carex pensylvanica</i>	Pennsylvania Sedge
Mid July	<i>Carex rosea</i>	Sedge
Mid July	<i>Phlox pilosa</i>	Downy phlox
Mid July-Early August	<i>Actaea rubra</i>	Red baneberry
Mid July-Early August	<i>Lobelia spicata</i>	Pale spiked lobelia
Mid July-Late August	<i>Osmorhiza longistylis</i>	Smooth sweet cicely
Late July	<i>Castilleja coccinea</i>	Indian paintbrush
Late July	<i>Castilleja sessiliflora</i>	Downy paintbrush
Late July	<i>Helianthemum canadense</i>	Rock rose
Late July-Early August	<i>Taenidia integerrima</i>	Yellow pimpernel
Late July-Mid September	<i>Arabis canadensis</i>	Sickle pod
Late July-Mid September	<i>Bromus kalmii</i>	Kalm's brome
Late July-Mid September	<i>Elymus villosus</i>	Silky wild rye
July-Early August	<i>Dodecatheon meadia</i>	Shooting star
All August	<i>Bromus ciliatus</i>	Fringed brome
All August	<i>Elymus hystrix</i>	Bottlebrush grass
All August	<i>Koeleria macrantha</i>	June Grass
Early August	<i>Anemone canadensis</i>	Meadow anemone
Early August	<i>Cicuta maculata</i>	Water-hemlock
Early August	<i>Festuca subverticillata</i>	Nodding fescue
Early August	<i>Galium boreale</i>	Northern bedstraw
Early August	<i>Heliopsis helianthoides</i>	FALSE sunflower (ox-eye)
Early August	<i>Hieracium longipilum</i>	Hairy hawkweed
Early August	<i>Lathyrus venosus</i>	Veiny pea
Early August	<i>Lithospermum canescens</i>	Hoary puccoon
Early August	<i>Opuntia humifusa</i>	Prickly-pear cactus
Early August	<i>Penstemon grandiflorus</i>	Large bear-tongue
Early August	<i>Scrophularia marilandica</i>	Late figwort
Early August	<i>Zigadenus elegans</i> var. <i>glaucus</i>	White camas lily
Early August	<i>Zizia aptera</i>	Heart-leaved golden alexander
August-Early September	<i>Agrimonia gryposepala</i>	Tall agrimony
August-Mid September	<i>Desmodium glutinosum</i>	Pointed tick-trefoil
Early August-Early September	<i>Desmodium illinoense</i>	Illinois tick-trefoil
Early August-Mid September	<i>Thalictrum dasycarpum</i>	Purple meadow-rue
Early August-Mid September	<i>Zizia aurea</i>	Golden Alexander
Mid August	<i>Bouteloua hirsuta</i>	Hairy grama
Mid August	<i>Geum canadense</i>	White avens

Mid August	<i>Potentilla argentea</i>	Silvery cinquefoil
Mid August	<i>Spartina pectinata</i>	Prairie cord grass
Mid August-Early October	<i>Bouteloua curtipendula</i>	Side oats grama
Mid August-Early October	<i>Potentilla arguta</i>	Prairie cinquefoil
Mid August-Early September	<i>Actaea alba</i>	White baneberry
Mid August-Early September	<i>Baptisia alba</i>	White wild indigo
Mid August-Early September	<i>Cryptotaenia canadensis</i>	Honewort
Mid August-Mid October	<i>Oenothera biennis</i>	Common evening-primrose
Mid August-Mid October	<i>Polygonatum biflorum</i>	Smooth Solomon's seal
Mid August-Mid September	<i>Campanula rotundifolia</i>	Harebell
Mid August-Mid September	<i>Euphorbia corollata</i>	Flowering spurge
Mid August-Late October	<i>Linum medium</i>	texanum Small yellow flax
Mid August-Late October	<i>Smilacina racemosa</i>	FALSE Solomon's seal
Mid August-Late September	<i>Monarda fistulosa</i>	Wild bergamot
Mid August-Late September	<i>Phryma leptostachya</i>	Lopseed
Late August	<i>Eragrostis spectabilis</i>	Purple Lovegrass
Late August-Early October	<i>Elymus riparius</i>	Woodland rye
Late August-Early October	<i>Anemone cylindrica</i>	Thimbleweed
Late August-Early October	<i>Bromus altissimus</i>	Woodland brome
Late August-Early October	<i>Panicum virgatum</i>	Switch grass
Late August-Early October	<i>Parthenium integrifolium</i>	Wild quinine
Late August-Mid September	<i>Cirsium muticum</i>	Swamp thistle
Late August-Mid September	<i>Napaea dioica</i>	Glade mallow
Late August-Mid September	<i>Polygala sp</i>	Milkwort
Late August-Mid September	<i>Teucrium canadense</i>	Germander
Late August-Late September	<i>Silphium perfoliatum</i>	Cup plant
Late August-Late September	<i>Sporobolus heterolepis</i>	Prairie dropseed
Late August-Late September	<i>Verbena hastata</i>	Blue vervain
Late August-Late September	<i>Verbena urticifolia</i>	White vervain
Late August-Late September	<i>Veronicastrum virginicum</i>	Culver's root
Late August-October	<i>Anemone virginiana</i>	Tall anemone
Late August-October	<i>Hieracium kalmii</i>	Canada hawkweed
Late August-September	<i>Allium cernuum</i>	Nodding wild onion
Late August-September	<i>Amorpha canescens</i>	Lead-plant
Late August-September	<i>Dalea candida</i>	White prairie clover
Late August-September	<i>Dalea purpureum</i>	Purple prairie clover
Late August-September	<i>Desmodium canadense</i>	Showy tick-trefoil
Late September-October	<i>Agastache nepetoides</i>	Yellow giant hyssop

All September	<i>Arisaema triphyllum</i>	Jack-in-the-pulpit
All September	<i>Arnoglossum atriplicifolium</i>	Pale Indian-plantain
All September	<i>Astragalus canadensis</i>	Milk vetch
All September	<i>Goodyera sp</i>	Rattlesnake plantain
All September	<i>Kuhnia eupatorioides</i>	FALSE boneset
Early September	<i>Agastache foeniculum</i>	Blue giant hyssop
Early September	<i>Baptisia bracteata</i>	Cream wild indigo
Early September	<i>Chamaecrista fasciculata</i>	Golden cassia
Early September	<i>Echinacea pallida</i>	Pale purple coneflower
Early September	<i>Elymus canadensis</i>	Canada wild rye
Early September	<i>Helianthus strumosus</i>	Woodland sunflower
Early September	<i>Lactuca canadensis</i>	Wild lettuce
Early September	<i>Polygonum virginianum</i>	Woodland knotweed
Early September	<i>Polytaenia nuttallii</i>	Prairie parsley
Early Sept-Early October	<i>Eupatorium maculatum</i>	Spotted Joe-Pye-weed
Early Sept-Early October	<i>Eupatorium perfoliatum</i>	Common boneset
Early Sept-Early October	<i>Verbena stricta</i>	Hoary vervain
Early Sept-Mid October	<i>Silphium integrifolium</i>	Rosinweed
Early Sept-Late October	<i>Pycnanthemum virginianum</i>	Common mountain mint
Early-Mid September	<i>Silphium terebinthinaceum</i>	Prairie dock
Early-Mid September	<i>Tephrosia virginiana</i>	Goat's-rue
Early-Late September	<i>Silphium laciniatum</i>	Compass plant
Mid-September	<i>Amphicarpaea bracteata</i>	Hog peanut
Mid-September	<i>Apocynum cannabinum</i>	Hemp-dogbane
Mid September	<i>Aralia racemosa</i>	Spikenard
Mid September	<i>Carex bicknellii</i>	Bicknell's sedge
Mid September	<i>Gaura biennis</i>	Gaura
Mid September	<i>Monarda punctata</i>	Dotted horsemint
Mid September	<i>Panax quinquefolium</i>	Ginseng
Mid September	<i>Phlox glaberrima</i>	Smooth phlox
Mid September	<i>Physalis virginiana</i>	Ground cherry
Mid-September	<i>Pyrola sp</i>	Shinleaf
Mid September-Early October	<i>Eryngium yuccifolium</i>	Rattlesnake master
Mid September-Early October	<i>Liatriis aspera</i>	Rough blazing star
Mid September-Early October	<i>Liatriis cylindracea</i>	Dwarf blazing star
Mid September-Early October	<i>Liatriis pycnostachya</i>	Prairie blazing star
Mid September-Mid October	<i>Lobelia siphilitica</i>	Great blue lobelia
Mid September-Mid October	<i>Rosa sp.</i>	Rose

Mid September-Mid October	<i>Rudbeckia hirta</i>	Black-eyed Susan
Mid September-Mid October	<i>Sorghastrum nutans</i>	Indian grass
Mid September-Late October	<i>Solidago ptarmacoides</i>	Stiff aster
Mid September-Late October	<i>Triosteum perfoliatum</i>	Early horse gentian
Mid-Late September	<i>Asclepias verticillata</i>	Whorled milkweed
Mid-Late September	<i>Asclepias viridiflora</i>	Short green milkweed
Mid-Late September	<i>Eupatorium purpureum</i>	Purple joe-pye weed
Mid-Late September	<i>Gnaphalium obtusifolium</i>	Old field balsam
Mid-Late September	<i>Lysimachia ciliata</i>	Fringed loosestrife
Late September	<i>Asclepias incarnata</i>	Swamp milkweed
Late September	<i>Cirsium altissimum</i>	Woodland thistle
Late September	<i>Cirsium discolor</i>	Pasture thistle
Late September	<i>Hasteola suaveolens</i>	Sweet Indian plantain
Late September	<i>Helianthus occidentalis</i>	Naked-stemmed sunflower
Late September	<i>Helianthus pauciflorus</i>	Prairie sunflower
Late September	<i>Campanula americana</i>	Tall bellflower
Late September-Early October	<i>Eupatorium sessilifolium</i>	Woodland boneset
Late September-Early October	<i>Helianthus grosseserratus</i>	Saw-toothed sunflower
Late September-Mid October	<i>Vernonia fasciculata</i>	Common ironweed
Late September-Late October	<i>Prenanthes alba</i>	Lion's foot
Late September-Late October	<i>Schizachyrium scoparium</i>	Little bluestem
Late September-October	<i>Andropogon gerardii</i>	Big bluestem
Late September-October	<i>Asclepias syriaca</i>	Common milkweed
Late September-October	<i>Asclepias tuberosa</i>	Butterfly weed
Late September-October	<i>Aureolaria grandiflora</i>	Yellow FALSE foxglove
Late September-October	<i>Chelone glabra</i>	Turtlehead
Late September-October	<i>Coreopsis palmata</i>	Prairie tickseed
Late September-October	<i>Gentiana andrewsii</i>	Bottle gentian
Late September-October	<i>Helenium autumnale</i>	Sneezeweed
Late September-October	<i>Hypericum pyramidatum</i>	Great St. John's wort
September-Early October	<i>Lespedeza capitata</i>	Round-headed bush clover
September-Early October	<i>Ratibida pinnata</i>	Yellow coneflower
September-Mid October	<i>Ceanothus americanus</i>	New Jersey tea
All October	<i>Asclepias exaltata</i>	Poke milkweed
All October	<i>Cypripedium Calceolus</i> var. <i>pubescens</i>	Large yellow lady-slipper
All October	<i>Lilium michiganense</i>	Turk's cap lily
All October	<i>Lobelia cardinalis</i>	Cardinal flower
All October	<i>Pedicularis lanceolata</i>	Swamp betony (lousewort)

All October	<i>Rudbeckia triloba</i>	Brown-eyed Susan
Early October	<i>Asclepias purpurascens</i>	Purple milkweed
Early October	<i>Eupatorium altissimum</i>	Upland boneset
Early October	<i>Smilax herbacea</i>	Carrion flower
Early October	<i>Viburnum prunifolium</i>	Black haw
Mid October	<i>Bidens sp</i>	Beggar's tick
Mid October	<i>Euthamia graminifolia</i>	Grass-leaved goldenrod
Mid October	<i>Liatris spicata</i>	Dense gay-feather
Mid October	<i>Prenanthes crepidinea</i>	Great white-lettuce
Mid October-Early November	<i>Solidago nemoralis</i>	Old-field goldenrod
Mid-Late October	<i>Aster novae-angliae</i>	New England aster
Mid-Late October	<i>Aster oolentangiensis</i>	Sky-blue aster
Mid-Late October	<i>Aster puniceus</i>	Swamp aster
Mid-Late October	<i>Aster sagittifolius</i>	Arrow-leaved aster
Mid-Late October	<i>Aster sericeus</i>	Silky aster
Mid-Late October	<i>Lilium philadelphicum</i>	Wood lily
Mid-Late October	<i>Solidago rigida</i>	Stiff goldenrod
Mid-Late October	<i>Gentianella quinquefolia</i>	Stiff gentian
Late October	<i>Aster ericoides</i>	Heath aster
Late October	<i>Aster laevis</i>	Smooth blue aster
Late October-Early November	<i>Aster lateriflorus</i>	Side flowering aster
Late October-Early November	<i>Elymus virginicus</i>	Virginia wild rye
Late October-Early November	<i>Solidago flexicaulis</i>	Zig zag goldenrod
October	<i>Solidago juncea</i>	Early goldenrod
October	<i>Solidago missouriensis</i>	Missouri goldenrod
October-Early November	<i>Solidago speciosa</i>	Showy goldenrod
October-Early November	<i>Solidago ulmifolia</i>	Elm-leaved goldenrod
Early November	<i>Gentiana alba</i>	Cream gentian
Early November	<i>Lobelia inflata</i>	Indian tobacco

Adapted from Kathie and Tom Brock (Pleasant Valley Conservancy) and Wayne Pauly (Dane County Parks Department)



Figure B2. Growing season GoogleEarth map of Prairie 2 during growing season showing walnut trees in northern quarter.

Appendix E: Threatened/endangered species in Grant County

There are 189 documented state-imperiled species in Grant County. A complete list is available on the [Wisconsin Department of Natural Resources' website](#).

Appendix F: UW-Platteville Tree Inventory

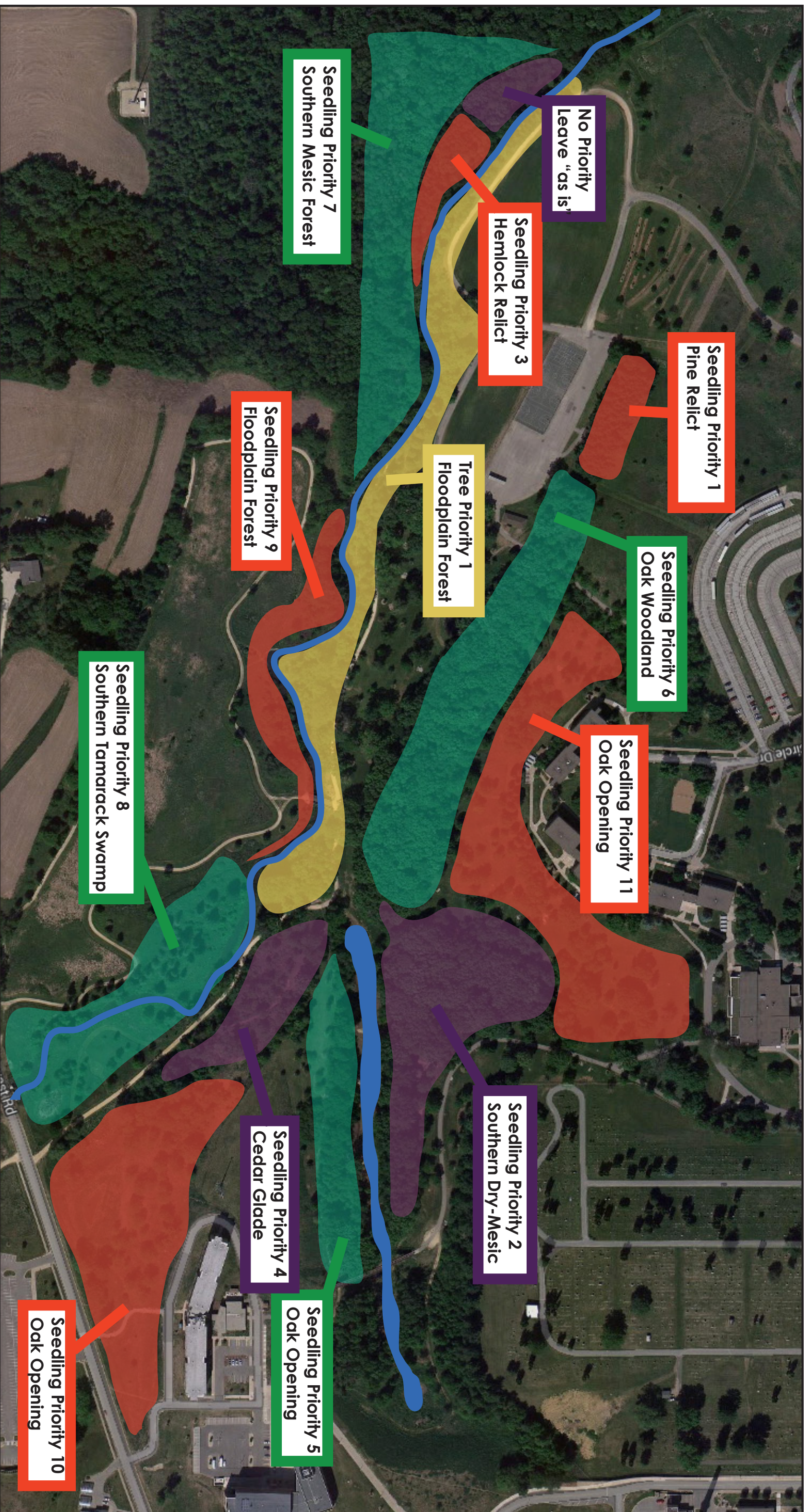
Still in progress. Will be entered when complete.

Appendix G: Restoration work completed during summer 2015

The following work was completed by Dr. Yari Johnson and two Reclamation students hired for approximately 400 hours each during the summer of 2015.

- Flagged more than 1000 planted trees in higher-trafficked areas
- Determined planting locations for 53 large trees and painted markers for Southwest Landscaping
- Removed all invasive bush honeysuckle along Rountree Branch in Memorial Park*
- Hand-removed all invasive plants from Pioneer Prairie*
- Weeded and herbicided around 3500 planted trees (hand-weeding was done on a rotating basis each week)
- Cleared a 2-acre solid wall of bush honeysuckle on slope below Southwest Hall*
- Collected and organized native plant seed for 15 different species
- Helped choose planting location for 50 larger trees to replace those lost in main area of Memorial Park
- Helped to survey 93 separate mowed sections on campus
- Inventoried tree species in natural areas
- Researched and developed invasive species management action plans for 19 different species
- Helped to survey natural areas across campus and rank their land utilization, safety/security, maintenance needs, and quantity of invasive species
- They assisted Steve Cullen by
 - Clearing brush along Memorial Park Walkway
 - Cutting 50+ boxelder and other hazardous trees in Memorial Park
 - Helping to remove storm-damaged trees and debris after UW-Platteville was hit by straight-line winds
 - Helping with general grounds maintenance work on two separate days
- Assisted Pete Nemmitz by clearing out storm water ponds and drains
- Assisted UW-Platteville's Real Estate Foundation by helping to thin trees (this was done in conjunction with the students' chainsaw safety training)

Yari surveyed the invasives this past week and they are coming back. It is an ongoing battle. We just took out one year's seed crop.





INVOICE

04/28/2015

1296 (4)

3100-102-361015-7

UW-Platteville
Amy Seeboth-Wilson
1 University Plaza
Platteville, WI 53818

Order number: 2191

Assigned Nursery W

Order Date 04/28/2015

Ship by DNR Truck to

Pick up at: Wilson

Plant County Grant

Day Phone (608) 642-7244

Evening Phon (608) 778-0873

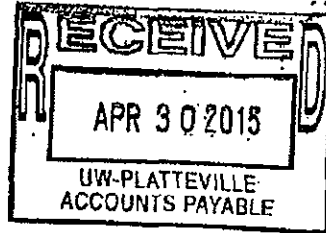
Email seebotha@uwplatt.edu

Tax exempt

Payments:

Order:

Code	Species	Age	Bulk	# Ordered	Total
BR1	Birch, River	1-0	<input type="checkbox"/>	100	\$75.00
BW2	Birch, White	2-0	<input type="checkbox"/>	200	\$276.00
BY1	Birch, Yellow	1-0	<input type="checkbox"/>	100	\$75.00
BN1	Butternut	SL	<input type="checkbox"/>	100	\$92.00
SDS	Dogwood, Silky	SL	<input type="checkbox"/>	100	\$82.90
HK	Hackberry	1-0	<input type="checkbox"/>	200	\$150.00
SHW	Hawthorn	SL	<input type="checkbox"/>	100	\$82.90
SHA	Hazelnut, American	SL	<input type="checkbox"/>	200	\$185.80
H3	Hemlock, Eastern	3-0	<input type="checkbox"/>	200	\$106.80
HS3	Hickory, Shagbark	3-0	<input type="checkbox"/>	200	\$213.40
OB1	Oak, Bur	1-0	<input type="checkbox"/>	600	\$343.20
OR2	Oak, Red	2-0	<input type="checkbox"/>	800	\$561.60
OS1	Oak, Swamp White	1-0	<input type="checkbox"/>	200	\$150.00
PJ2	Pine, Jack	2-0	<input type="checkbox"/>	100	\$46.20
PR3	Pine, Red	3-0	<input type="checkbox"/>	100	\$53.40
PW3	Pine, White	3-0	<input type="checkbox"/>	300	\$160.20
SY1	Sycamore	1-0	<input type="checkbox"/>	75	\$56.25
T2	Tamarack	2-0	<input type="checkbox"/>	200	\$92.40
WB1	Walnut, Black	SL	<input type="checkbox"/>	100	\$92.00
Total				4,075	\$2,875.05



Tree Order Subtotal: \$2,875.05

Please detach and return this slip along with a check payable to the WI Department of Natural Resources

Customer: Seeboth-Wilson, Amy UW-Platteville Return payment to:

Payment due by: 05/28/2015

Order Number 2191

Griffith State Nursery

Amount Due: \$2,997.30

473 Griffith Ave.

Wisconsin Rapids, WI 54494

Amount Enclosed:

Questions about your order: Please call (715) 424-3700.

Thank you for your business! We are committed to service excellence.

Please complete an evaluation survey at <http://dnr.wi.gov/u/?q=33>

* Per s.28.06 Wis. Stats (2)(m), a \$0.03 surcharge per seedling is required for paid orders to support forestry education.

Customers with an amount due greater than \$1,000 may either submit a full payment or a 25% down payment (maximum payment of \$500).

If your amount due is in parenthesis then a refund is due to you.

Shipping: \$0.00

Taxable Amount: \$2,875.05

Tax (5.5%): \$0.00

Surcharge: \$122.25

Order Total: \$2,997.30

Payments Received: \$0.00

Amount Due: \$2,997.30

X

Please detach and return this slip, along with a check payable to the WI Department of Natural Resources

Customer: Seeboth-Wilson, Amy UW-Platteville

Order Number 2191

Return payment to:

Griffith State Nursery

473 Griffith Ave.

Wisconsin Rapids, WI 54494

Payment due by: 05/28/2015

Amount Due: \$2,997.30

Amount Enclosed:

Southwest Landscaping LLC

RECEIVED

Estimate

2289 Woody Lane
Platteville, WI 53818

MAY 21 2015
UW-PLATTEVILLE
PURCHASING OFFICE

Date	Estimate #
5/19/2015	403

Name / Address
UW-P Trees C/O Amy Seeboth-Wilson 308 Royce Hall Platteville, WI 53818-3099

			Project
Description	Qty	Rate	Total
Trees- River Birch (8-10' CL)	6	220.00	1,320.00T
Trees- Swamp White Oak (1 1/2" BB)	6	280.00	1,680.00T
Trees- Red Oak (2" BB)	10	280.00	2,800.00T
Trees- Cottonwood (1 1/4" Pot)	10	160.00	1,600.00T
Trees- Sycamore (1 1/4" Pot)	5	160.00	800.00T
Trees- Hackberry (1 1/4" Pot)	10	160.00	1,600.00T
Trees- Butternut (6' Pot)	5	140.00	700.00T
Hardwood Bark Mulch		400.00	400.00T
Tree Staking		1,152.00	1,152.00T
Labor		3,640.00	3,640.00T
Sales Tax-Exempt		0.00%	0.00
		Total	\$15,692.00