

St. Clair County Glades

Dave Rock CA
Lichen Glade CA

Ten-Year Area Management Plan FY 2017-2026



Wildlife Division Chief

3 JAN 2016

Date

St. Clair County Glades Management Plan Approval Page

PLANNING TEAM

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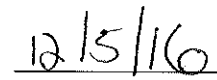
Larry Rizzo, Natural History Biologist

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KANSAS CITY REGION

RCT Chair

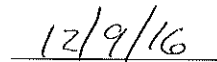

Signature


Date

WILDLIFE DIVISION

Wildlife Management Chief


Signature


Date

OVERVIEW

Area Name	Area Number	Year Acquired	Acreage	County	Administrative Responsibility	Maintenance Responsibility
Dave Rock Conservation Area	8253	1982	133	St. Clair	Wildlife	Wildlife
Lichen Glade Conservation Area	7806	1970 ¹	26	St. Clair	Wildlife	Wildlife

¹ Owned by The Nature Conservancy and leased to the Missouri Department of Conservation (the Department) starting in 1975. The lease automatically renews in 10-year increments; the current lease period runs from January 9, 2016 to January 8, 2026.

Statements of Purpose:

A. Strategic Direction

Manage glades, savannas, and woodlands to preserve diversity of plants and animals while providing opportunities for the public to enjoy these unique areas.

B. Desired Future Condition

The desired future condition of Dave Rock CA and Lichen Glade CA is a healthy, diverse, and sustainable mosaic of sandstone glade, sandstone/shale savanna, and sandstone woodland that maintains species diversity and provides opportunities for the public to study, hike, and enjoy the areas (Nelson, 2010).

C. Federal Aid Statement

N/A

GENERAL INFORMATION AND CONDITIONS

I. Special Considerations

Area Name	Priority Areas	Natural Areas
Dave Rock CA	None	Dave Rock Natural Area (44 acres) ¹
Lichen Glade CA	None	Lichen Glade Natural Area (26 acres) ²

¹Dave Rock Natural Area contains a large and scenic outcrop of Pennsylvanian age sandstone – one of the largest sandstone glades in the Osage Plains ecoregion.

²Lichen Glade Natural Area contains a large expanse of massive sandstone outcrops and associated dry sandstone woodlands with old growth black jack oaks aged at over 150 years.

II. Important Natural Features and Resources

Area Name	Species of Conservation Concern	Caves	Springs
Dave Rock CA	None	None	None
Lichen Glade CA	None	None	None

III. Existing Infrastructure

Area Name	Parking Area #	Other
Dave Rock CA	1	1 pond dam; 1 fishless pond (0.25 acres)
Lichen Glade CA	1	N/A

IV. Area Restrictions or Limitations

Area Name	Deed Restrictions	Federal Interest	Easements	Cultural Resources	Endangered Species	Boundary Issues
Dave Rock CA	None	Yes ²	None	None known	None observed	None
Lichen Glade CA	Yes ¹	Yes ²	None	None known	None observed	None

¹This area is owned by The Nature Conservancy and leased to the Department. The 10-year lease agreement runs from January 9, 2006 to January 8, 2016. The lease automatically renews unless a partner signifies otherwise.

²Federal 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.

MANAGEMENT CONSIDERATIONS

V. Terrestrial Resource Management Considerations

Challenges and Opportunities:

- 1) Quality remnant glade, savanna, and woodland exist. Some require only maintenance, while others are in need of restoration.
- 2) Numerous invasive plants such as sericea lespedeza, crown vetch, and Japanese honeysuckle are established on the areas.
- 3) There are old fields on Dave Rock CA that can be managed for early successional habitat.

Management Objective 1: Maintain a diverse sandstone glade and savanna natural community.

Strategy 1: Survey and monitor areas for species of conservation concern.
(Wildlife)

Strategy 2: Monitor for invasive species and, if found, eradicate them using tools including but not limited to prescribed fire, mechanical removal, and herbicide.
(Wildlife)

Strategy 3: Stimulate growth of grasses and forbs and maintain glade openings using tools including but not limited to mechanical tree removal and prescribed fire. (Wildlife)

Management Objective 2: Maintain a dry sandstone woodland natural community.

Strategy 1: Survey and monitor areas for species of conservation concern. (Wildlife)

Strategy 2: Reduce canopy cover to increase sunlight and, subsequently, stimulate herbaceous vegetation. (Wildlife, Forestry)

Strategy 3: Monitor oak regeneration in dry sandstone woodland natural community to assure oak sprouts are moving up into progressively larger size classes. (Wildlife, Forestry)

Management Objective 3: Maintain open fields on Dave Rock CA.

Strategy 1: Plant annual small grain crops and legumes to provide a food source for wildlife and annual vegetation for brood habitat in idle years. (Wildlife)

Strategy 2: Maintain native warm-season grass plantings with prescribed fire or other techniques to control woody encroachment and improve structure. (Wildlife)

VI. Aquatic Resource Management Considerations

Challenges and Opportunities:

- 1) Lichen Glade CA is bordered by 0.3 miles of Salt Creek on the west. Dave Rock CA includes 0.3 miles of stream, which is a tributary to Panther Creek.
- 2) Intact natural communities prevent erosion and buffer the streams from negative inputs.

Management Objective 1: Maintain healthy natural communities to protect watersheds.

Strategy 1: Use best management practices that minimize soil disturbance. (Wildlife)

Strategy 2: Maintain a protected riparian corridor along streams, as described in *Watershed and Stream Management Guidelines for Lands and Waters Managed by the Missouri Department of Conservation* (Missouri Department of Conservation, 2009). (Wildlife)

Strategy 3: Evaluate pond and consider managing for amphibians. (Fisheries)

VII. Public Use Management Considerations

Challenges and Opportunities:

- 1) These two areas offer numerous public use opportunities, including hunting (Dave Rock CA only), plant and wildlife viewing opportunities, photography, and exploring unique geology.
- 2) Continue good relationships with neighboring landowners.
- 3) Improve educational and interpretive opportunities. This is a rural part of the state and many local small schools are looking for educational opportunities outside of the classroom environment.

Management Objective 1: Provide opportunities for hunting, exploring, and wildlife viewing.

Strategy 1: Maintain parking lots and trails throughout the areas. (Wildlife)

Strategy 2: Conduct management activities that will provide habitat for a diversity of species. (Wildlife)

Management Objective 2: Continue good relationships with neighboring landowners.

Strategy 1: Work with neighbors to minimize boundary and trespass issues. (Wildlife, Protection)

Strategy 2: Promote habitat management on neighboring landowners' properties. (Wildlife, Private Land Services)

Strategy 3: Enter into fencing agreements with neighbors when necessary to replace boundary fences. (Wildlife)

Management Objective 3: Improve educational and interpretive opportunities.

Strategy 1: Provide up-to-date maps and information to promote recreational opportunities to the public. (Wildlife)

Strategy 2: Communicate to teachers and other youth leaders the possibilities for educational programs on the areas including exploring the unique geologic features and plant communities. (Outreach and Education)

VIII. Administrative Considerations

Challenges and Opportunities:

- 1) Evaluate land offered as additions to these areas.

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:

	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26
Terrestrial Resource Management										
<i>Objective 1</i>										
Strategy 3			X			X			X	
<i>Objective 2</i>										
Strategy 2		X				X				
<i>Objective 3</i>										
Strategy 2		X			X			X		

APPENDICES

Public Input Summary:

The draft St. Clair County Glades Management Plan was available for a public comment period August 1–31, 2016. The Missouri Department of Conservation received comments from three respondents (Appendix A). The St. Clair County Glades 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 St. Clair County Glades Management Plan public comment period.

Supports invasive species removal. Suggests washing mowing and farming equipment before moving to other areas.

Thank you for input and support of controlling invasive species on Missouri Department of Conservation properties. The Missouri Department of Conservation is committed to preventing and removing established populations of invasive species, especially on natural areas such as these glades. Our staff routinely wash, blow out radiators, and remove all seed from trucks and equipment when moving from one area to another. Contracts with permittee farmers, hayers, and contractors require them to wash their equipment before entering our areas.

Concerned that the current burn schedule is disturbing young wildlife.

Thank you for your concern about young wildlife, specifically young rabbits. Prescribed burning is conducted at various times of the year to achieve different objectives. These objectives are designed to promote habitat for wildlife and benefit certain plant communities, while controlling species that are not wildlife friendly. We fully acknowledge that there are times when we burn that some species may potentially be harmed within the burn unit, without these management techniques the habitat over time would change.

Suggests adding a pond.

On areas with glades we do not want to disturb the soil. This could potentially affect the glade dependent species that rely on this habitat to survive. Glades are also generally located in areas where rocks make up a vast majority of the soil profile, making it a poor site to build a pond.

Requests advice/assistance in managing nearby private property.

Thank you for reaching out to us for information about managing the glades on your property. There are staff in each county that offer technical advice for private landowners that want to improve wildlife habitat and the condition of natural communities on their property. Check with the Kansas City Regional Office (816-622-0900) to find contacts in your county.

Appreciates boundary fence and requests additional boundary signage.

You are welcome for the assistance on the boundary fence, and when time allows, someone will look at your shared boundary to get it reposted with new or additional signage.

References:

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.

Nelson, P. W. (2010). *The terrestrial natural communities of Missouri, revised edition*. Jefferson City, MO: The Missouri Natural Areas Committee.

Appendices:

Appendix 1. St. Clair County Glades Vicinity Map

Appendix 2. Dave Rock Conservation Area Background

Appendix 3. Area Map of Dave Rock Conservation Area

Appendix 4. Aerial Map of Dave Rock Conservation Area

Appendix 5. Topographic Map of Dave Rock Conservation Area

Appendix 6. Dave Rock Conservation Area Land Cover

Appendix 7. Lichen Glade Conservation Area Background

Appendix 8. Area Map of Lichen Glade Conservation Area

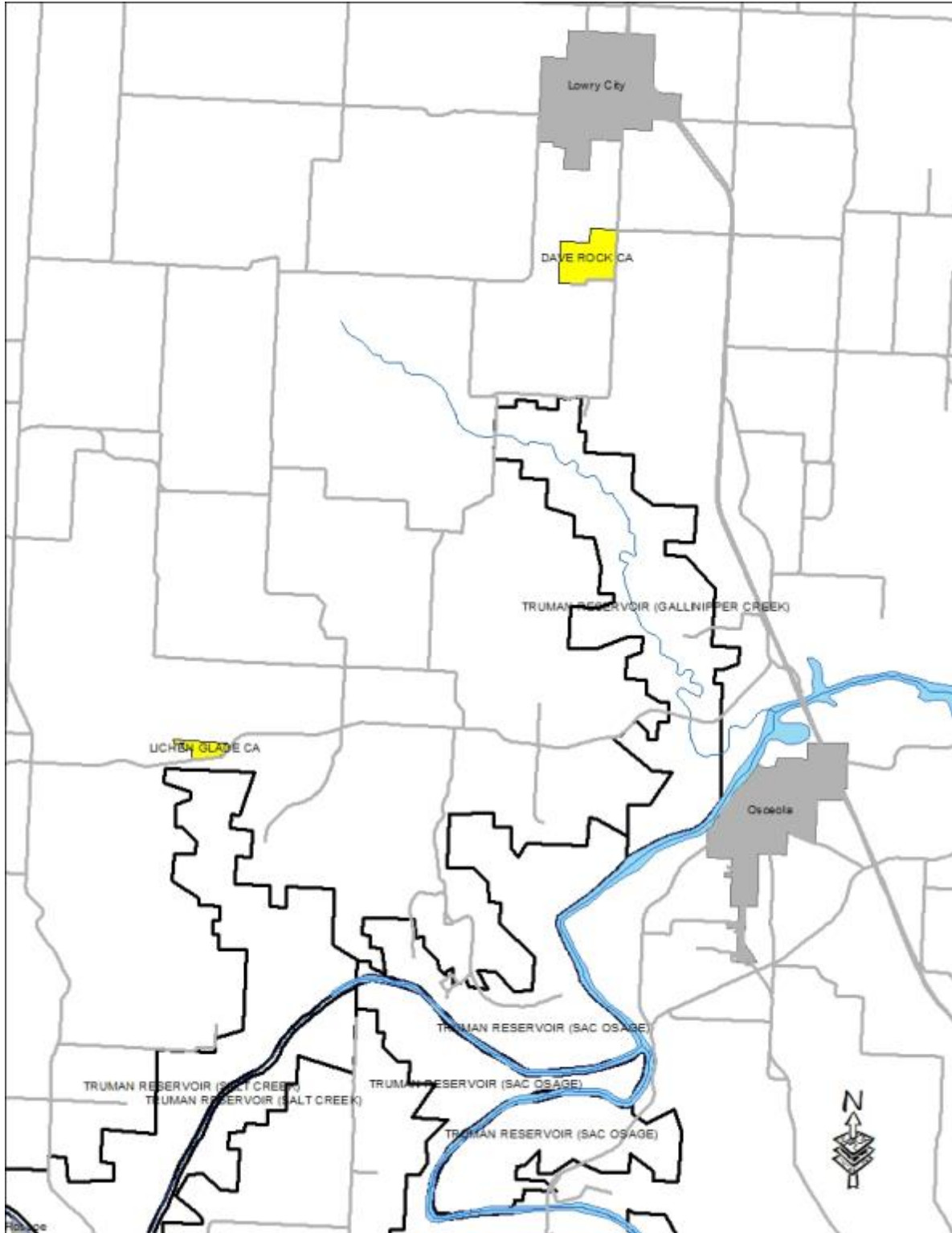
Appendix 9. Aerial Map of Lichen Glade Conservation Area

Appendix 10. Topographic Map of Lichen Glade Conservation Area

Appendix 11. Lichen Glade Conservation Area Land Cover

Appendix A. St. Clair County Glades Management Plan Public Comments

Appendix 1. St. Clair County Glades Vicinity Map



Appendix 2. Dave Rock Conservation Area Background

Dave Rock Conservation Area (CA) was purchased in 1982 (previously named Dave Rock Natural History Area) primarily to preserve the unique sandstone glade which is one of the largest in Missouri. Intact sandstone glade, savanna, and woodland natural communities are the highlight of the area. A 44-acre portion of the area is designated as Dave Rock Natural Area.

More than one-half of Dave Rock CA is wooded. The remainder is made up of glade, savanna, warm-season grass plantings, and open fields used for annual grain plots and legumes.

The sandstone glade is composed of bare rock covered with a wide variety of lichens and mosses. In areas where soil developed on the glade, there is a gradual progression of plants from small glade-adapted species to stunted post oak trees. The adjoining seep forest is also of interest because of the unusual species composition due to the lack of drainage from the underlying sandstone rock. Because the soil is continuously wet this allows more bottomland species to exist where upland oak-hickory would normally be found.

Location: Township 39 North, Range 26 W, Section 25.

Area Location: From Lowry City, take Highway 13 south 1 mile, then NE700 west 1 mile and NE301 south.

Current Land and Water Types:

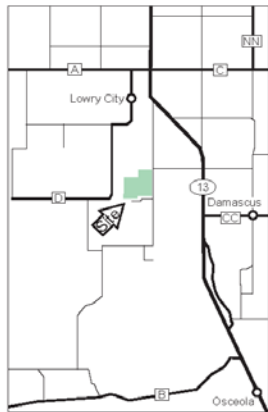
Land/Water Type	Acres	Miles	% of Area
Forest	64		48
Woodland	33		25
Glade	14		10
Crop	12		9
Grassland	10		8
Total	133		100
Stream (Panther Creek)		0.25	

Appendix 3. Area Map of Dave Rock Conservation Area

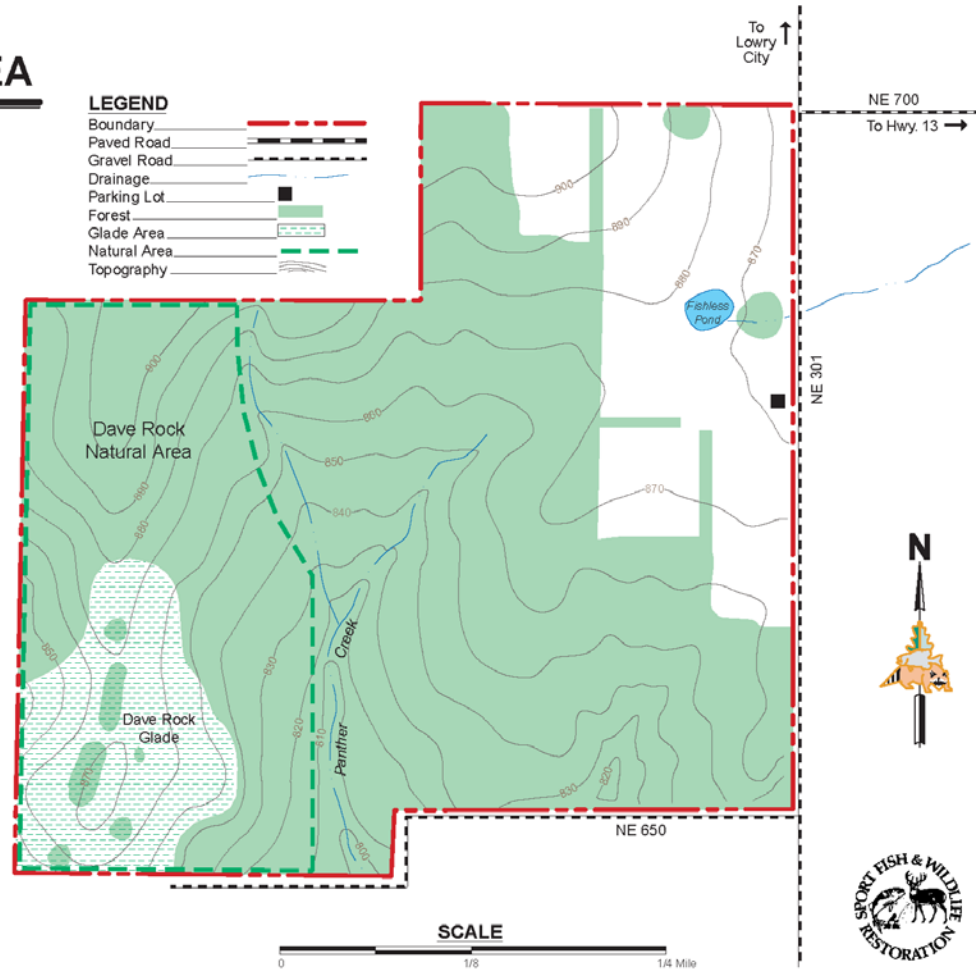
DAVE ROCK CONSERVATION AREA

ST. CLAIR COUNTY
133 ACRES

VICINITY MAP



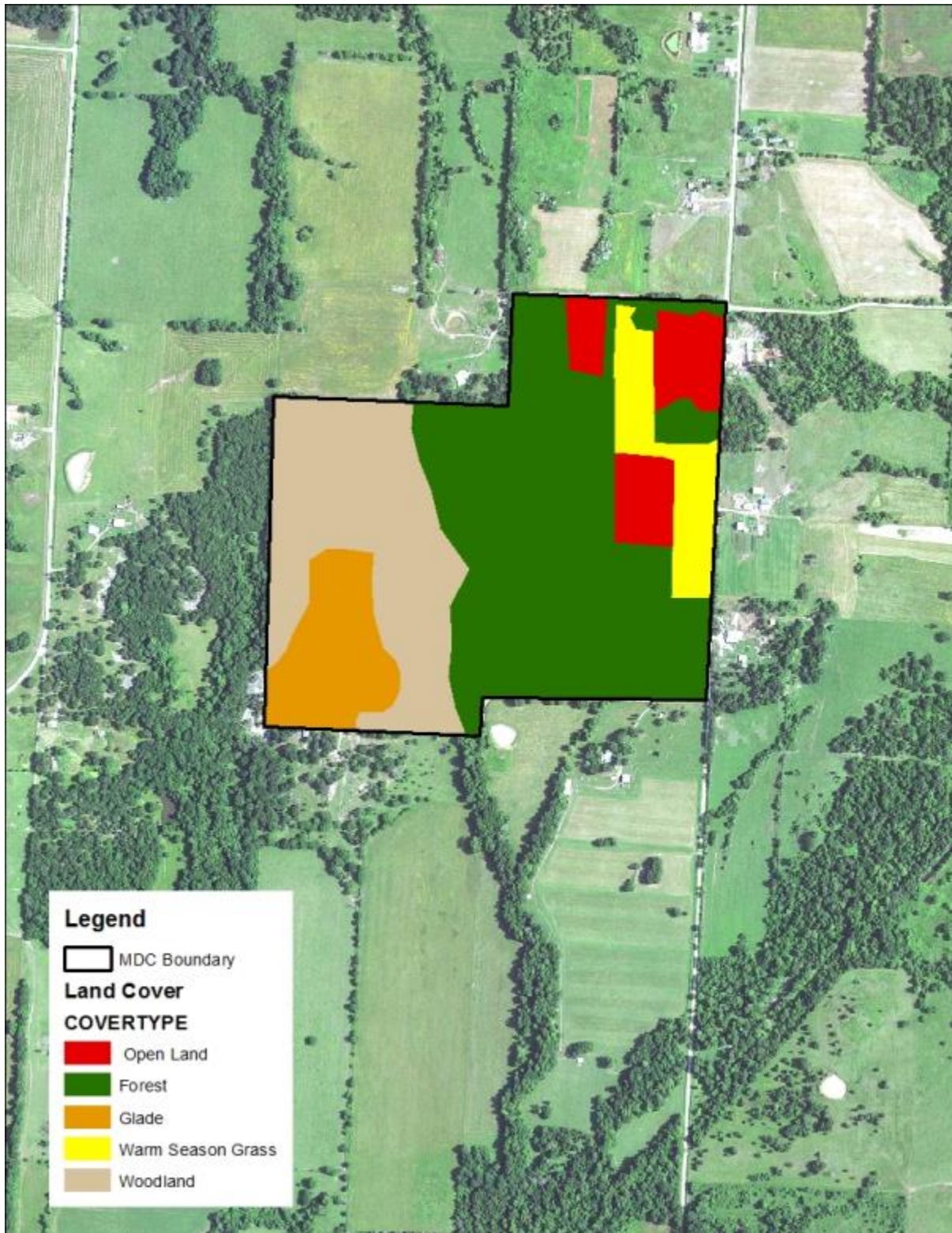
LEGEND	
Boundary	Red dashed line
Paved Road	Black dashed line
Gravel Road	Black solid line
Drainage	Blue line
Parking Lot	Black square
Forest	Green hatched area
Glade Area	Light green area
Natural Area	Dark green area
Topography	Brown contour lines



Appendix 4. Aerial Map of Dave Rock Conservation Area



Appendix 6. Dave Rock Conservation Area Land Cover



Appendix 7. Lichen Glade Conservation Area Background

The first 15-acre tract of Lichen Glade Conservation Area (CA) was purchased by The Nature Conservancy in 1970. The Nature Conservancy added 11 more acres in 1974. The Department entered into a management lease with The Nature Conservancy for Lichen Glade CA in 1975 and the area has been managed by the Department since then. The entire 26 acres encompassing this conservation area are designated as Lichen Glade Natural Area.

Lichen Glade CA contains a matrix of sandstone glade and dry sandstone woodland. Stunted post and blackjack oak (adapted to dry, shallow soil conditions) can be found growing in the shallow soils of the glade portion with larger trees in the woodland where soils are deeper. An abundance of native grasses and forbs can be found on the area including big bluestem, little bluestem, spiderwort, sensitive briar, goats rue, and lead plant. There is a sandstone bluff that overlooks the Salt Creek floodplain on the west side of the area.

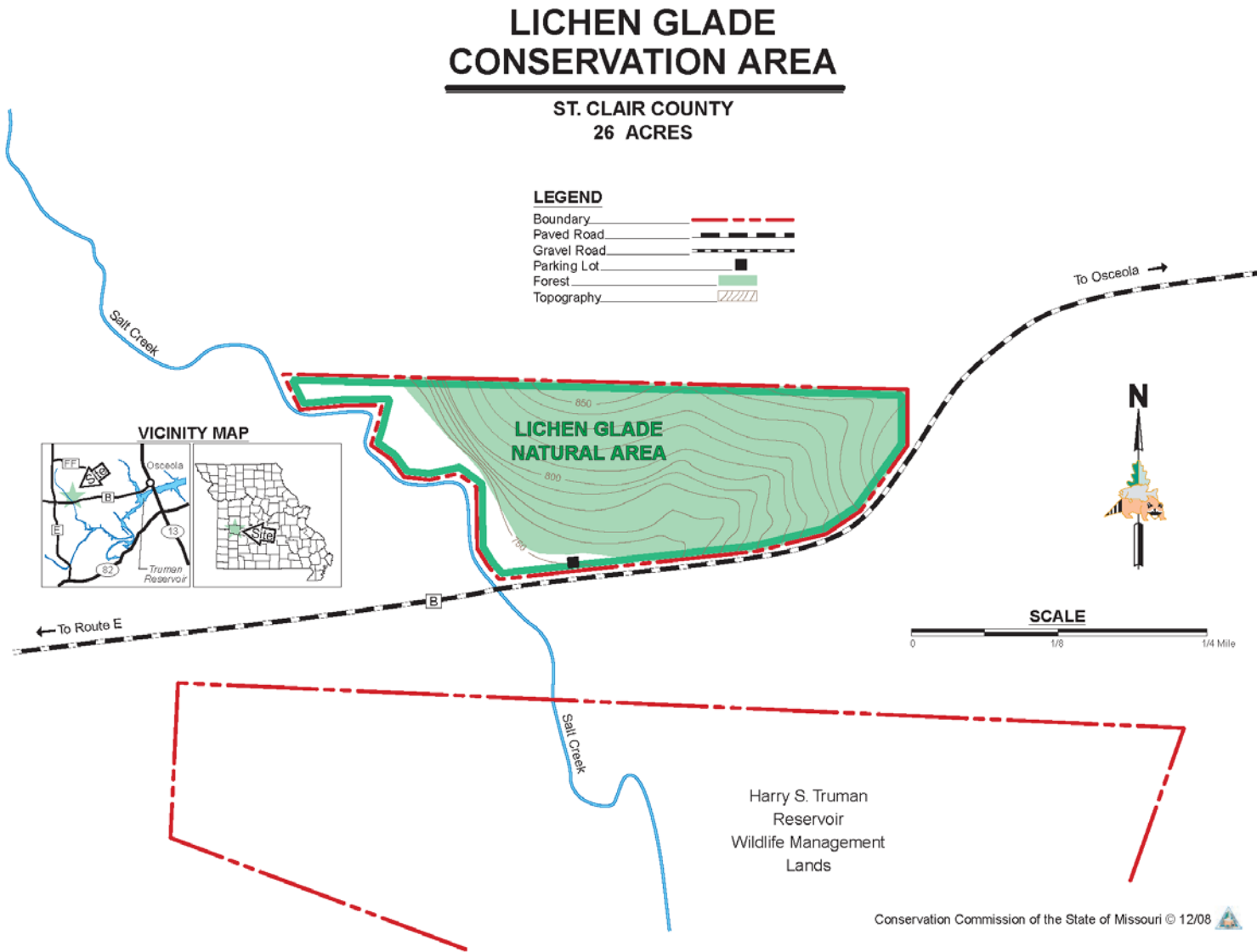
Legal Description: Township 37 North, Range 26 W, Section 16.

Area Location: From Osceola, take Route B west 6 miles.

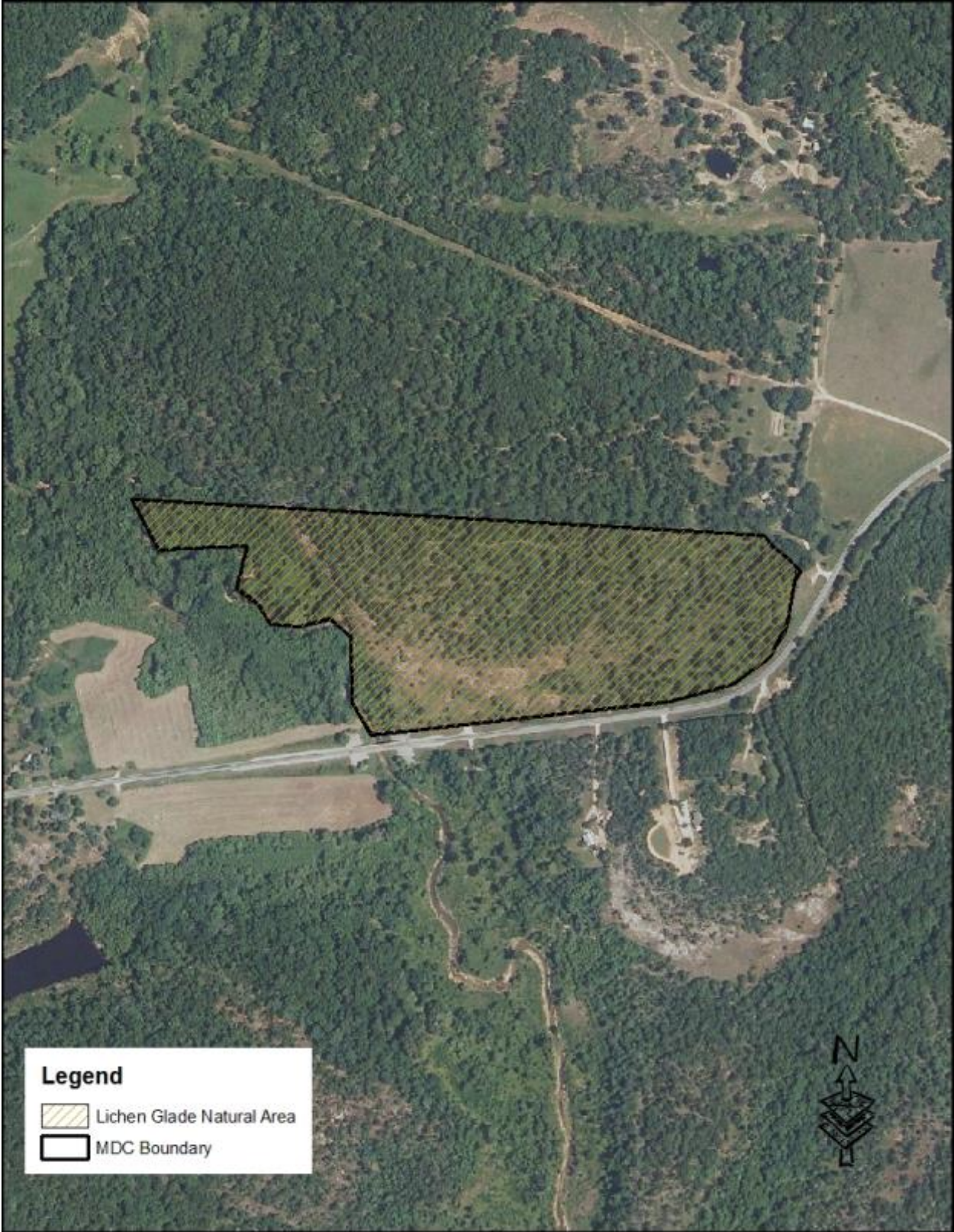
Current Land and Water Types:

Land/Water Type	Acres	Miles	% of Area
Woodland	18		69
Glade	8		31
Total	26		100
Stream (Salt Creek)		0.25	

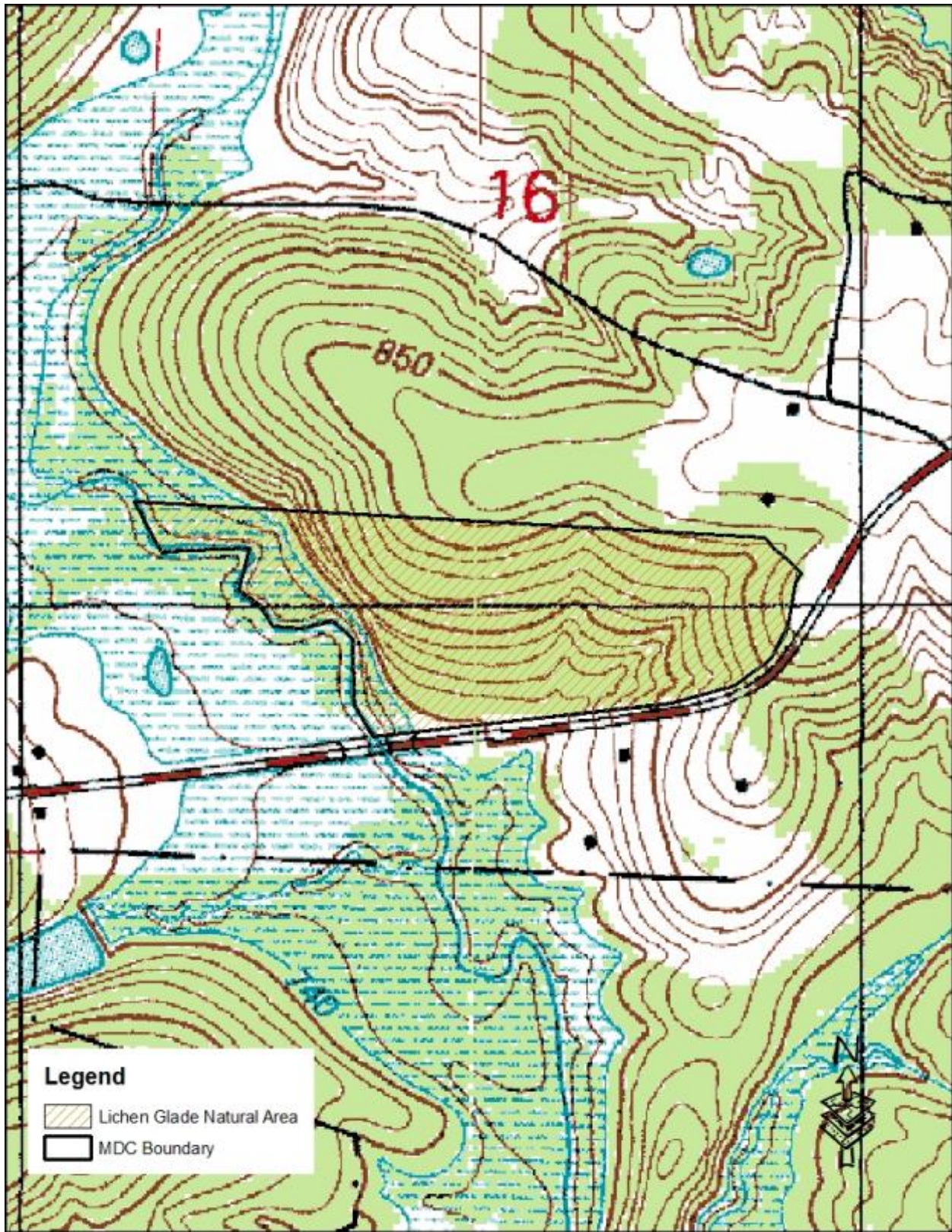
Appendix 8. Area Map of Lichen Glade Conservation Area



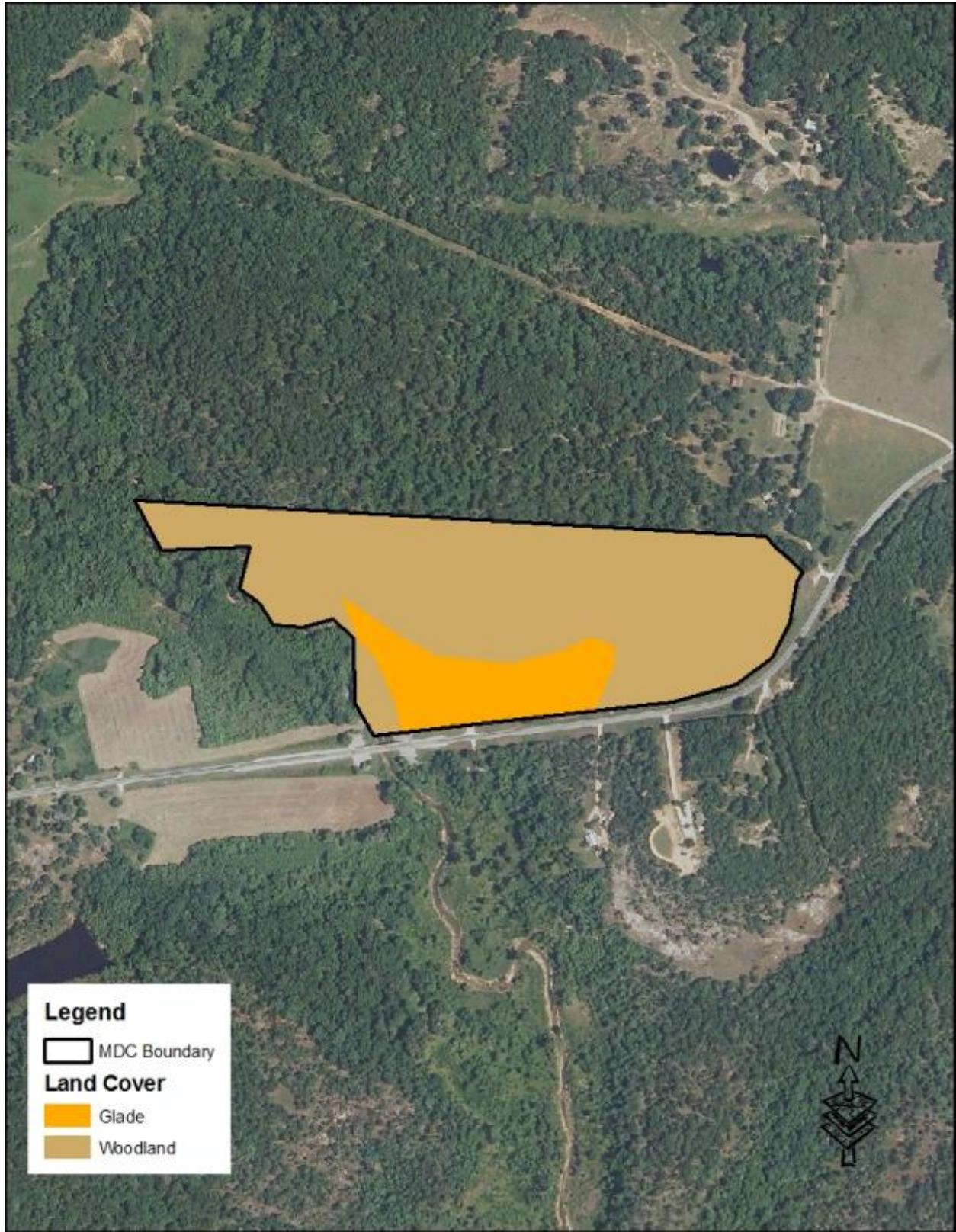
Appendix 9. Aerial Map of Lichen Glade Conservation Area



Appendix 10. Topographic Map of Lichen Glade Conservation Area



Appendix 11. Lichen Glade Conservation Area Land Cover



Appendix A. St. Clair County Glades Management Plan Public Comments

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

Some of the MDC lands are incredible with native species diversity while others are dominated by non-native species. The number one Management need is the control or reduction of non-native species. It is imperative that mowers and farmers wash their equipment before moving into a new area. There must be an active role in the control of exotic species. If there is not more of an active role then the remaining pristine sites will succumb to exotic species and degrade ecological integrity.

Respectfully,

I own 238 acres with two glades in St. Clair County for the last 12 years. I use it only for hunting and want to sell it in the next few years. I need help in maintaining but everybody only wants and poach and trespass. It is a beautiful place with all kind of wildlife. Black panthers live in the big glade with the honey badgers. I'm turning 71 real soon and I am going to have it logged real quick. There is a logging company down hy J and he has given me local people ! I love the place but I can't maintain it ! Help me quick or i'm going to burn it down ! I have paid hard earned money for a long and I have nothing to show ! Thanks,

My name is chester swan and I own 238 acres in st.clair county with 2 glades ! I am going to sell it real soon because I can't maintain it. I am turning 71 soon and am very unhappy about the place. People just want to hunt,poach,and trespass. I have been thinking about having it logged soon by some local people. The place is beautiful place with great wildlife but people just run over me and I can't stand it anymore. Comment me and help do what's best for the land. Thanks,

Your team has been very cooperative with me and my family over the last 6 years. I have installed a 2-wire fence provided by your team. Would love to see the introduction of a pond. I do however need to address the following. First -- please schedule controlled burns when the bunnies are not young and can not flee from the fire. Second -- I need help with more (new) No trespass signs on our shared property line. Respectfully,