Charlie Heath Memorial Conservation Area

Ten-Year Area Management Plan

FY 2016-2025

Wildlife Division Chief

March 8, 2016
Date

Charlie Heath Memorial Conservation Area Management Plan Approval Page

PLANNING TEAM

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NORTHEAST REGION

RCT Chair _____ *Signature* 2/11/16 *Date*

WILDLIFE DIVISION

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OVERVIEW

- **Official Area Name:** Charlie Heath Memorial Conservation Area, #7703
- **Year of Initial Acquisition:** 1977
- **Acreage:** 1,635 acres
- **County:** Clark
- **Division with Administrative Responsibility:** Wildlife
- **Division with Maintenance Responsibility:** Forestry
- **Statements of Purpose:**

A. Strategic Direction

Charlie Heath Memorial Conservation Area (CA) contains diverse natural communities that support a variety of native species. Management of the area is focused on encouraging healthy populations of turkey, deer, quail and associated non-game species; conserving and enhancing water quality, upland forests, bottomland hardwoods and diverse natural communities; and providing compatible outdoor recreational opportunities for the public.

B. Desired Future Condition

The desired future condition of Charlie Heath Memorial CA includes more bottomland hardwood forests, quality upland forests, fewer invasive species, enhanced woodland communities, stable wooded stream corridors and wetlands that increase water quality; while providing increased public use opportunities.

C. Federal Aid Statement

N/A

GENERAL INFORMATION AND CONDITIONS

I. Special Considerations

A. Priority Areas: Heath Terrestrial Conservation Opportunity Area

B. Natural Areas: None

II. Important Natural Features and Resources

A. Species of Conservation Concern: Species of conservation concern are known from this area. Area Managers should consult the Natural Heritage Database annually and review all management activities with the Natural History Biologist.

B. Caves: None

C. Springs: None

D. Other: Wet-mesic bottomland forest (63 acres)

III. Existing Infrastructure

- 4 parking lots
- 1 wetland unit with a concrete water-control structure, bounded by a levee on its south and east side
- 4 fishless ponds
- 6.3-mile multi-use (hike/bike/horse) trail

IV. Area Restrictions or Limitations

A. Deed Restrictions or Ownership Considerations: None

B. Federal Interest: Federal funds may be used in the management of this land. Fish and wildlife agencies may not allow recreational activities and related facilities that would interfere with the purpose for which the State is managing the land. Other uses may be acceptable and must be assessed in each specific situation.

C. Easements:

- An ingress and egress easement exists in favor of the Missouri Department of Conservation allowing access through private property to access land north of Burnt Shirt Branch. This easement obligates the Department "to at all times maintain and make necessary repairs, at their expense, for the cost of repairs and maintenance that may from time to time be required for the roadway's up keep and maintenance."
- Another easement exists on the east side of the conservation area that allows ingress and egress from a county road across private land to the farthest east edge of the conservation area.

D. Cultural Resources Findings: No known cultural resources

E. Endangered Species: Endangered species are known from this area. Area Managers should consult the Natural Heritage Database annually and review all management activities with the Natural History Biologist.

F. Boundary Issues: None

MANAGEMENT CONSIDERATIONS

V. Terrestrial Resource Management Considerations:

Terrestrial resources on Charlie Heath Memorial CA include upland and bottomland communities.

Challenges and Opportunities:

1) Dense tree canopy has had a significant negative impact on understory plant diversity in upland forests and woodlands.

2) Bottomland forests have been heavily impacted by continued flooding and Fox River channel avulsions. This has resulted in the death of hundreds of acres of bottomland forest and a shift in tree species composition and a shift to less desirable species (e.g., silver maple, cottonwood, willow and sycamore). Desirable species, such as swamp white oak, pin oak, shingle oak, walnut, shellbark hickory, bitternut hickory and northern red oak, were eliminated from most of the bottomland forests due to lengthy periods of flooding. These large mast-producing tree species were important for many wildlife species.
3) Public exposure to active forest and woodland management, such as timber harvest and prescribed fire in accordance with relevant guidelines, provides an opportunity for the public to learn how healthy plant communities support a greater abundance of wildlife. Actively managing the forests and woodlands on Charlie Heath Memorial CA demonstrates the benefits of these practices to the public. This management will be used to encourage private landowners to practice healthy forest and woodland management. Using creative communication and education, including benefits to endangered species and processes used to avoid negative impacts to these species, is essential in demonstrating these management practices.
4) The open land portions of the area are fertile, some of which provide the opportunity to produce crops. These areas supplement natural food supplies, provide cover for wildlife and create more hunting and viewing opportunities for area users. Crop production also sets back succession and makes areas more attractive for ground nesting birds. Fertile soils result in dense vegetation layers at the ground level unless they are constantly disturbed. Permittee farmers will be used to help meet management goals with cereal and small grain production at the area.
5) Controlling invasive species at the area is a challenge. Fescue tends to invade on richer sites in the uplands. Reed canary grass encroaches in the bottomland. Teasel has been found along the roadside on the southeast portion of the area.
6) A monitoring and evaluation project documenting the response of prickly ash and multiflora rose to prescribed fire is currently being conducted on the area. The project began in 2005 and involves a burning/resting rotation. The response of prickly ash and multiflora rose has been monitored annually. The project is intended to track if prickly ash and multiflora rose reinvade. The project is in the first year of an extended rest period.

Management Objective 1: Improve the health of forests and woodlands to benefit wildlife and increase diversity of natural communities.

Strategy 1: Conduct a forest inventory on Compartment 2 (FY16). (Forestry)

Strategy 2: Conduct prescribed burning in woodland units as prescribed by the forest inventory. (Wildlife)
Strategy 3: Implement timber sales and forest stand improvement activities on Compartment 2 (FY18-20). (Forestry)
Strategy 4: Conduct a forest inventory on Compartment 1 (FY18). (Forestry)
Strategy 5: Implement timber sales and forest stand improvement activities on Compartment 1 (FY19-22). (Forestry)

Management Objective 2: Educate area users about the benefits of healthy forest and woodland management.

Strategy 1: Post "Healthy Woods" signs adjacent to actively managed forest and woodland areas. (Forestry)
Strategy 2: Post general information on the Missouri Atlas Database about when and where to expect active forest and woodland management. (Forestry)
Strategy 3: Post general information on bulletin boards about why active forest and woodland management benefit conservation areas. (Forestry)

Management Objective 3: Provide food, cover for wildlife and maintain early successional vegetation.

Strategy 1: Use permittee farmers to manage plant succession utilizing crops when appropriate. (Wildlife)
Strategy 2: Use food plots to create disturbances and provide wildlife food when appropriate. (Wildlife)
Strategy 3: Manage old fields using management techniques including but not limited to burning, disking, spraying, and mowing to combat invading woody plants and to encourage native grasses and forbs. (Wildlife)
Strategy 4: As the forest management plan is implemented and small openings are created for log landings, utilize small grain food plots until permanent cover can be established. (Wildlife)

Management Objective 4: Reduce invasive plant species.

Strategy 1: Reduce reed canary grass, fescue, teasel and garlic mustard by increasing spraying activity. (Wildlife)
Strategy 2: Prevent the spread of invasive plants by cleaning mower decks so seeds and plant material are not moved to unaffected areas. (Wildlife)
Strategy 3: Monitor for other invasive species and treat as necessary. (Wildlife)

Management Objective 5: Maintain and enhance habitat for endangered species and natural communities and Species of Conservation Concern.

Strategy 1: Monitor the populations of all listed species to maintain current records in the Department's Heritage Database. (Wildlife)
Strategy 2: Based on monitoring results implement or adjust habitat management, such as timing of prescribed fire and tree thinning, control of invasive species, etc. to enhance listed natural community and species habitat.

Management Objective 6: Continue the prickly ash and multiflora rose monitoring and evaluation project.

Strategy 1: Continue the prescribed fire rotation and vary the timing and frequency of prescribed fire, as suggested by Resource Science Division staff. (Wildlife)
Strategy 2: Continue annually monitoring the response of prickly ash and multiflora rose to the fire regime, until Resource Science staff feel that all conclusions pertinent to the study have been reached. (Resource Science)
Strategy3: Share the results of this project with a poster session at the Missouri Natural Resources Conference. (Wildlife and Resource Science)

VI. Aquatic Resource Management Considerations

Aquatic resources at the Charlie Heath CA include approximately 3.79 miles of the Fox River and 2 miles of Burnt Shirt Branch that flow through the area; four small fishless ponds; and a 35-acre man-made wetland unit.

Challenges and Opportunities:

1) The Fox River was heavily channelized upstream of the area in the early 1900s. The downstream extent of this channelization ends near the upstream boundary of Charlie Heath Memorial CA. Since approximately 1960, the river has experienced several channel avulsions (i.e., changes in course) near the end of the channelized reach. As sediment-laden water from the channelized section reaches the meandering channel, deposition fills the stream channel until it is almost completely blocked. These blockages cause the water to form a new channel within the floodplain, sometimes several miles from the previous channel. A significant channel avulsion occurred in 2009 when a channel blockage formed within the boundaries of the conservation area. Currently, the river continues to adjust and water has begun flowing in a previously abandoned channel running through the middle of the conservation area. Lateral channel instability is likely to continue for many years. Given this situation, management activities within the floodplain will be limited.
2) The fishless ponds on the area serve as wildlife watering sites and important habitat for amphibians and reptiles.

3) The man-made wetland unit (with a concrete water control structure) provides seasonal habitat for migrating waterfowl, shore birds and other wetland wildlife. Due to the Fox River channel avulsion, this unit has become inaccessible to machinery, and all management activity must be done manually.

Management Objective 1: Establish or maintain a forested corridor along all streams on the area.

Strategy 1: Maintain a forested corridor through natural regeneration or planting. A minimum width of 200 feet, from top of bank, should be maintained along the Fox River. A minimum width of 100 feet, from top of bank, along Burnt Shirt Branch and all other streams on the area should be maintained, where not limited by area boundary, access road, parking lot or utility easement. (Forestry, Wildlife)

Strategy 2: Where access roads or parking lots are in the stream corridor, they should be relocated outside of the corridor, if feasible. (Wildlife and Design & Development)

Strategy3: Inspect riparian corridors along all agricultural fields every three years to determine the need for field adjustments. (Wildlife)

Strategy 4: All management activities at the conservation area should follow the *Watershed and Stream Management Guidelines for Lands and Waters Managed by the Missouri Department of Conservation* (Missouri Department of Conservation, 2009). (Wildlife)

Management Objective 2: Provide suitable habitat for amphibians and reptiles in ponds with no fisheries management potential.

Strategy 1: Maintain the ponds as fishless wildlife watering sources. Do not stock ponds that provide no long-term fisheries management options. (Fisheries)

Strategy 2: Maintain a natural vegetative border around fishless ponds at least 50 feet wide. (Wildlife and Fisheries)

Management Objective 3: Manage area wetlands in an herbaceous state to benefit waterfowl and other wetland wildlife.

Strategy 1: Maintain water levels at full pool elevations from fall through early spring. To benefit the aquatic communities, do not completely de-water the wetland unit. (Wildlife)

Strategy 2: Explore the feasibility of using management techniques including but not limited to mowing, disking, prescribed fire, or chemical application to maintain the 35-acre unit in an herbaceous condition. (Wildlife)

Strategy 3: Perform a mussel survey in the 35-acre wetland unit and the Fox River to document species presence and relative abundance. (Wildlife)

VII. Public Use Management Considerations

Charlie Heath Memorial CA offers numerous public use opportunities, including fishing, hunting, camping, picnicking, hiking, biking and horseback riding.

Challenges and Opportunities:

1) Hunting is one of the main reasons area users visit the area in the fall. The area's close proximity to Iowa attracts hunters from all over the Midwest,especially during the archery and firearms deer seasons. Spring and fall turkey seasons also attract hunters to the area with good numbers of turkeys present. Waterfowl hunting is available on the wetland unit during years with adequate rainfall. Small game hunting opportunities exist for squirrels, quail, rabbits and pheasants.
2) Summer and early fall attract the largest number of visitors on the multi-use trail. During this time, horseback riders frequent the trail with groups ranging up to 30 people.
3) Maintain aesthetics near the trail, the main entrance road and parking lot.
4) Primitive camping is permitted in four graveled parking areas with adjacent grassed areas. Walk-in camping is allowed anytime except during firearms deer and turkey seasons. No amenities are provided.

Management Objective 1: Provide quality-hunting opportunities for squirrels, quail, deer and turkey. Manage for a variety of small game species and waterfowl where appropriate habitat exists.

Strategy 1: Maintain the area's diverse habitats for all species currently present. (Wildlife)

Strategy2: Provide diverse habitats using agricultural, mechanical and chemical treatments; prescribed fire; and native food types, including hard tree, soft tree and shrub mast. (Wildlife)

Management Objective 2: Provide designated camping and picnic areas.

Strategy 1: Maintain parking lots and the adjacent grassed areas to the Level 1 maintenance standards. Prior to hunting seasons, mow these areas so they are user-friendly and aesthetically pleasing. (Forestry)

Management Objective 3: Maintain aesthetics near the trail, the main entrance and parking lot.

Strategy 1: Maintain trail, main entrance and parking lot according to Department guidelines and at currently identified maintenance levels. (Wildlife)

Strategy 2: Keep timber harvest activities consistent with aesthetic recommendations in the *Missouri Forest Management Guidelines* (Missouri Department of Conservation, 2014). (Forestry)

Management Objective 4: Maintain infrastructure and regulations to access resources and recreational opportunities.

Strategy 1: Monitor and evaluate infrastructure and regulations annually. (Wildlife)

Strategy 2: Ensure that information regarding the area is accurate, consistent and available to the public through general contact, atlas database, posted signs and brochures. (Wildlife)

VIII. Administrative Considerations

Challenges and Opportunities:

1) Fox River channel instability will likely continue, limiting management options on the conservation area. Removal of levees could decrease the negative impacts of future channel avulsions.
2) Land acquisition.

Management Objective 1: Assess opportunities to acquire floodplain acreage and remove restrictive levees.

Strategy 1: When available, adjacent land may be considered for acquisition from willing sellers. Priority should be given to tracts with significant Fox River floodplain and restrictive levees.

Lands Proposed for Acquisition:

Tracts that improve area access, provide public use opportunities, contain unique natural communities and/or species of conservation concern, or meet other Department priorities, as identified in the annual Department land acquisition priorities, may be considered.

MANAGEMENT TIMETABLE

All strategies are considered ongoing unless listed in the following table:

	FY16	**FY17**	**FY18**	**FY19**	**FY20**	**FY21**	**FY22**	**FY23**	**FY24**	**FY25**
Terrestrial Resource Management Considerations										
Objective 1										
Strategy 2		X								
Strategy 3		X	X	X	X					
Strategy 4				X						
Strategy 5				X	X	X	X			
Objective 5										
Strategy 1						X				
Aquatic Resource Management Considerations										
Objective 1										
Strategy 3	X			X			X			
Objective 3										
Strategy 3		X								

APPENDICES

Area Background:
An initial donation of 120 acres in 1975 by Charlie Heath, a longtime resident and sportsman, established this area. This donation adjoined a tract of land owned by the Department, known as Clark State Forest. Subsequent acquisitions by the Department and a land trade have brought the area to its present size of 1,635 acres. Charlie Heath made his donation with the hopes of a lake being constructed on the conservation area. After much deliberation and searching for a suitable site on the area, a tract of land approximately 5 miles to the east was purchased instead and the Fox Valley Conservation Area Lake was built.

Charlie Heath Memorial Conservation Area is nearly 90 percent forested. The remainder is grasslands, cropped and idle fields. Oak-hickory forest type dominates the upland forests, and the bottomlands are a mix of hardwood and softwood species. Over 3.7 miles of the Fox River meanders through the area. An active heron rookery exists along the Fox River.

According to pre-settlement prairie information, the vast majority of Charlie Heath Memorial CA was covered with forest. The prairie communities are presumed to have stopped very near the southern and western boundary of the area, but may have extended onto the northwest corner of the area.

Current Land and Water Types:

Land/Water Type	**Acres**	**Miles**	**% of Area**
Forest and Woodland	1,421.5		86.9
Old Fields	74		4.6
Cropland	58		3.6
Grassland (Non-Prairie)	43		2.6
Wetland	35		2.1
Parking Lots, Roads and Adjacent Mowed Areas	3.5		0.2
Total	**1,635**		**100**
Stream Frontage (Fox River and Burnt Shirt Branch)		5.7	

Public Input Summary:
The draft Charlie Heath Memorial Conservation Area Management Plan was available for a public comment period September 1–30, 2015. The Missouri Department of Conservation received comments from six respondents (Appendix A). The Charlie Heath Memorial Conservation Area Planning Team carefully reviewed and considered these ideas as they finalized this document. A brief summary of public input themes, including how they were incorporated or why they were not, can be found below. Rather than respond to each individual comment, comments are grouped into general themes and are addressed collectively.

Department responses to themes and issues identified through Charlie Health Memorial Conservation Area public comment period

Opposes tree harvest, but ok with timber stand improvement.
It is the desire of the Planning Team to maintain aesthetics along the trail and entrance area off Hwy K. Aesthetic recommendations will be followed as described in Public Use Management Objective 3, Strategy 2. Managing for a diversity of wildlife species requires providing a diversity of natural communities, which also includes providing a range of age classes of forest and woodland communities. Management activities that are used to provide this habitat include timber stand improvement (TSI), commercial harvesting, prescribed burning, and invasive species treatment.

Suggests expanding multi-use trail system. Recommends adding 5.7 miles of multi-use trail just above the floodplain north and south of Burnt Shirt Branch (parallel to existing trails).
Currently horseback riding is allowed on the 6.3-mile multi-use trail and any road open to vehicular traffic (roads and parking lots open to the public). Having more or longer trails open to this activity increases the potential of interference with existing area uses and sensitive habitats. Expanding the current trail system would significantly increase maintenance time. With the limitations of only 1,635 acres, the Planning Team has determined the current trail system is appropriate.

Opposes bicycle use on this area.
Due to the lack of public lands with trail systems near Charlie Heath CA, the Planning Team supports maintaining the current trail system as a multi-use system that provides diverse opportunities.

Recommends more graveled parking areas.
The Planning Team has determined the amount of gravel parking areas are appropriate for the level of public use on the Charlie Heath CA.

Suggests adding privy or portable restrooms.
Portable toilets are placed on the conservation area during times of heavy use such as firearms deer season. If other activities increase to the level that the Planning Team deems additional rental toilets are necessary, other rentals will be added.

Offers land for sale adjacent to area.
Please contact the Northeast Regional Office at 660-785-2420.

References:

Missouri Department of Conservation. (2009). *Watershed and stream management guidelines for lands and waters managed by Missouri Department of Conservation.* Jefferson City, Missouri: Missouri Department of Conservation.

Missouri Department of Conservation. (2014). *Missouri forest management guidelines.* Jefferson City, Missouri: Missouri Department of Conservation.

Maps:

Figure 1: Area Map
Figure 2: Aerial Land Cover Map
Figure 3: Easement Map
Figure 4: Prickly Ash/Multiflora Rose Project Map
Figure 5: Presettlement Prairie
Figure 6: Forest Compartment Map

Additional Appendices:

Appendix A: Charlie Heath Memorial Conservation Area Public Comments

Figure 1: Area Map

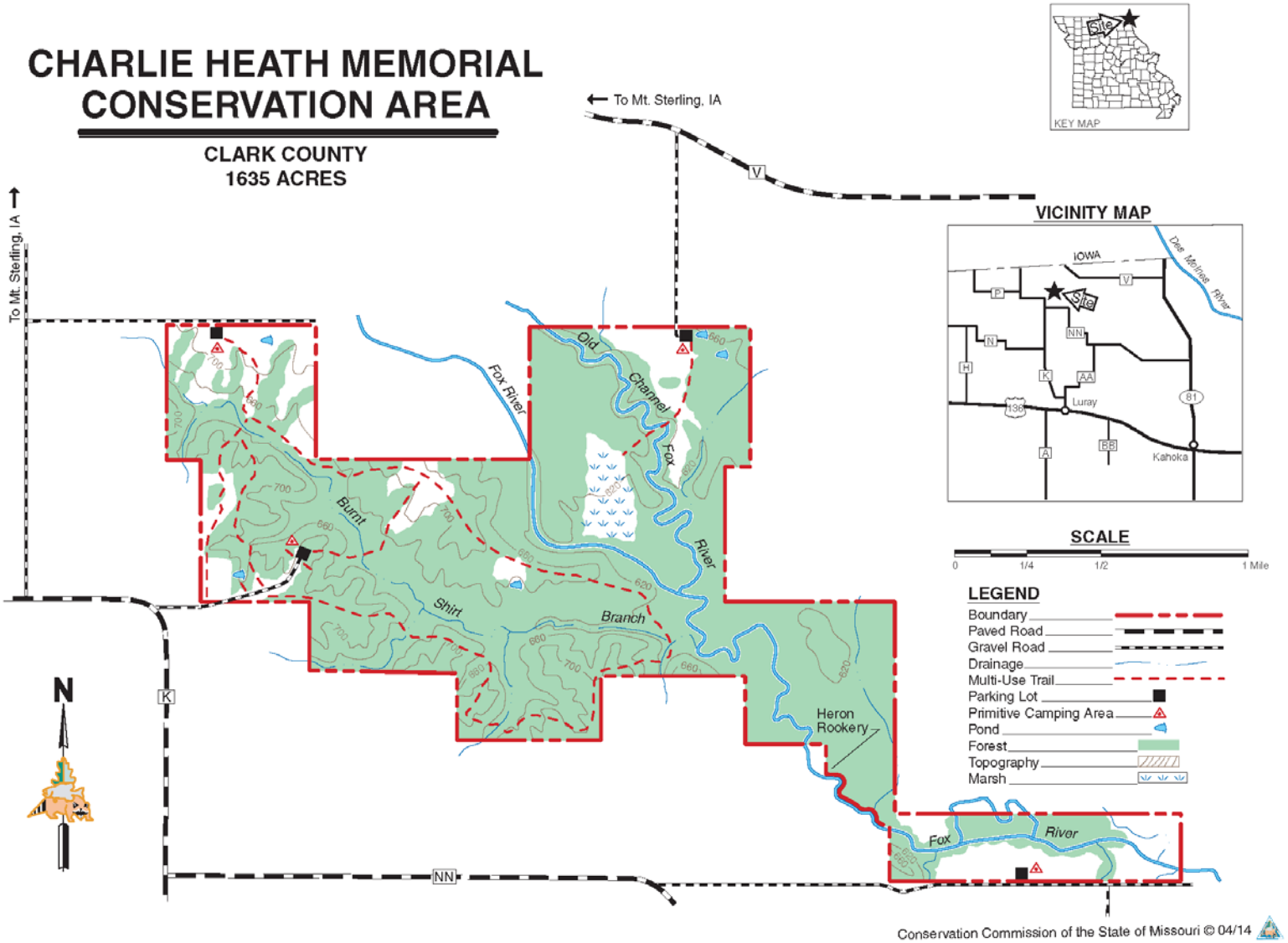


Figure 2: Aerial Land Cover Map

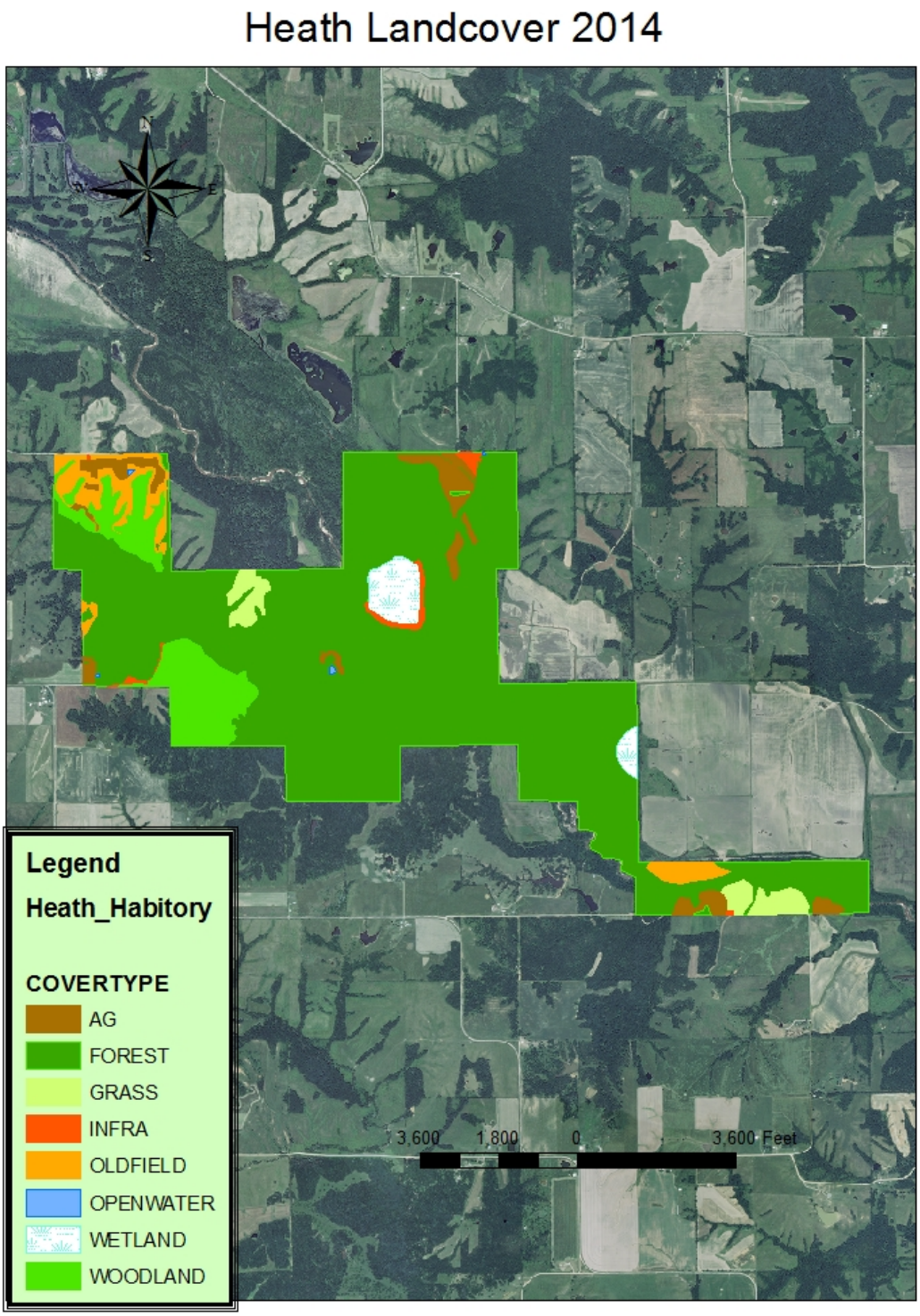


Figure 3: Easement Map

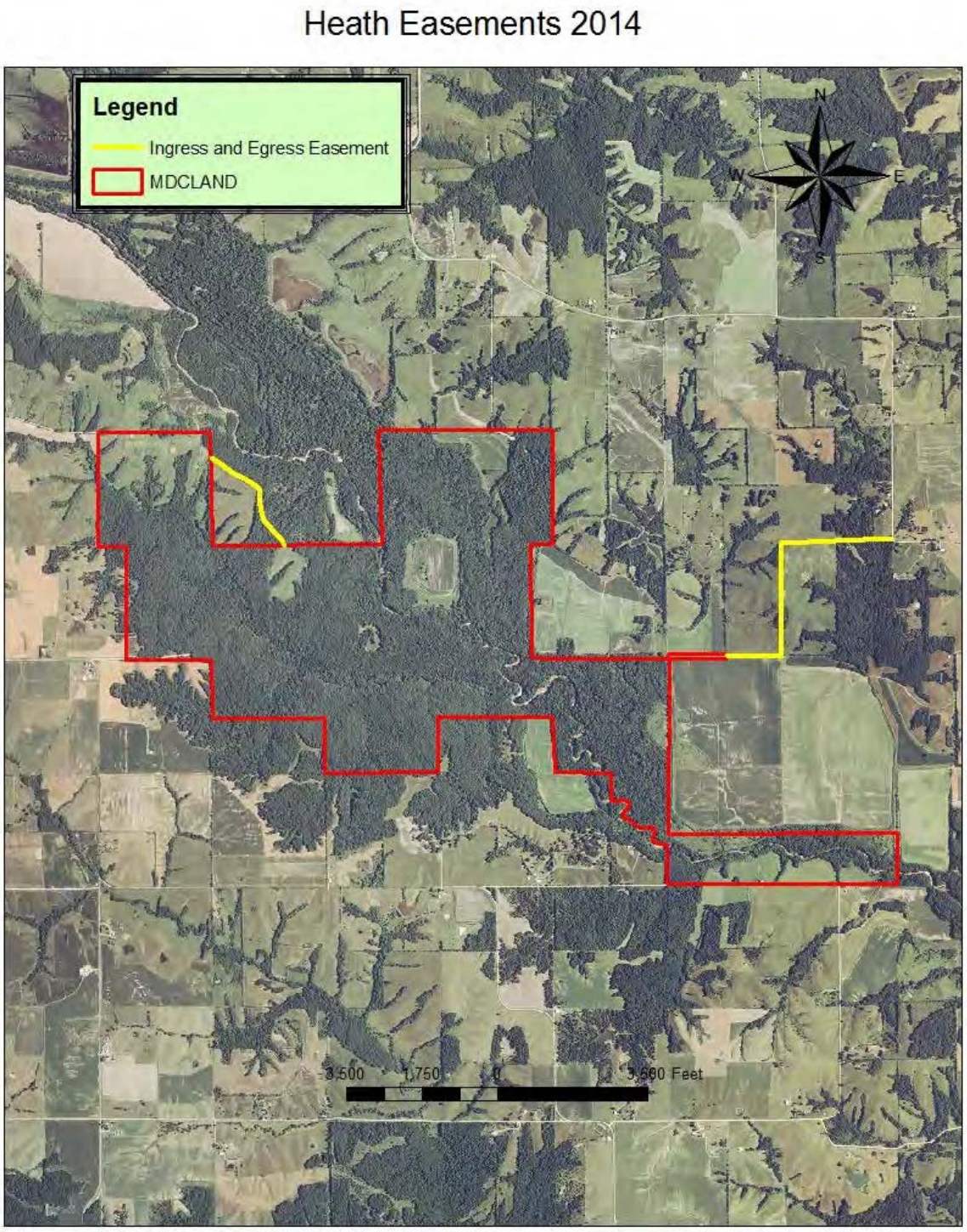


Figure 4: Prickly Ash/Multiflora Rose Project Map

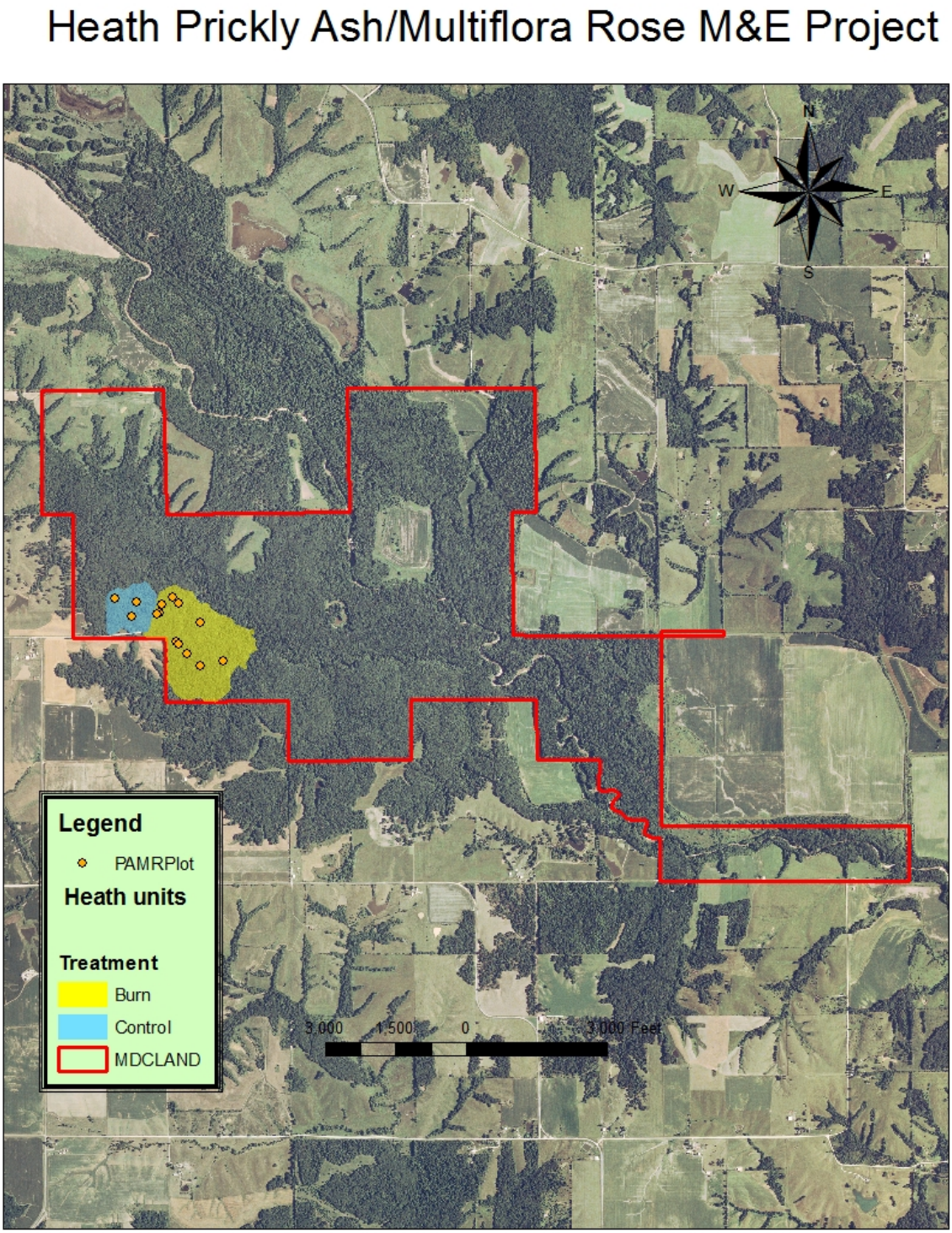


Figure 5: Presettlement Prairie

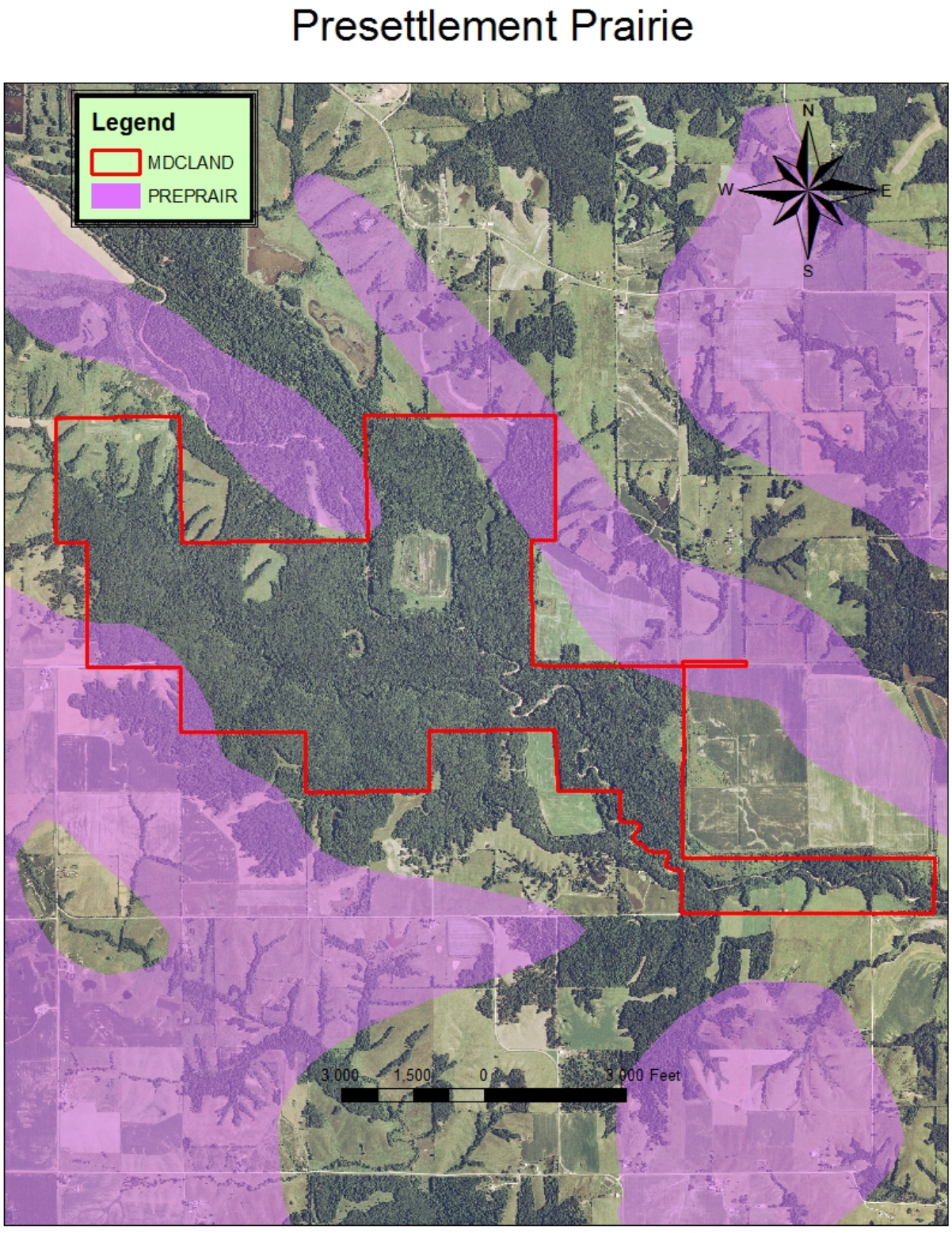
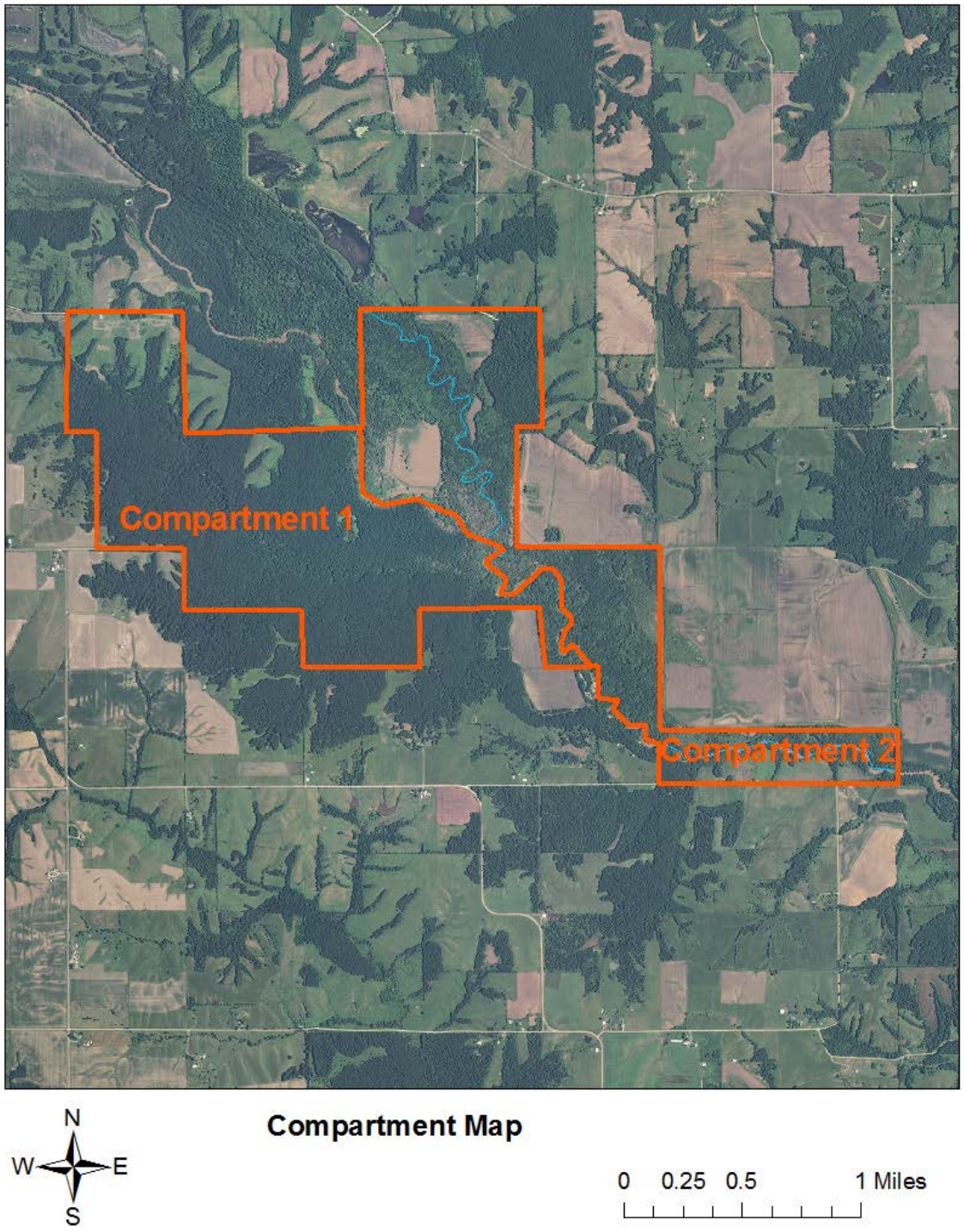


Figure 6: Forest Compartment Map



Appendix A. Charlie Heath Memorial Conservation Area Management Plan Public Comments

Received during public comment period (September 1-30, 2015):

Bicycles should not be allowed in any natural area. They are inanimate objects and have no rights. There is also no right to mountain bike. That was settled in federal court in 1996: http://mjvande.nfshost.com/mtb10.htm . It's dishonest of mountain bikers to say that they don't have access to trails closed to bikes. They have EXACTLY the same access as everyone else -- ON FOOT! Why isn't that good enough for mountain bikers? They are all capable of walking....

A favorite myth of mountain bikers is that mountain biking is no more harmful to wildlife, people, and the environment than hiking, and that science supports that view. Of course, it's not true. To settle the matter once and for all, I read all of the research they cited, and wrote a review of the research on mountain biking impacts (see http://mjvande.nfshost.com/scb7.htm). I found that of the seven studies they cited, (1) all were written by mountain bikers, and (2) in every case, the authors misinterpreted their own data, in order to come to the conclusion that they favored. They also studiously avoided mentioning another scientific study (Wisdom et al) which did not favor mountain biking, and came to the opposite conclusions.

Those were all experimental studies. Two other studies (by White et al and by Jeff Marion) used a survey design, which is inherently incapable of answering that question (comparing hiking with mountain biking). I only mention them because mountain bikers often cite them, but scientifically, they are worthless.

Mountain biking accelerates erosion, creates V-shaped ruts, kills small animals and plants on and next to the trail, drives wildlife and other trail users out of the area, and, worst of all, teaches kids that the rough treatment of nature is okay (it's NOT!). What's good about THAT?

To see exactly what harm mountain biking does to the land, watch this 5-minute video: http://vimeo.com/48784297.

In addition to all of this, it is extremely dangerous: http://mjvande.nfshost.com/mtb_dangerous.htm .

For more information: http://mjvande.nfshost.com/mtbfaq.htm .

The common thread among those who want more recreation in our parks is total ignorance about and disinterest in the wildlife whose homes these parks are. Yes, if humans are the only beings that matter, it is simply a conflict among humans (but even then, allowing bikes on trails harms the MAJORITY of park users -- hikers and equestrians -- who can no longer safely and peacefully enjoy their parks).

The parks aren't gymnasiums or racetracks or even human playgrounds. They are WILDLIFE HABITAT, which is precisely why they are attractive to humans. Activities such as mountain biking, that destroy habitat, violate the charter of the parks.

Even kayaking and rafting, which give humans access to the entirety of a water body, prevent the wildlife that live there from making full use of their habitat, and should not be allowed. Of course those who think that only humans matter won't understand what I am talking about -- an indication of the sad state of our culture and educational system.

(Hardcopy Comment) We also have a 60A wetland for sale that borders Charlie Heath

Thank you for the opportunity to comment on the Charlie Heath Memorial Conservation Area Draft Management Plan. Show Me Missouri Back Country Horsemen commends MDC and Area Manager Darlene Bryant for accommodating horseback riding on the multi-use trails on the area.

While greatly appreciated, the 6.3 miles of trails on Heath CA fall short of the 10-12 miles needed to provide a quality outdoor experience while minimizing the likelihood of overuse and resource damage. In the 2015 proposal by SMMBCH, "Expanding Public Land Multi-Use Trails in Missouri," we recommend that up to 5.7 miles of additional trails be added to the multi-use network on Heath CA. Most of Heath CA is in the Fox River floodplain; because it is subject to frequent flooding this portion of the area is generally poorly suited to trail development and maintenance. The upland portion of the Area already has the existing trails. At first glance it might appear there is little room for additional trails, but a closer examination of the topography shows, I think, an opportunity to put additional trails just above the toe of the slope adjacent to the floodplain both north and south of Burnt Shirt Branch. The new trails would be lower on the landscape and generally parallel to the existing trails. SMMBCH would offer, subject to available resources, to assist to layout, construct, and maintain the new trails.

Thank you again for the opportunity to comment.

Please keep the trails open, and consider expanding the trail system. There is not enough trails for equestrians in the state, and any existing trails need to be kept open and expanded.

Equestrians using these trails, will spend money in the local communities, purchasing gas, ice, food, etc., thus putting money into the economy.

Please consider allowing the expansion of the trail system. There are over 8 chapters of the Show Me Back Country Horsemen, in Missouri. One such chapter, NEMO River Valley Chapter, maintains the trails at Mark Twain Lake near Monroe City, working alongside the Corp of Engineers, to update and improve the Multi use trails at the Lake.

Hopefully, the MDC could work hand in hand, with such an organization to enhance and

improve the trails at Charlie Heath. Thank you.
I like the area it is quiet, I would hope to see the trails kept open and maintained also if there was a little more parking graveled. I would like to see the trees left and not harvested, a TSI would be OK. Thank you from a horse rider.
(Hard copy comment received 10-5-2015) Better and more trails for horseback riding. Would like to see some porty pots.