Painted Rock Conservation Area

Ten-Year Area Management Plan

FY2018-2027

Lisa M. Allen

Forestry Division Chief

7-13-17

Date

Painted Rock Conservation Area Management Plan Approval Page

PLANNING TEAM

Aaron Holsapple, Resource Forester

Brian McKeage, Fisheries Management Biologist

Adam Jones, Wildlife Management Biologist

Chris Newbold, Natural History Biologist

Samantha Rhoades, Conservation Agent

Brian Flowers, Outdoor Skills Specialist

Seth Barrioz, Private Land Conservationist

CENTRAL REGION

RCT Chair

John George — *Signature*

6/29/2017 — *Date*

FORESTRY DIVISION

Forest Management Chief

Justine Gauthier — *Signature*

7/10/17 — *Date*

OVERVIEW

- **Official Area Name:** Painted Rock Conservation Area, # 8145
- **Year of Initial Acquisition:** 1981
- **Acreage:** 1,480 acres
- **County:** Osage
- **Division with Administrative Responsibility:** Forestry
- **Division with Maintenance Responsibility:** Forestry
- **Statements of Purpose:**
  - **A. Strategic Direction**
    Manage for wildlife, forest, and wetland resources with emphasis on glade, woodland, and forest communities while providing for compatible recreational opportunities.
  - **B. Desired Future Condition**
    The desired future condition of Painted Rock Conservation Area (CA) is a healthy complex of glade, woodland, and forest habitats.
  - **C. Federal Aid Statement**
    This area, or a portion thereof, was acquired with Pittman-Robertson Wildlife Restoration funds to restore and manage wildlife, conserve, and restore suitable wildlife habitat and provide public access for hunting or other wildlife-oriented recreation.

GENERAL INFORMATION AND CONDITIONS

I. <u>Special Considerations</u>

A. Priority Areas: None

B. Natural Areas: None

II. <u>Important Natural Features and Resources</u>

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: Yes, records kept with the Missouri Department of Conservation (the Department) natural history biologist.

D. Other: Occurs in the Lower Osage River Oak Woodland/Forest Hills Landtype Association. This landtype association was historically an integrated complex of glades, oak savannas, oak woodlands, and oak forests. Driven by agriculture production, a less complex cover type consisting of livestock pasture and patchy woodlands now surrounds Painted Rock CA. Forests and woodlands vary between post oak dominated woodlands on ridgetops, while hillsides and footslopes consist of white, red, and black oak forests (Nigh & Schroeder, 2002).

III. Existing Infrastructure

- Four parking lots
- Three gravel access roads (open to public vehicles), totaling 1.25 miles
- Two interior maintenance roads (closed to public vehicles), totaling 1.40 miles
- One single-vault privy (Americans with Disabilities Act [ADA] accessible)
- Clubhouse Lake, 5 acres
- Osage Bluff Scenic Trail, 1.6 miles with one 40-foot bridge, two boardwalk overlooks, and three benches
- Six fishless ponds, totaling 0.5 acres
- Eight individual campsites, no amenities provided
- Two fishing jetties/platforms

IV. Area Restrictions or Limitations

A. Deed Restrictions or Ownership Considerations: None

B. Federal Interest: Uses of land acquired with federal funds may not interfere with the purpose for which it was acquired. Federal funds may also 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: None

D. Cultural Resources Findings: Yes, records kept with the Department's environmental compliance specialist. Managers should follow best management practices for cultural resources found in the Department Resource Policy Manual.

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

Painted Rock CA is comprised of forest and woodland cover types with small (10-acres or less) glade inclusions on ridges or ridge shoulders. The western boundary is an escarpment of both bare and vegetated limestone cliffs that run parallel to the Osage River. Small open fields are occasionally managed through agriculture practices to provide annual grain crops and cool-season legumes for wildlife browse and winter food

reserves. Dry-mesic limestone/dolomite forest, woodland, and glade natural communities are targeted for restoration through various management techniques. The primary management objective is to improve the health of these communities.

Forest Management

Forests at Painted Rock CA cover about 700 acres or 50 percent of the total acreage. Mixed oak and hickory on predominantly northern slopes have developed an understory of sugar maple and ironwood in the absence of fire. Portions of the property have been managed through intermediate harvesting, clearcutting, and (only recently) forest thinning and prescribed fire in the woodland and glade complexes. The goal of these forest management prescriptions is to improve the overall health and vigor of the forest by promoting and encouraging native natural communities.

Challenges and Opportunities:

1. Improve forest health while maintaining an acceptable appearance near area features.
2. Monitor for invasive species.
3. Maintain and improve forest wildlife habitat.

Management Objective 1: Improve forest health and age distribution while ensuring high quality wildlife habitat.

Strategy 1: Utilize forest inventory data, renewed at 15-year increments, to develop forest management recommendations. (Forestry)

Strategy 2: Utilize a variety of sustainable forest management techniques to promote healthy forest communities including, but not limited to, timber harvesting, timber stand improvement, firewood cutting, salvage cuttings, tree planting, seeding, and prescribed burning. (Forestry)

Strategy 3: Maintain a diversity of timber age classes that will provide both a diversity of wildlife habitat as well as resiliency to living and non-living (fire, weather, and climate) damaging agents. (Forestry)

Strategy 4: Utilize best management practices during management as described in the Department's watershed protection practice manual (Missouri Department of Conservation, 2014b) and the Department's forest management guidelines (Missouri Department of Conservation, 2014a). (Forestry)

Strategy 5: Utilize forest structure modifications, such as harvest and timber stand improvement practices, to ensure quality wildlife habitat across all successional stages of forest. (Forestry)

Strategy 6: Monitor forest edges as well as recently disturbed sites for invasive species and use appropriate control methods as necessary. (Forestry)

Woodland Management

There are about 675 acres of woodland on predominantly south-facing slopes covering less than half the area. Mixed oak, hickory, and red cedar are thinned to encourage the growth of open woodland ground flora. Harvesting, in conjunction with low intensity prescribed burns, has purged high volumes of red cedar cordwood and logs, while encouraging warm-season grasses and other forbs in their stead. The desired future condition is perpetual, uneven-aged woodland. Balancing low tree basal area per acre with desirable understory plant species will require occasional extended absences of fire in order to recruit tree cohorts.

Challenges and Opportunities:

1) Maintain healthy woodland.
2) Monitor for invasive pests in the woodland interior and glade interface.
3) Maintain and improve woodland wildlife habitat.

Management Objective 2: Improve ecological viability and health of all woodland stands.

Strategy 1: Utilize forest inventory data, renewed at 15-year increments, to develop forest management recommendations. (Forestry)

Strategy 2: Utilize a variety of sustainable management techniques to promote healthy woodland communities including, but not limited to, timber harvesting, timber stand improvement, firewood cutting, salvage cuttings, tree planting, seeding, and prescribed burning. (Forestry)

Strategy 3: Maintain a diversity of tree age classes that will provide both a diversity of wildlife habitat as well as resiliency to living and non-living (fire, weather, and climate) damaging agents. (Forestry)

Strategy 4: Utilize woodland structure modifications, such as harvest and forest thinning practices, to improve wildlife cover and food production.

Strategy 5: Utilize best management practices during management as described in the Department's watershed protection practice manual (Missouri Department of Conservation, 2014b) and the Department's forest management guidelines (Missouri Department of Conservation, 2014a). (Forestry)

Strategy 6: Monitor for invasive species and use appropriate control methods as necessary. (Forestry)

Glade Management

Glades of dry rocky outcroppings lie on the southwest shoulder or hillside of long ridgetops. They contain a mosaic of low basal area per acre woodland, shrub, and warm-season grass. Glade and woodland interfaces are usually overgrown with large red cedars

that engulf the majority of the glade in the absence of prescribed fire. Cedar and other small tree and shrub species must be cut where thickets of woody vegetation have nearly eliminated herbaceous vegetation. As a result of removal, perennial plants re-emerge to provide a unique habitat for birds, reptiles, and invertebrates and a stunning array of wildflowers. The desired future condition is an open field void of trees and shrubs, and covered in perennial vegetation that is beneficial to a variety of wildlife species.

Challenges and Opportunities:

1) Maintain a healthy glade void of woody shrubs and trees.
2) Monitor for invasive pests in the glade and woodland interface.

Management Objective 3: Improve ecological viability and health of all glades.

Strategy 1: Utilize inventory data, renewed at 15-year increments to apply glade management techniques and ensure appropriate plant populations are maintained. (Forestry)

Strategy 2: Utilize a variety of management techniques including, but not limited to, red cedar and woody vegetation removal and prescribed fire applications at appropriate intervals to reduce encroachment of woody vegetation. (Forestry)

Strategy 3: Utilize best management practices during management as described in the Department's watershed protection practice manual (Missouri Department of Conservation, 2014b) and the Department's forest management guidelines (Missouri Department of Conservation, 2014a). (Forestry)

Food Plot Management

About 26 acres of food plots are managed through annual tillage and row crop practices. Four fields are situated throughout the area, giving wildlife close proximity to food resources. Favored crops are red clover, milo, soybeans, and sunflowers.

Challenges and Opportunities:

1) Grow a variety of crops (e.g., grain, forage, and green browse) that benefit upland wildlife.
2) Utilize cover crops that benefit wildlife while minimizing weed growth and herbicide application.
3) Provide public wildlife viewing opportunities.

Management Objective 4: Utilize food plots to benefit a wide variety of upland game.

Strategy 1: Utilize strip cropping to provide multi-seasonal forage and grain crops for upland game such as deer and turkey. (Forestry)

Strategy 2: Vary tillage method and crop rotation to improve nutrient availability, soil water content, soil structure, soil temperature, and pest control. (Forestry)

Strategy 3: Manage crop and food plots according to sound soil conservation principles. (Forestry)

VI. Aquatic Resource Management Considerations

One 5-acre lake (Clubhouse Lake) and six small wildlife watering holes are located on the property. Two and a half miles of Osage River frontage lie along the entire western boundary of the area. The dam of Clubhouse Lake borders the Osage River. A few miles of intermittent streams feed the Osage River during the spring rainy season and other annual rain events.

Challenges and Opportunities:

1) Maintain the integrity of the watershed that lies within management unit boundaries.
2) Prevent pests, such as muskrat and beaver, from damaging the lake dam, jetties, shore, and adjacent vegetation.
3) Ensure lake jetties provide a stable platform for bank fishing opportunities.
4) Monitor occurrences of invasive species.

Management Objective 1: Monitor Clubhouse Lake to provide sustainable and diverse fishing opportunities, maintain water quality, and maintain accessibility for users.

Strategy 1: Monitor for presence of exotic or invasive species and treat as needed. (Fisheries)

Strategy 2: Monitor fish populations through periodic surveys (three-year interval) and stock channel catfish every year. Make changes to area fishing regulations according to survey results. (Fisheries)

Strategy 3: Protect bank and dam integrity from rodents by issuing special use permits to trappers. (Forestry)

Management Objective 2: Ensure wildlife watering pools provide water during dry summer seasons, while also providing quality habitat for herptofauna.

Strategy 1: Control vegetation growth in and near pools, which may prematurely drain them or cause an imbalance in shade or sunlight. (Forestry)

Management Objective 3: Implement and maintain beneficial riparian corridor practices, as outlined in the Department's *Watershed and Stream Management Guidelines for Lands and Waters Managed by Missouri Department of Conservation* (Missouri Department of Conservation, 2009).

Strategy 1: Monitor floodplains adjacent to the Osage River for changes in corridor stability following flood events. (Forestry)

Strategy 2: Monitor for changes within the watershed following large landscape-scale forest management operations. (Forestry)

VII. Public Use Management Considerations

The area receives a high amount of public use due to its close proximity to Jefferson City and other surrounding communities. Activities open to the public include hunting, fishing, primitive camping, and hiking. The developed trail meanders 150 feet above the Osage River where hiking enthusiasts are frequently greeted by bald eagles.

Challenges and Opportunities:

1) Ensure the hiking trail and boardwalks are stable to support a high volume of foot traffic.
2) Maintain road surfaces with gravel replacement and grading, especially on steep inclines (such as the road leading to the lake).
3) Enforce area regulations to prevent the misuse of area resources and facilities.
4) In order to optimize bank fishing opportunities, keep the lake dam mowed, along with the road and parking lot edges.

Management Objective 1: Optimize recreational opportunities to provide the greatest diversity of activities while minimizing their impact on resources.

Strategy 1: Rehabilitate the trail through tread improvement, drainage crossing diversions, and downed tree or brush removal. (Forestry)

Strategy 2: During summer months conduct weekly maintenance and cleanup around campsites, roads and parking lots, and ensure privy is acceptable for public use. Conduct biweekly inspections during winter months. (Forestry)

Strategy 3: Update and maintain accurate signage on all trails, consistent with Department guidelines. (Forestry)

Management Objective 2: Continue educational and interpretive opportunities.

Strategy 1: Maintain the dendrology, timber cruise, and forest thinning practice course for area high school FFA Forestry teams. (Forestry)

Strategy 2: Keep lake area mowed and maintained to facilitate ecology field trips made by local schools, scout groups, and other youth groups. (Forestry)

Management Objective 3: Facilitate a good working relationship with neighboring landowners.

Strategy 1: Inspect and maintain boundaries on a regular cycle. (Forestry)

Strategy 2: Work with neighbors to minimize any boundary, trespass or any other issues affecting Painted Rock CA. (Forestry)

Strategy 3: Inform neighbors prior to intermittent management activities such as prescribed fires. (Forestry)

Management Objective 4: Cooperatively patrol the area and report unauthorized activities.

Strategy 1: Regularly patrol and enforce the wildlife code, with emphasis on off-trail abuse, vandalism, littering and response to public complaints. (Protection, Forestry)

Management Objective 5: Inform public about area regulations.

Strategy 1: Maintain signs according to Department policy. (Forestry)

Strategy 2: Maintain accurate and timely information on the Department's Atlas Database. Review information annually. (Forestry)

VIII. Administrative Considerations

Challenges and Opportunities:

1) Maintain area infrastructure at current levels
2) Consider any potential land acquisition opportunities that may arise.

Management Objective 1: Maintain area infrastructure at current levels.

Strategy 1: Maintain area infrastructure in accordance with Department guidelines. (Forestry)

Lands Proposed for Acquisition:

When available, adjacent land may be considered for acquisition from willing sellers. 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

Strategies are considered ongoing unless listed in the following table:

	FY18	**FY19**	**FY20**	**FY21**	**FY22**	**FY23**	**FY24**	**FY25**	**FY26**	**FY27**
Terrestrial Resource Management										
Objective 1										
Strategy 1					X					
Aquatic Resource Management										
Objective 1										
Strategy 2	X			X			X			
Public Use Management										
Objective 3										
Strategy 1		X			X			X		

APPENDICES

Area Background:
This property was purchased in 1877 by a group of Jefferson City dignitaries, who named it the Painted Rock Country Club. A few of the original members or their relatives were instrumental in the conservation movement of the 1930's, which led to the creation of the Missouri Conservation Commission. Following the Great Depression in the 1930s, the land exchanged hands between private landholders and was eventually purchased by the Missouri Conservation Commission in 1981.

Painted Rock Conservation Area consists of 1,480 acres, with the Osage River intersecting the property along the western boundary. Breathtaking scenery can be viewed from two boardwalks along the Osage Bluff Scenic Trail. The forest contains six ponds that are managed primarily for wildlife, and Clubhouse Lake, which serves as a popular family fishing destination. The forest consists primarily of oak and hickory, with the areas along the Osage River dominated by bottomland hardwoods. Several small glades can be found throughout the area that offer a kaleidoscope of wildflowers from May to October.

The vast majority of the area is covered in forest and woodland. Timber harvesting is managed to improve tree size-class distribution, species composition, and overall forest health. Various ecological land types, such as woodland, glade, and grassland, benefit various wildlife species, and 26 acres of open land serve as wildlife food plots on a rotating basis.

Current Land and Water Types:

Land/Water Type	Acres	Miles	% of Area
Forest	700		47
Woodland	675		45
Glade	60		4
Open Land	26		2
Roads and parking lots	14		1
Lake and ponds	5		1
Total	**1,480**		**100**
River Frontage		2.5	

Public Input Summary:
The draft Painted Rock Conservation Area Management Plan was available for a public comment period December 1–31, 2016. The Missouri Department of Conservation received comments from six respondents (Appendix A). The Painted Rock 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 the Painted Rock Conservation Area Management Plan public comment period.

Supports use of prescribed fire as a management tool.
Prescribed fire will continue to be used as a management tool on Painted Rock CA.

Suggests cleaning out and expanding the size of existing ponds to allow better access for wildlife and public use.
There are two small, fishless wildlife ponds on the north side of the road leading to the lake. Nearly two years ago, much of the brush and cedar trees around these ponds were removed. Cedars and willows were starting to encroach upon the water's edge and nearby old field so they were all removed except for several cedars that partially block this clearing from vehicle traffic. Also, we are working to remove the autumn olive and sericea lespedeza that have invaded this clearing by cutting and stump treatments. Cattails are usually addressed if they overtake a majority of the pond edge. In the meantime, the cattails provide desirable cover for invertebrates like hellgrammites and dragonflies. The eastern pond is located on thin soils which reduce its water holding capacity in summer months. Its primary purpose is to provide habitat for frogs, turtles, and other amphibians and reptiles.

Suggests extending management assistance to neighboring landowners.
The Department offers assistance to landowners. The Department's Landowner Assistance Program, administrated by Private Lands Services Division, offers a variety of programs to promote forest management and native species occurrence. The Osage county USDA Service Center, specifically the NRCS office, also offers similar forest and ecosystem improvement programs for private landowners.

Suggests paving trail from Clubhouse Lake to parking lot to allow for easier access.
The current location and surface material of the road were selected because they slow water to prevent severe ditch erosion and undercutting. The aggregate surface also reduces slick conditions during winter precipitation events.

Suggests adding a boat ramp access to the Osage River from Painted Rock CA.
This is not an ideal location for a boat ramp since the river channel is on the opposite side of the river and a low head dam obstruction is nearby upstream. The lake dam and small parking lot restrict vehicle and trailer maneuverability while the steep hill restricts ease of vehicle and trailer traffic. Infrastructure additions are not planned at this time.

Appreciates the placement of a new cable gate on Highway 133.
Cable gates are installed to restrict pubic vehicle access to service roads. egular area hours are 4 a.m. to 10 p.m.

Supports clearly marking boundaries.
Department staff post boundary signs to indicate both entrance and egress on Department property. We realize that signs get broken by nature or vandalized and make a sincere effort to repost boundaries every couple of years.

References:

Kingsbury, B. A., & Gibson, J. (Eds.). (2012). *Habitat management guidelines for amphibians and reptiles of the Midwestern United States* (2nd ed.). Partners in Amphibian and Reptile Conservation Technical Publication HMG-1.

Miller, H. (1982). *History of Painted Rock Forest*. Jefferson City, MO: Missouri Department of Conservation.

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

Missouri Department of Conservation. (2014a). *Missouri forest management guidelines: Voluntary recommendations for well-managed forests*. Jefferson City, MO: Conservation Commission of the State of Missouri.

Missouri Department of Conservation. (2014b) *Missouri watershed protection practice recommended practices for Missouri forests: 2014 management guidelines for maintaining forested watersheds to protect streams*. Jefferson City, MO: Conservation Commission of the State of Missouri.

Nigh, T. A., & Schroeder, W. A. (2002). *Atlas of Missouri ecoregions*. Jefferson City, MO: Missouri Department of Conservation.

Maps:

Additional Appendices

Appendix A. Painted Rock Conservation Area Management Plan Public Comments

Figure 1: Area Map

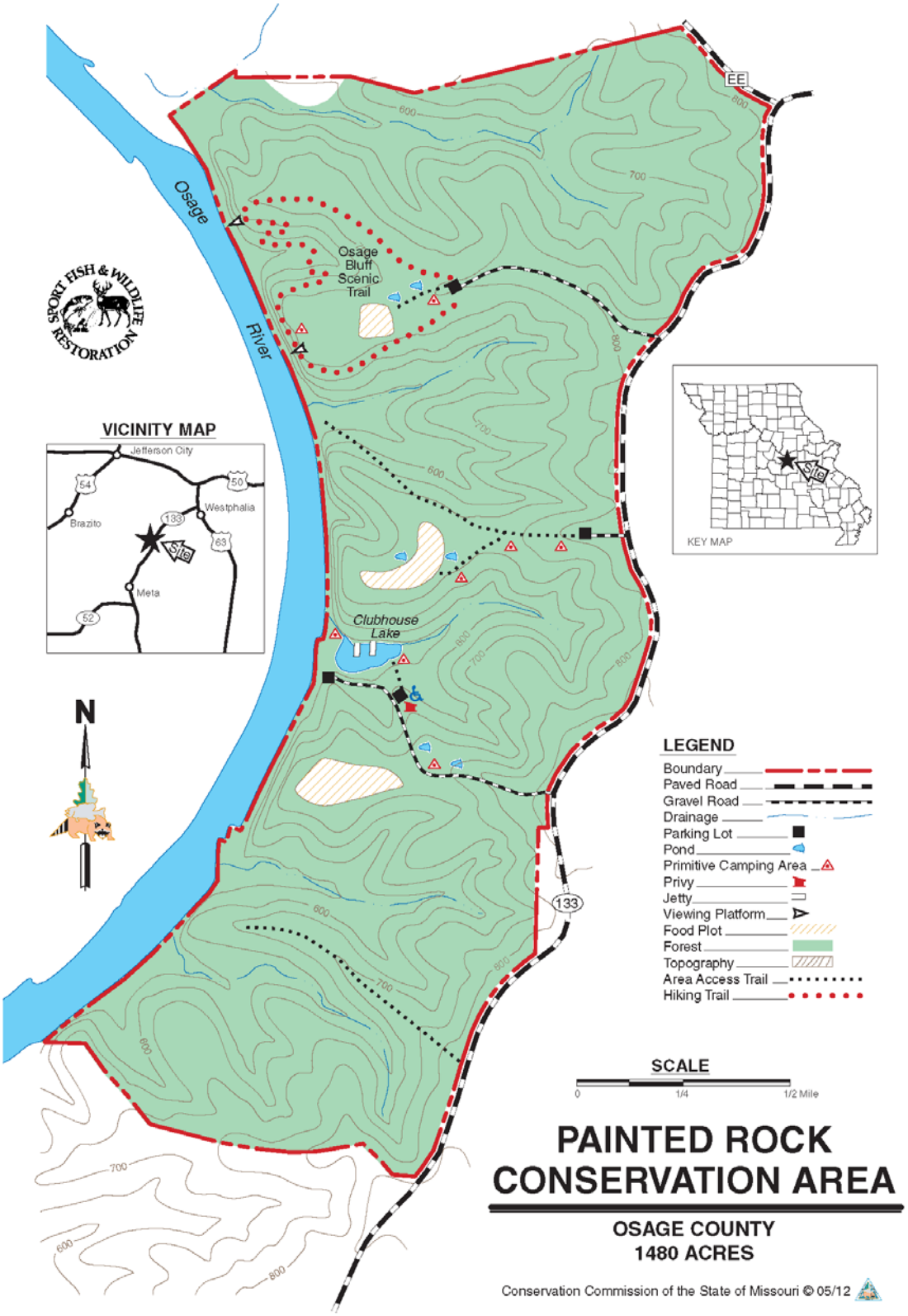


Figure 2: Aerial Map

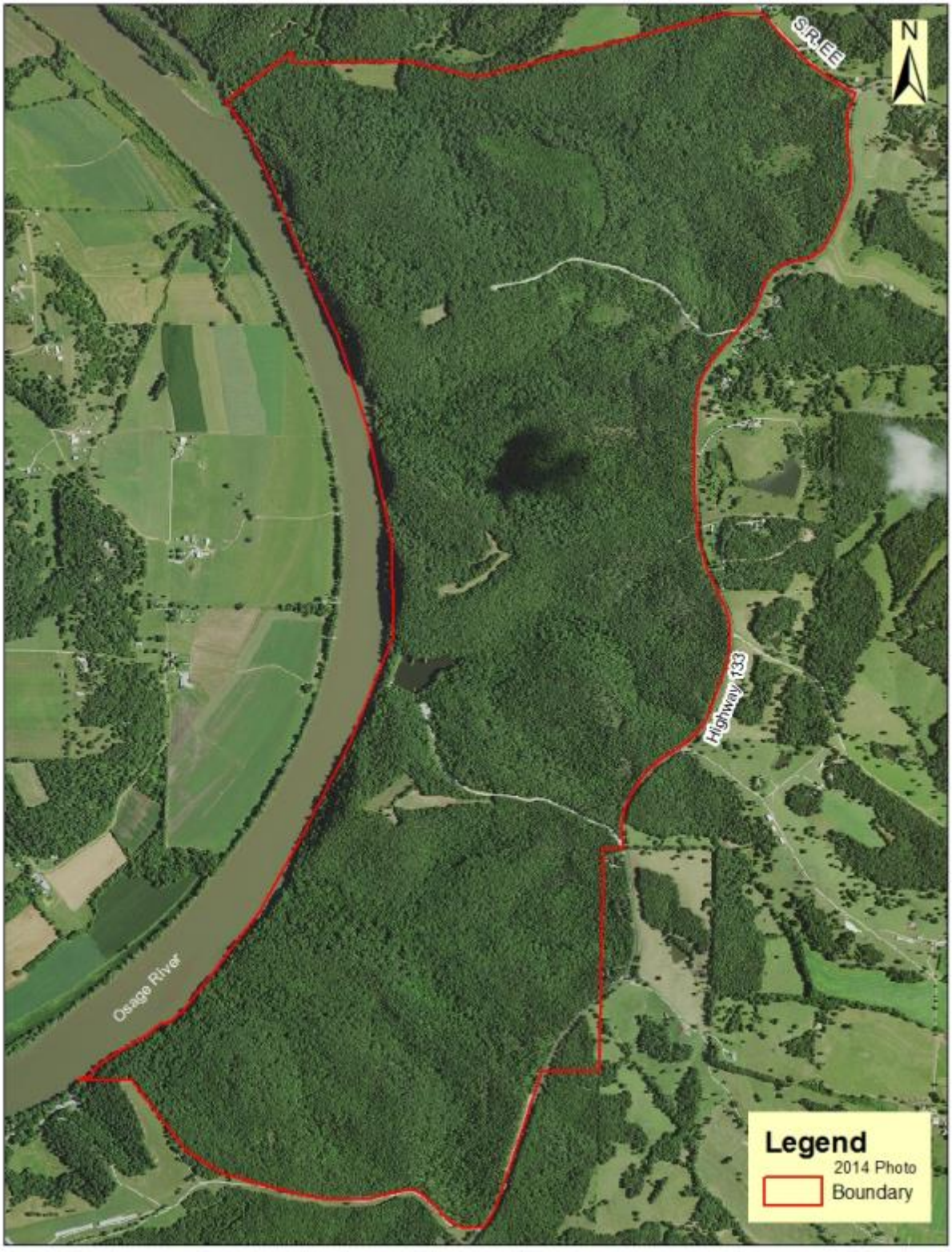


Figure 3: Topographic Map **(10ft. contours)**

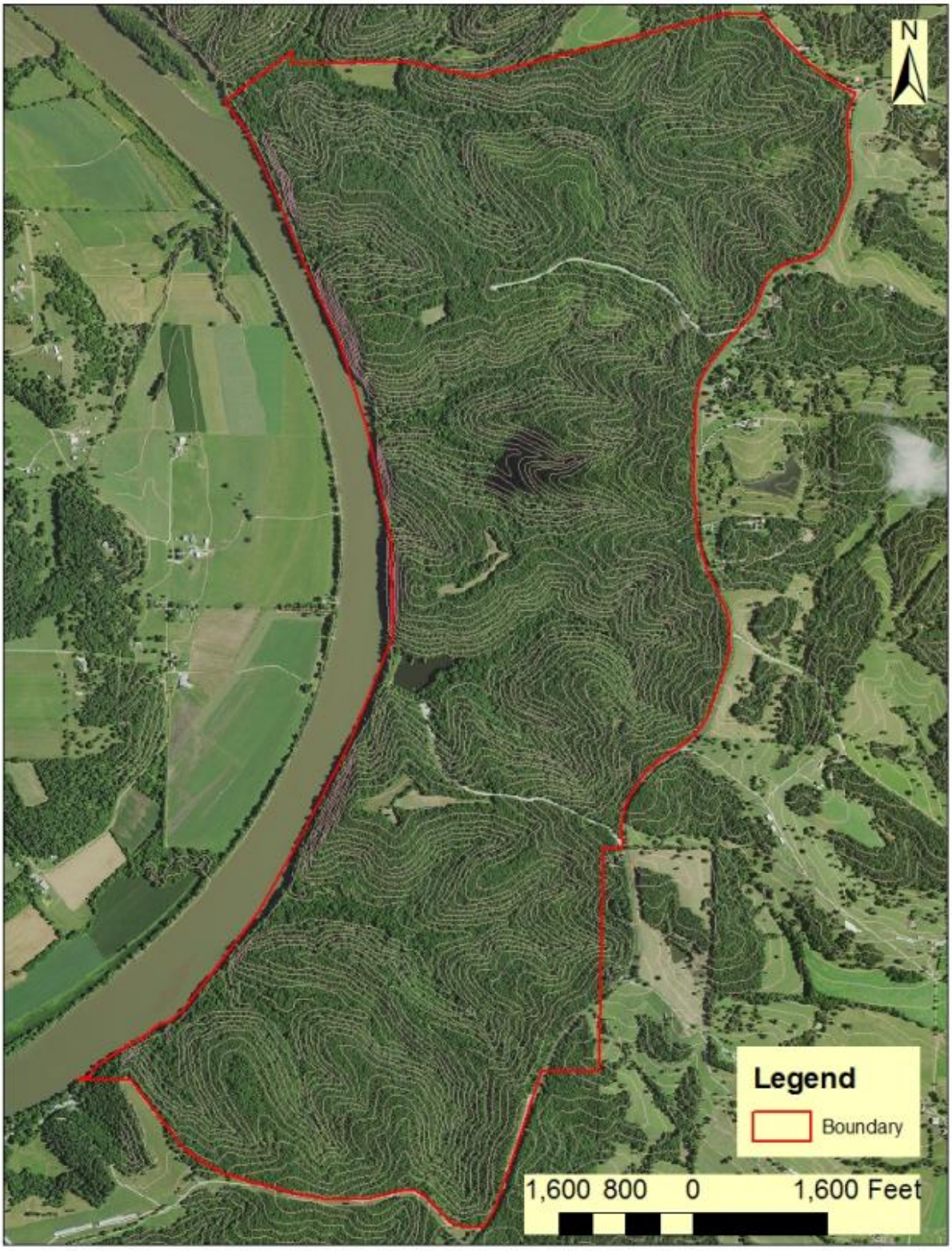
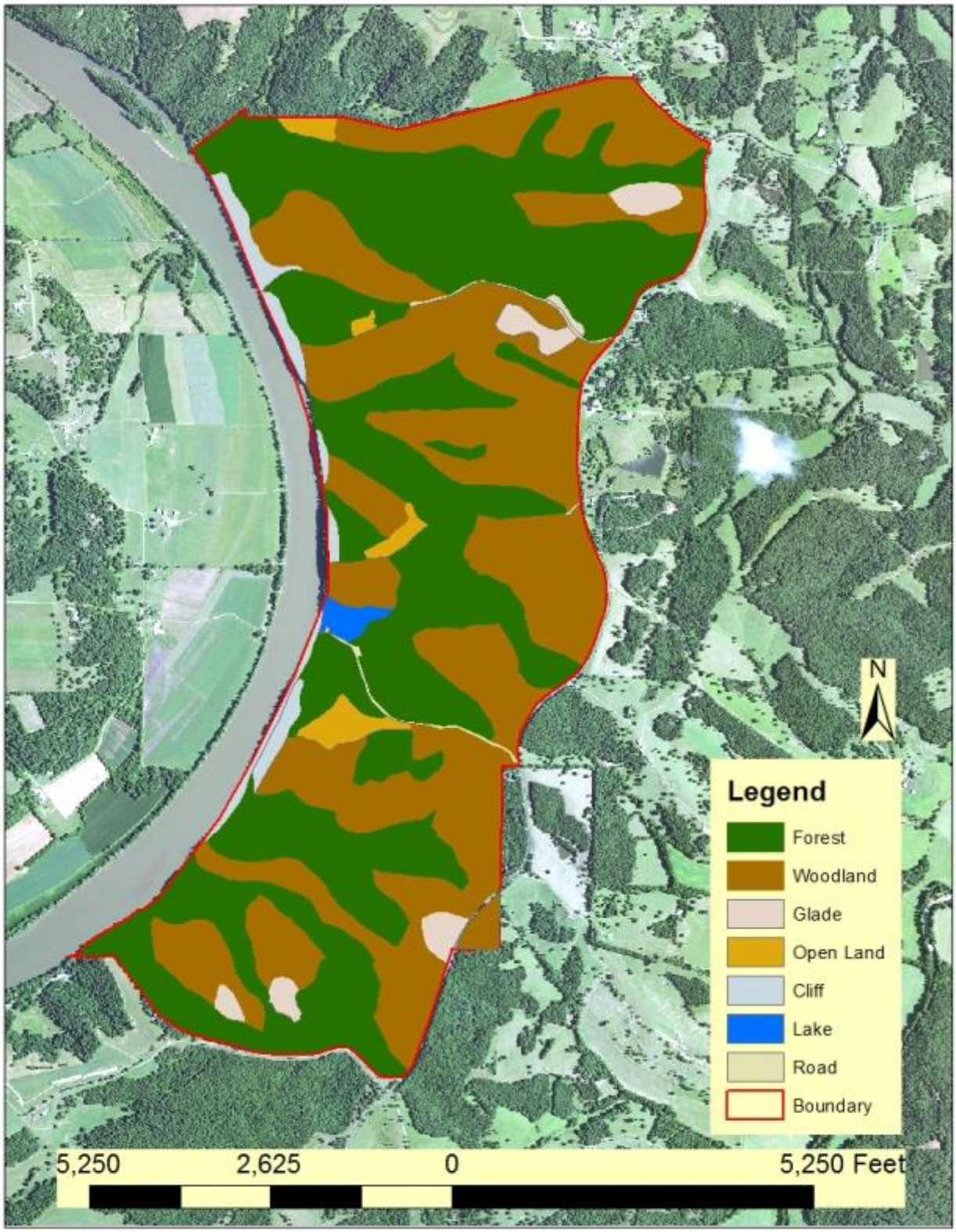


Figure 4: Vegetation Map



Appendix A. Painted Rock Conservation Area Management Plan Public Comments

Received during public comment period (December 1-31, 2016):

Please PAVE (at least part of) the huge hill going up from the 5 acre pond at the conservation area. Very difficult to navigate and make it up the hill in rough conditions... thanks!!
I support the use of prescribed burn in this area to support more diversity.
Would like to see the existing ponds (not the lake) enlarged as much as the surrounding area can handle. And/Or cleaned of some of the settlement/vegetation to make the pond hold more water and make it more accessible for wildlife and public use. One for instance which is located just off the right of the lake road near the top of the hill across from the open field used to be nice and open and I used to see lots of deer, etc there about 20+ years back. Now it is so overgrown with cattails and settlement that it is hardly noticeable and most never knew there was a pond there anymore.
It would be beneficial in the future to have a boat access ramp to the Osage river at Painted Rock CA. Their are many access points on the west side of the river but none on that side. It would benefit may citizens in that area. Thanks
(Hardcopy Comment received 12/30/2016): Programs to allow public access to painted rock and the Osage River are important. Clearly marked access points and perimeters are also important to protect surrounding private land and livestock. Forest management and species (native) conservation is also important. Would like to see programs that assist surrounding landowners to broaden these efforts. For instance, help with elimination of invasive tress like maples - also helping conservation suppress reintroduction from boarder areas.