

Mineral Hills Conservation Area

Ten-Year Area Management Plan

FY 2017-2026



Lisa B. Allen
Forestry Division Chief

12-14-16
Date

Mineral Hills Conservation Area Management Plan Approval Page

PLANNING TEAM

Scott Hollabaugh, Resource Forester

Ryan Jones, Wildlife Management Biologist

Darren Thornhill, Fisheries Management Biologist

Krista Noel, Natural History Biologist


Tyler Mason, Conservation Agent

Craig Williamson, Private Land Conservationist

NORTHEAST REGION

RCT Chair

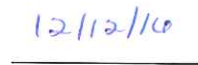

Signature


Date

FORESTRY DIVISION

Forestry Management Chief


Signature


Date

OVERVIEW

- **Official Area Name:** Mineral Hills Conservation Area, # 8332
- **Year of Initial Acquisition:** 1983
- **Acreage:** 1,979 acres
- **County:** Putnam
- **Division with Administrative Responsibility:** Forestry
- **Division with Maintenance Responsibility:** Wildlife
- **Statements of Purpose:**
 - A. Strategic Direction**

Manage for forest, woodland and wildlife resources with emphasis on forest and woodland species and compatible recreational opportunities. Provide quality outdoor recreational opportunities.
 - B. Desired Future Condition**

The desired future condition of Mineral Hills CA is a healthy forest and woodland community with interspersed open fields comprised of agriculture, enhanced prairie and old fields.
 - C. Federal Aid Statement**

N/A

GENERAL INFORMATION AND CONDITIONS

- I. Special Considerations**
 - A. Priority Areas:** None
 - 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:** Plant inventories are needed to determine if previously noted dry-mesic loess glacial till savanna and dry-mesic loess glacial till prairie still exist. Further inventory of the woodland unit will determine whether addition to the Heritage Database is warranted.
- III. Existing Infrastructure**
 - Five parking lots
 - Seven limited mobility hunter access sites

- Four fishing lakes/ponds (0.4, 0.5, 1.0 and 1.1 acres); two ponds equipped with a table and a foot stop for Americans with Disabilities Act (ADA) use.

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:** Six right of way easements held by North Central Missouri Electric Cooperative, Inc.; oil and gas leases held by Union Central Life Insurance Co. on 410 acres of the area.
- D. Cultural Resources Findings:** Yes, records are kept with Missouri Department of Conservation (Department) environmental compliance specialist. Managers should follow best management practices for cultural resources found in the Department Resource Policy Manual.
- E. Endangered Species:** None observed.
- F. Boundary Issues:** All lines that have been questioned have been surveyed.

MANAGEMENT CONSIDERATIONS

V. Terrestrial Resource Management Considerations

Mineral Hills CA contains approximately 1,493 acres of forest, 237 acres of woodland, 99 acres of cropland, 139 acres of old field/ grasslands, 8 acres of infrastructure, 3 acres of open water/ponds and slightly more than 1 mile of stream frontage along South Blackbird Creek. Forest and woodland management will be directed at maintaining healthy forest and woodland communities and wildlife habitat.

The forest on Mineral Hills CA can be described in two general descriptions:

1. Upland oak/hickory stands: The stands are comprised of white oak, northern red oak, black oak, post oak, chinquapin oak, blackjack oak, shagbark hickory, bitternut hickory, slippery elm and green ash trees of varied ages (1 to 100+ years) and size classes (small to large mature trees). The understory consists of oak, ash and hickory seedlings and/or saplings, hazelnut, gray dogwood, wild plum shrubs and various native and non-native grasses.
2. Bottomland hardwood stands: The stands are comprised of varied ages and size classes of cottonwood, hackberry, swamp white oak, bur oak, black walnut, black cherry, silver maple, American elm and other species. The understory consists of ash, maple, oak and walnut seedlings and/or saplings,

swamp white oak, dogwood shrubs, blackberry and greenbrier vines and various native and non-native grasses.

Challenges and Opportunities:

- 1) Manage forest and woodland communities.
- 2) Maintain healthy forest and woodland habitats.
- 3) Maintain a healthy corridor (200-foot buffer) along South Blackbird Creek.
- 4) Minimize soil loss along firebreaks, service trails and within field borders.

Management Objective 1: Maintain healthy forests and woodlands with management emphasis on wildlife habitat.

Strategy 1: Monitor forest/woodland/open land habitats for invasive vegetation, diseases, and insects. Use a combination of mechanical, chemical, and prescribed fire to suppress any infestations that may develop. (Forestry)

Strategy 2: Implement the forest management plan by end of 2020. (Forestry)

Strategy 3: Inventory natural communities and update the Department's Heritage Database by 2017. (Wildlife)

Strategy 4: Minimize soil loss by using Best Management Practices during timber harvest and woodland management as described in the Department's manuals: *Missouri Watershed Protection Practice Manual* (Missouri Department of Conservation, 2014) and the *Missouri Forest Management Guidelines Voluntary Recommendations for Well-Managed Forests* (Missouri Department of Conservation, 2014). (Forestry)

Management Objective 2: Manage woodland sites.

Strategy 1: Enhance woodland plant diversity by use of tools including but not limited to periodic prescribed fire. (Wildlife)

Strategy 2: Control invasive exotic species and sustain desired woodland structure using appropriate methods. (Forestry, Wildlife)

Strategy 3: Monitor plant diversity and structure. (Wildlife, Forestry)

Management Objective 3: Provide cereal grain and green browse food plots to enhance small game hunting. Maintain some permittee crop activity and presence on the area.

Strategy 1: Continue to work with a permittee farmer to provide benefit to wildlife species. (Wildlife)

VI. Aquatic Resource Management Considerations

Mineral Hills CA has four ponds (3.0 acres) that are managed for fishing. Ponds 1, 3, 4, and 5 provide recreational fishing opportunities for bluegill and largemouth bass. Ponds 4

and 5 provide additional recreational fishing opportunities for channel catfish. Several wildlife waterholes found throughout the conservation area provide habitat for amphibians, reptiles and other wildlife.

There are 7.4 miles of first- and second-order stream channels on Mineral Hills CA. South Blackbird Creek consists of approximately 0.2 miles of third-order and 1.2 miles of fourth-order stream channel on the area.

Challenges and Opportunities:

- 1) Maintain sport fishing opportunities in Ponds 1, 3, 4 and 5.
- 2) Maintain aquatic habitats for amphibians and reptiles in fishless ponds.
- 3) Maintain adequate riparian corridors on streams to provide sufficient stream bank protection.

Management Objective 1: Maintain self-sustaining largemouth bass and bluegill fisheries in ponds 1, 3, 4, and 5.

Strategy 1: Control excessive aquatic macrophytes using chemical or biological methods to promote efficient foraging by largemouth bass. (Fisheries)

Strategy 2: Opportunistically survey Ponds 1, 3, 4, and 5 every 5 to 10 years and evaluate fish communities beginning in FY2018. (Fisheries)

Management Objective 2: In Ponds 4 and 5, maintain a put-grow-and-take fishery for channel catfish.

Strategy 1: Stock Pond 4 with channel catfish every three years beginning in FY2018. (Fisheries)

Strategy 2: Stock Pond 5 with channel catfish every three years beginning in FY2018. (Fisheries)

Management Objective 3: In the fishless ponds, provide suitable habitat for herpetofauna and plants.

Strategy 1: Maintain current conditions in the fishless ponds and do not stock them with fish. (Fisheries)

Management Objective 4: Improve long-term stream stability and ecological function of South Blackbird Creek and its tributaries on Mineral Hills CA according to *Watershed and Stream Management Guidelines for Lands and Waters Managed by Missouri Department of Conservation* (Missouri Department of Conservation, 2009).

Strategy 1: Maintain the existing minimum 50-foot wide, perennial vegetated riparian corridor on all lands bordering first- and second-order streams on Mineral Hills CA. (Forestry)

Strategy 2: Maintain the existing minimum 200-foot wide, perennial vegetated riparian corridor on all lands bordering South Blackbird Creek on Mineral Hills CA. (Forestry)

Strategy 3: Inspect all stream crossings on field roads and fire lines by FY2018 to ensure they meet design specifications for light equipment crossings. Crossings that do not meet specifications should be eliminated or corrected through the area budget by FY2020. (Fisheries, Forestry, Design and Development)

VII. Public Use Management Considerations

Mineral Hills CA offers public use opportunities, including hunting, fishing camping, picnicking and bird watching. Currently, the area infrastructure consists of five parking lots. Camping is allowed in and adjacent to the parking lots and by special use permit for groups of 10 or more. Walk-in camping is also allowed except during firearms deer and turkey seasons. Public use increases noticeably during fall firearms deer season and spring firearms turkey season. Seven limited mobility user sites are available during hunting seasons. Ponds 1, 3, 4, and 5 (3.0 total acres) represent the only fishing resources on Mineral Hills CA. Ponds 1 and 4 are located along well maintained field roads within a short walking distance of a parking lot or interior road. Ponds 3 and 5 are located adjacent to parking lots and have tables to hold fishing tackle and benches to support ADA fishing opportunities.

Challenges and Opportunities:

- 1) Provide hunting and viewing opportunities.
- 2) Improve educational and interpretive opportunities.
- 3) Build and maintain relationships with neighboring landowners.

Management Objective 1: Provide public hunting and viewing opportunities.

Strategy 1: Conduct annual management activities to provide habitat for a diversity of species. (Wildlife, Forestry)

Strategy 2: Use permittee contracts to provide a variety of food and cover crops that enhance wildlife hunting and viewing opportunities. (Wildlife)

Strategy 3: Continue to provide limited mobility hunting opportunities. (Forestry, Wildlife)

Management Objective 2: Provide pond fishing access for the public.

Strategy 1: Ensure area pond dams and field roads (leading to them) are mowed according to Department area maintenance standards. (Forestry)

Strategy 2: Monitor, improve and replace, as needed, tables to hold fishing tackle and benches provided at two pond locations. (Forestry)

Management Objective 3: Improve educational and interpretive opportunities on Mineral Hills CA.

Strategy 1: Communicate to the general public concerning recreational opportunities (e.g., brochures, Atlas database). (Forestry)

Strategy 2: Communicate to teachers, students, scout groups and youth groups about the area to facilitate as a possible destination for ecology classes, school programs and workshops. (Outreach and Education, Forestry)

Management Objective 4: Facilitate a good working relationship with neighboring landowners.

Strategy 1: Work with neighbors to minimize any boundary, trespass or other issues affecting Mineral Hills CA or private property. (Forestry, Protection)

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

VIII. Administrative Considerations

Challenges and Opportunities:

- 1) Maintain area infrastructure at current levels.
- 2) Acquisition of land.

Management Objective 1: Maintain area infrastructure at current levels.

Strategy 1: Maintain area infrastructure in accordance with Department area maintenance standards. (Forestry, Wildlife)

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	X					
Strategy 4	X									
<i>Objective 2</i>										
Strategy 1	X			X			X			X
Strategy 2	X	X	X							
Strategy 3					X					
Aquatic Resource Management										
<i>Objective 1</i>										
Strategy 2			X					X		
<i>Objective 2</i>										
Strategy 1			X			X			X	
Strategy 2			X			X			X	
<i>Objective 4</i>										
Strategy 3			X		X					

APPENDICES

Area Background:

In the early 1900s shaft mining was used to extract coal for a local winter heat resource on a part of the area. Today, visitors might find tailing piles, entrance shafts and collapsed tunnels along the intermittent stream beds and along some hilltops. Later during the 19th century, another section was strip mined for coal and minerals and was all reclaimed.

From 1955 to 1980, state records show 160 acres were enrolled in the Forest Crop Land program. This portion of the area escaped grazing, while the remainder of the area was heavily grazed prior to Department ownership.

Current Land and Water Types:

Land/Water Type	Acres	Miles	% of Area
Forest	1,493		75
Woodland	237		12
Open – Grass/Old Field	139		7
Open – Crop	99		5
Infrastructure (Roads/Parking Lots)	8		0.4
Open Water/Ponds	3		0.4
Total	1,979		100
Stream Frontage		8.8	

Public Input Summary:

The draft Mineral Hills Conservation Area Management Plan was available for a public comment period December 1–31, 2015. The Missouri Department of Conservation received comments from one respondent (Appendix A). The Mineral Hills 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 Mineral Hills Conservation Area public comment period

Suggests developing a 10-12 mile multi-use trail for horseback riding, mountain biking, and hiking.

Mineral Hills CA lies within the Chariton River Hills Ecological Subsection of Missouri, an area with deep ravines and high topographic relief. The rugged terrain and highly erodible soils creates difficulty in managing existing access roads on Mineral Hills CA. The general layout of

boundary lines on Mineral Hills CA would further hinder construction of ecologically sound multi-use trails. Horseback riding is currently available to equestrians at multiple Department-owned lands in the area (e.g., Sugar Creek CA outside of Kirksville, Poosey CA outside of Chillicothe, and Deer Ridge CA outside of Lewistown). These three areas provide 46 miles of designated multi-use trails for bikers, hikers, and horseback riders.

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.

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

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

Maps:

Figure 1: Area Map

Figure 2: Aerial Map

Figure 3: Topography Map

Figure 4: Cover Type Map

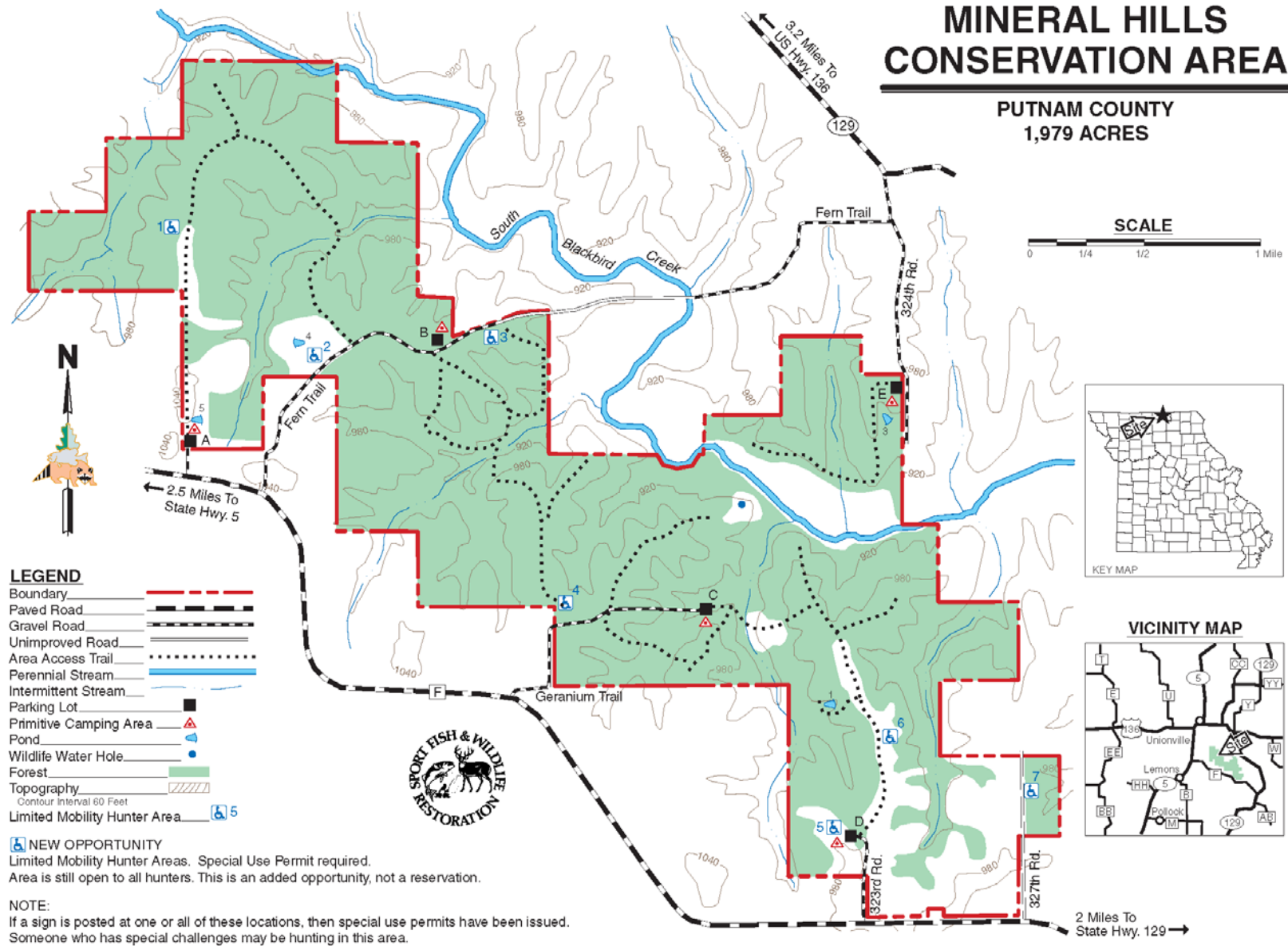
Figure 5: Soils Map

Figure 6: Easement and Lease Map

Additional Appendices:

Appendix A: Mineral Hills Conservation Area Management Plan Public Comments

Figure 1: Area Map



For more information contact the Area Manager at 660/947-2439 ext. 106

Figure 2: Aerial Map

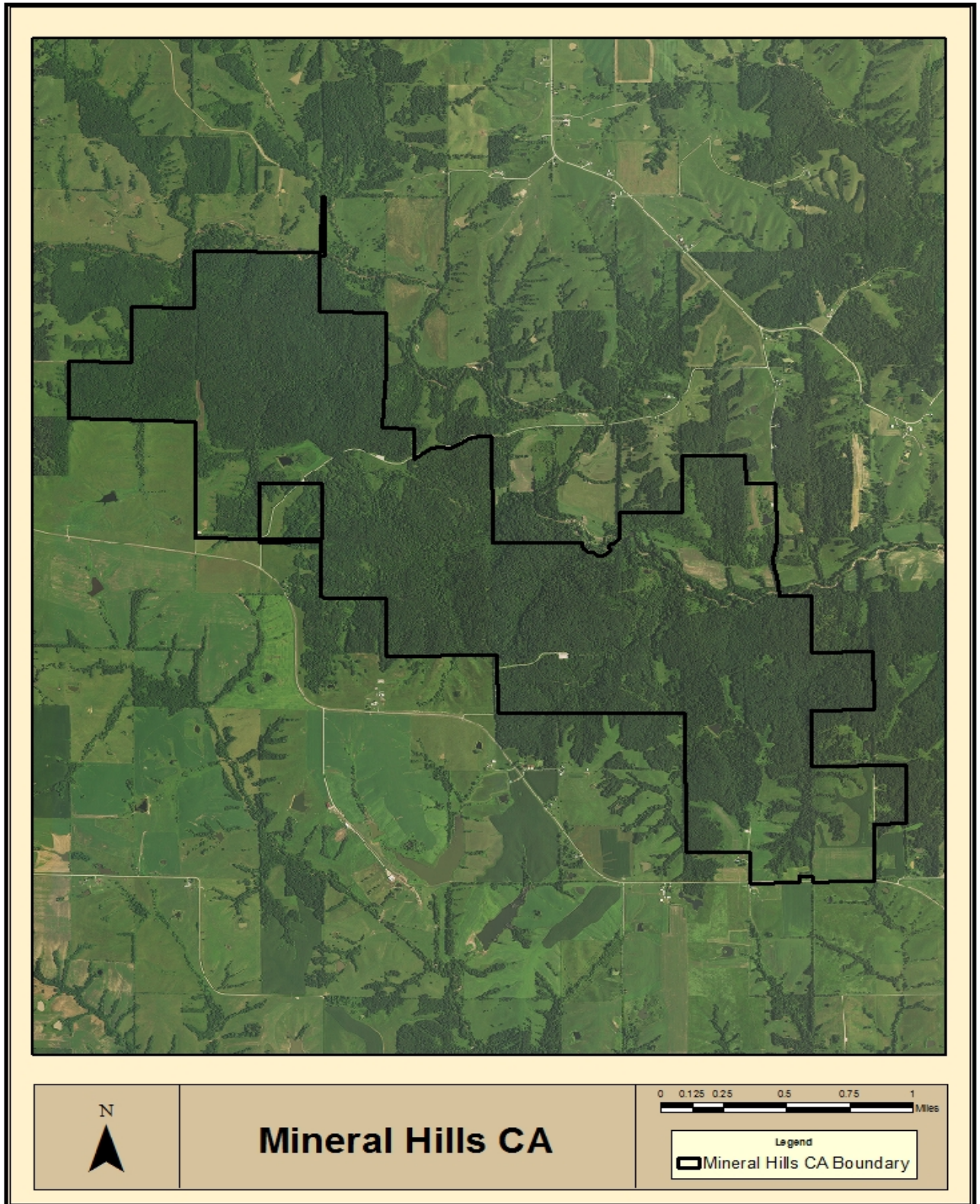


Figure 3: Topographic Map

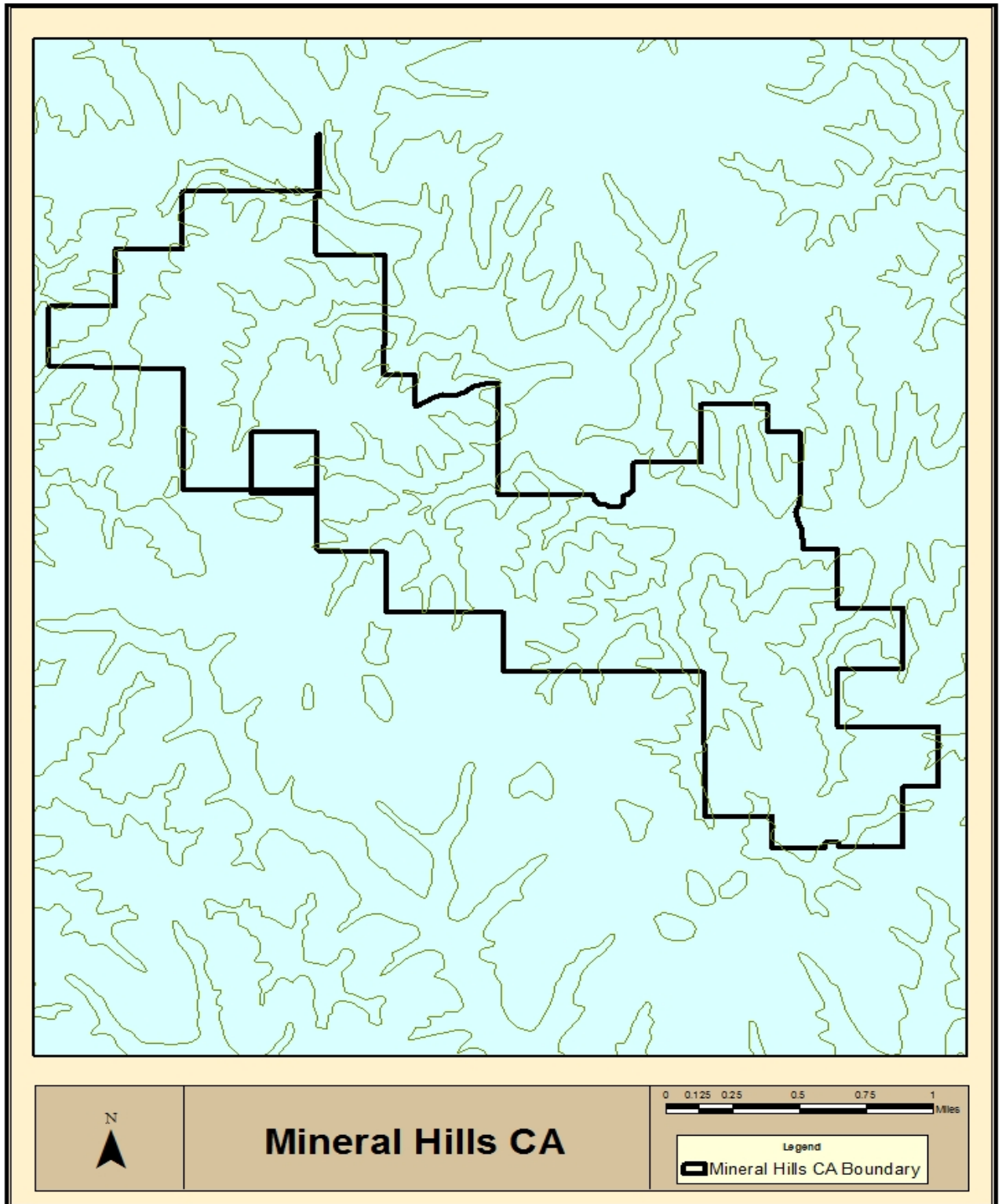


Figure 4: Cover Type Map

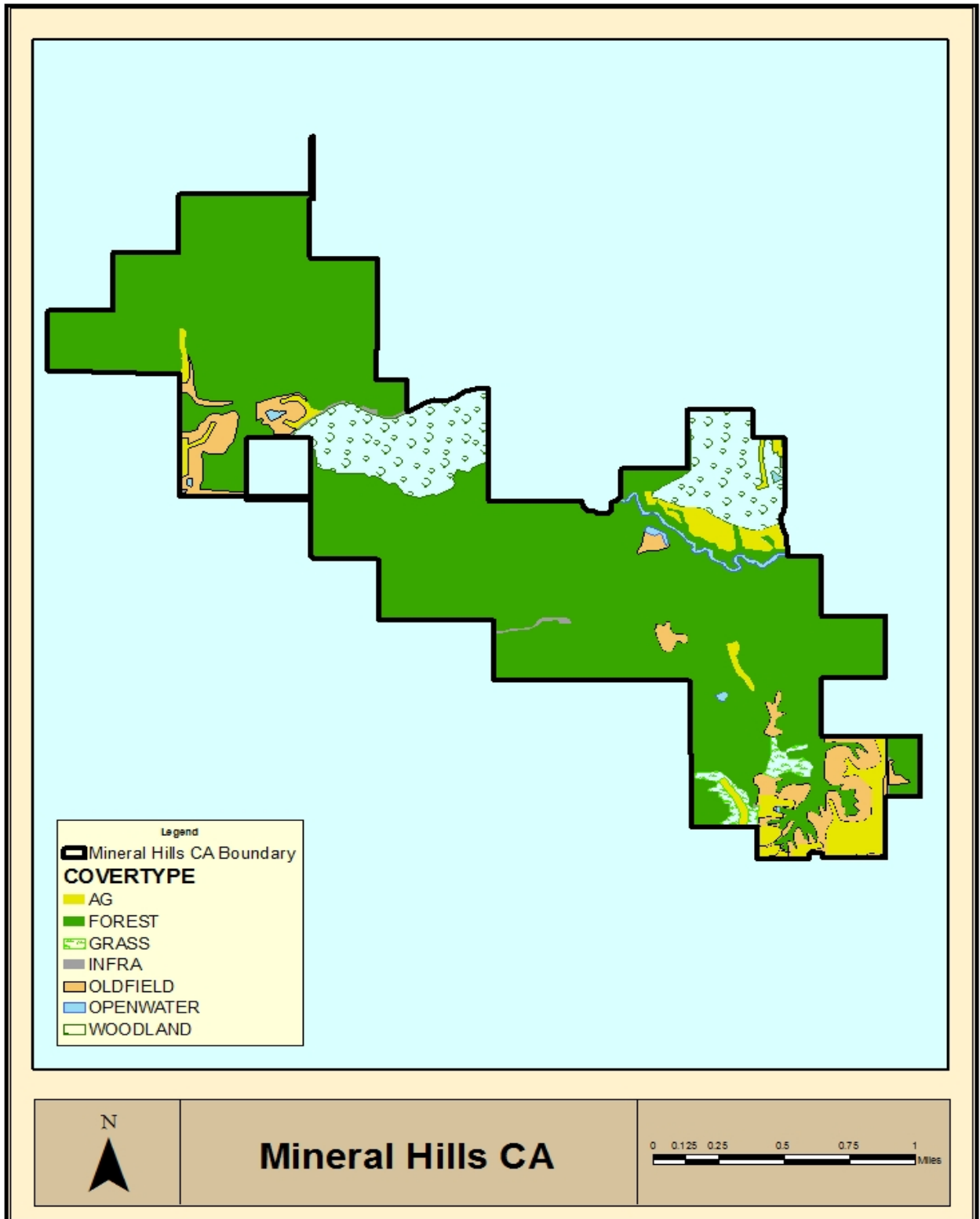


Figure 5: Soils Map

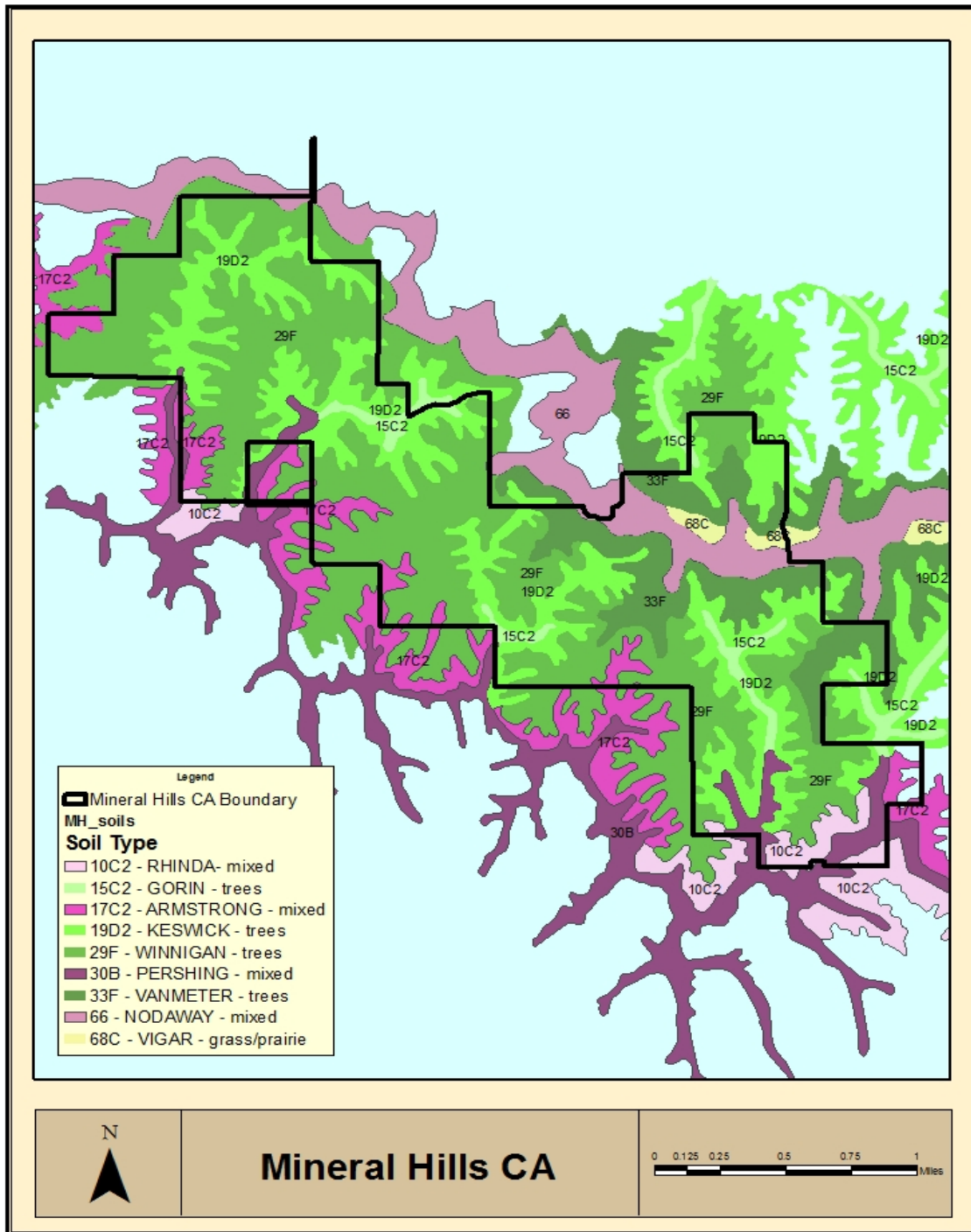
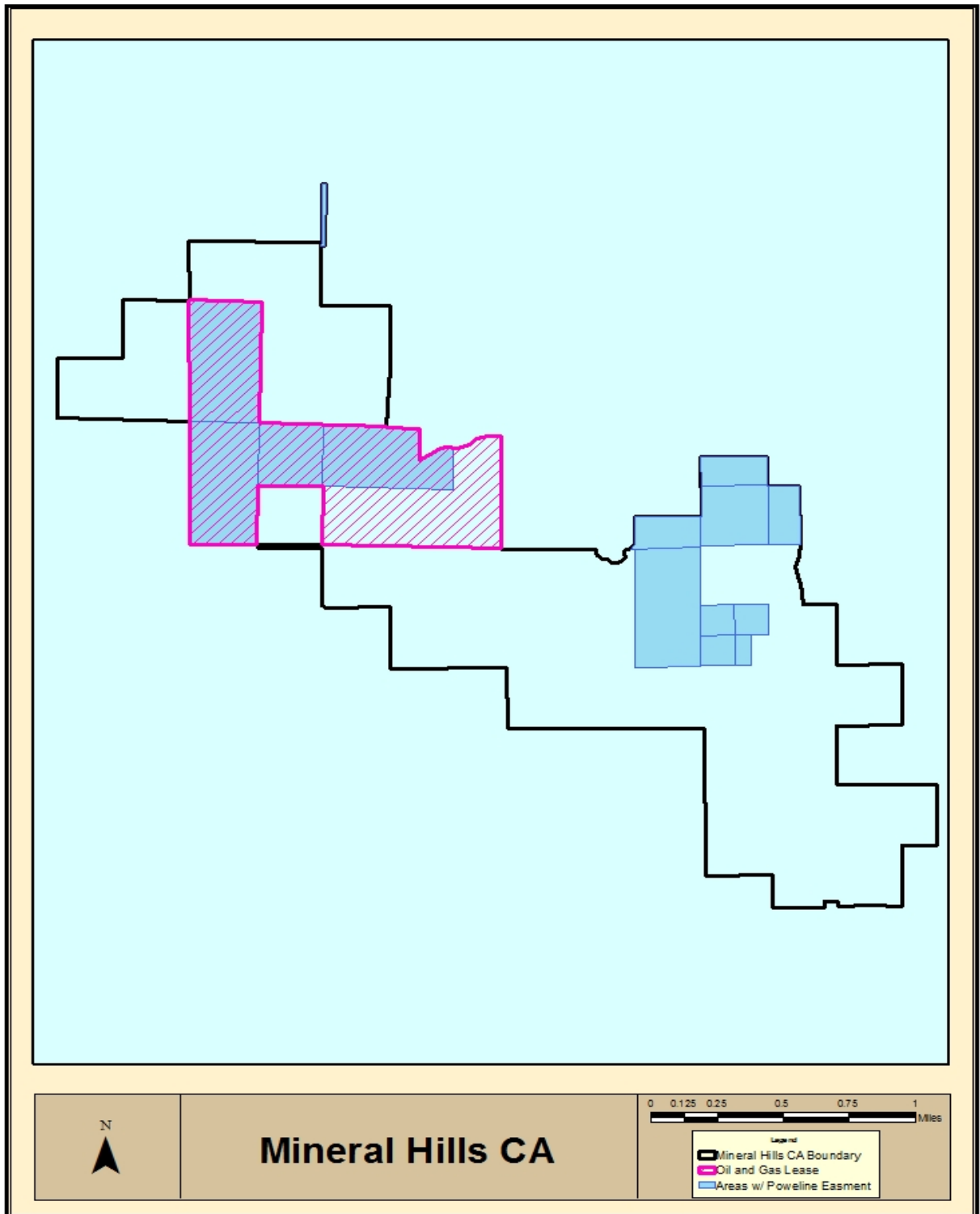


Figure 6: Easement and Lease Map



Appendix A: Mineral Hills Conservation Area Management Plan Public Comments

Received during public comment period (December 1-31, 2015):

In Show-Me Missouri Back Country Horsemen's proposal, Expanding Public Land Multi-use Trails in Missouri, Putnam County is identified as part of an area that is underserved in that there are no public land riding opportunities. Two Conservation Areas, Union Ridge and Rebel's Cove, are identified as preferred units for developing multi-use trail networks to serve the area's equestrians, hikers, and bikers; this preference is strictly based on the larger size of these CAs.

That being said Mineral Hills CA possesses key desirable characteristics: size, topography, soils, landscape position, proximity to good roads, etc. If multi-use trail development on Union Ridge or Rebel's Cove is, for some reason, not approved then consideration should be given to Mineral Hills. Carefully, properly-located single-file multi-use trails on natural surface need not be causes of erosion or cause environmental degradation. SMMBCH recommends that the Department designate 10-12 miles of multi-use trails on Mineral Hills. Our organization offers, subject to availability of volunteers, to assist the Department to lay out and mark trails and install or improve supporting infrastructure.

Thank you for the opportunity to comment.