

DRAFT

Crooked River

Conservation Area

Ten-Year Area Management Plan
FY 2017-2026



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OVERVIEW

- **Official Area Name:** Crooked River Conservation Area, #8314
- **Year of Initial Acquisition:** 1983
- **Acreage:** 1,420 acres
- **County:** Ray
- **Division with Administrative Responsibility:** Wildlife
- **Division with Maintenance Responsibility:** Wildlife
- **Statements of Purpose:**
 - A. Strategic Direction**

Provide, develop, manage, and protect quality upland habitat and associated wildlife species, while providing a variety of outdoor recreational opportunities for the public.
 - B. Desired Future Condition**

The desired future condition of Crooked River Conservation Area (CA) is ecologically healthy forests, woodlands, grasslands, old fields, and riparian habitats.
 - C. Federal Aid Statement**

N/A

GENERAL INFORMATION AND CONDITIONS

I. Special Considerations

- A. Priority Areas:** Cockerel Creek Aquatic Conservation Opportunity Area, Fisheries Priority Watershed
- B. Natural Areas:** None

II. Important Natural Features and Resources

- A. Species of Conservation Concern:** None observed.
- B. Caves:** None
- C. Springs:** None
- D. Other:** This area lies within the Crooked River Woodland/Forest Scarped Hills Land Type Association. This land type consists of moderately broad to gently rolling uplands and angular stepped valley sides created by thin outcroppings of Pennsylvanian limestone and shale. Historically, prairie was present on the narrow uplands with the majority of the land type comprised of a woodland/forest mosaic with limestone glades. (Nigh & Schroeder, 2002)

III. Existing Infrastructure

- Seven parking lots (one is Americans with Disabilities Act [ADA] accessible)
- Shop building
- Two water control structures
- Seven individual campsites (no amenities)
- Three fishing ponds/lake: Pond 1 (1 acre), Pond 2 (1 acre), Oxbow Lake (6 acres)
- 15 non-stocked ponds (4 acres total)
- One wildlife watering hole (0.05 acres)

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:** Several known water and electric easements exist on the area.
- D. Cultural Resources Findings:** Yes, records kept with the 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:** None

MANAGEMENT CONSIDERATIONS

V. Terrestrial Resource Management Considerations

Crooked River CA contains a mix of prairie/grassland, forest, cropland, and old field habitats managed primarily for upland wildlife species.

Challenges and Opportunities:

- 1) Provide a diversity of habitats for wildlife.
- 2) Provide a diversity of food sources for wildlife.
- 3) Control invasive species.
- 4) Control succession.

Management Objective 1: Manage grasslands to provide a diverse plant community of warm- and cool-season grasses, legumes, and forbs in various successional stages. The ideal condition is to maintain the fields with 30 to 50 percent grasses; 30 to 40 percent annuals, forbs or legumes; and 20 to 30 percent bare ground.

Strategy 1: Manage grassland habitats using a combination of techniques, including, but not limited to, prescribed burning, disking, mowing, over-seeding, and chemical treatment of woody vegetation. (Wildlife)

Strategy 2: Work with willing neighboring landowners to expand management beyond Crooked River CA boundaries. (Wildlife, Private Land Services)

Management Objective 2: Maintain and promote healthy upland and bottomland forests to enhance wildlife habitat and forest health.

Strategy 1: Utilize a variety of sustainable forest management techniques to promote healthy forest and woodland communities, including, but not limited to, timber harvesting and sale, forest thinning, firewood cutting, salvage cuttings, tree planting, seeding, and prescribed burning. (Forestry, Wildlife)

Strategy 2: Reforest open areas as appropriate. (Wildlife)

Management Objective 3: Utilize cropping techniques to promote early successional habitat and provide a high energy food source for wildlife, in accordance with the Natural Resources Conservation Service soil conservation plan.

Strategy 1: Rotate crops (corn/beans/wheat and oats or clover) every four years on most open fields. (Wildlife)

Strategy 2: Reduce large grain crops, increase idle fields, and convert some open fields back to the appropriate natural cover. (Wildlife)

Strategy 3: Maintain food plots in non-crop areas. Rotate food plots with sorghum or corn/legume/idle plots. (Wildlife)

Management Objective 4: Manage old field areas to provide nesting and brood-rearing habitat, such as bare ground, annual forbs, warm- and cool-season grasses and shrubs.

Strategy 1: Maintain old field habitats in various successional stages. Use a combination of management techniques, including, but not limited to, prescribed burning, tree removal, disking, mowing, and over seeding. (Wildlife)

VI. Aquatic Resources Management Considerations

Crooked River, a sixth-order stream, is the major drainage on the area. Approximately 2.5 miles of river frontage and approximately 1 mile of other unnamed tributaries exist on the area.

Challenges and Opportunities:

- 1) Maintain riparian corridor width and tree species/size composition.
- 2) Maintain in-stream habitat.
- 3) Monitor and manage gully erosion.

- 4) Provide for quality angling opportunities.
- 5) Control invasive aquatic vegetation and manage for native aquatic vegetation.

Management Objective 1: Maintain riparian corridor and stream habitat conditions on Crooked River CA.

Strategy 1: Inventory riparian and stream habitat conditions on Crooked River CA by March 1, 2017. (Fisheries)

Strategy 2: Implement and maintain good riparian corridor practices on Crooked River CA, based on inventory results and according to *Watershed and Stream Management Guidelines for Lands and Waters Managed by Missouri Department of Conservation* (Missouri Department of Conservation, 2009). (Fisheries)

Strategy 3: Provide demonstration areas for good stream-stewardship cost-share practices recommended by U.S. Department of Agriculture (USDA). (Fisheries)

Strategy 4: Monitor gully erosion throughout the year, every five years. Work with USDA Natural Resources Conservation Service staff to implement appropriate practices where erosion is severe. (Fisheries)

Management Objective 2: Manage for quality angling opportunities in area fishing ponds and Oxbow Lake.

Strategy 1: Conduct fish surveys every three years to monitor for quality sport fish populations. (Fisheries)

Strategy 2: Stock supplemental fish, such as channel catfish, when needed to maintain quality angling opportunities. (Fisheries)

Strategy 3: Install fish attractors, such as brush piles, to enhance sport fish recruitment and add fish holding structures in strategic locations in Oxbow Lake and ponds. (Fisheries)

Management Objective 3: Manage for native aquatic vegetation on area.

Strategy 1: Plant native aquatic vegetation (e.g., water willow, water lily). (Fisheries)

Strategy 2: Remove aquatic nuisance species using techniques such as herbicide treatments. (Fisheries)

VII. Public Use Management Considerations

Crooked River CA receives significant public use during hunting seasons. The most popular hunting seasons include spring turkey, fall firearms deer, and mourning dove. Other upland wildlife, such as bobwhite quail and cottontail rabbits, are hunted to a lesser extent, based on recent reports from wildlife and protection staff.

Challenges and Opportunities:

- 1) Maintain area infrastructure.
- 2) Provide hunting and viewing opportunities.
- 3) Improve educational and interpretive opportunities.
- 4) Build relationships with neighboring landowners.

Management Objective 1: Maintain area infrastructure.

Strategy 1: Maintain area infrastructure in accordance with Department guidelines and at currently identified maintenance level (1). Maintain parking lots, camping areas, bulletin boards, and service roads in a pleasing appearance for area users. (Wildlife)

Management Objective 2: Provide quality public hunting and viewing opportunities.

Strategy 1: Conduct annual management activities that will provide habitat for a variety of species. (Wildlife)

Management Objective 3: Provide educational and interpretive opportunities for the public.

Strategy 1: Annually review the Missouri Atlas database to maintain up-to-date information for the public. (Wildlife)

Strategy 2: Communicate the area's recreational opportunities to the public (e.g., using brochures, Missouri Atlas database). (Wildlife)

Strategy 3: Communicate to educators the potential for using the area as an outdoor classroom (e.g., for ecology classes, school/youth/scout programs, workshops, etc.). (Outreach and Education)

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 Crooked River CA or private property. (Wildlife)

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

VIII. Administrative Considerations

Challenges and Opportunities:

- 1) Consider land for acquisition.

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. (Wildlife)

MANAGEMENT TIMETABLE

Strategies are considered ongoing unless listed in the following table:

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

APPENDICES

Area Background:

Crooked River Conservation Area (CA) is in Ray County, approximately 5 miles north of Richmond on Highway 13, then 3 miles west on Route FF, then 1 mile north on Wildlife Road. Crooked River CA includes 1,420 acres with a wide variety of habitat types including forests, old fields, grasslands, crop fields, streams, and numerous ponds.

Acquisition of the Crooked River CA began in 1983 with funds from the Design for Conservation sales tax. The area was purchased to provide forest and upland wildlife and public land for outdoor recreation.

Current Land and Water Types:

Land/Water Type	Acres	Miles	% of Area
Forest	468		33
Open Fields	360		25.3
Woodland	215		15
Old Field	181		13
Grassland	133		9.3
Food Plots	20		1.4
Impounded water	18		1.3
Wetland	14		1
Infrastructure	11		0.7
Total	1,420		100
Stream frontage		2.5	

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.

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

Maps:

Figure 1: Area Map

Figure 2: Infrastructure and Public Use Facilities

Figure 3: Area Easements

Figure 4: Habitat Cover Types

Figure 5: Forest Stand Boundaries and Management Prescriptions

Figure 6: Area Streams and Ponds

Figure 1: Area Map

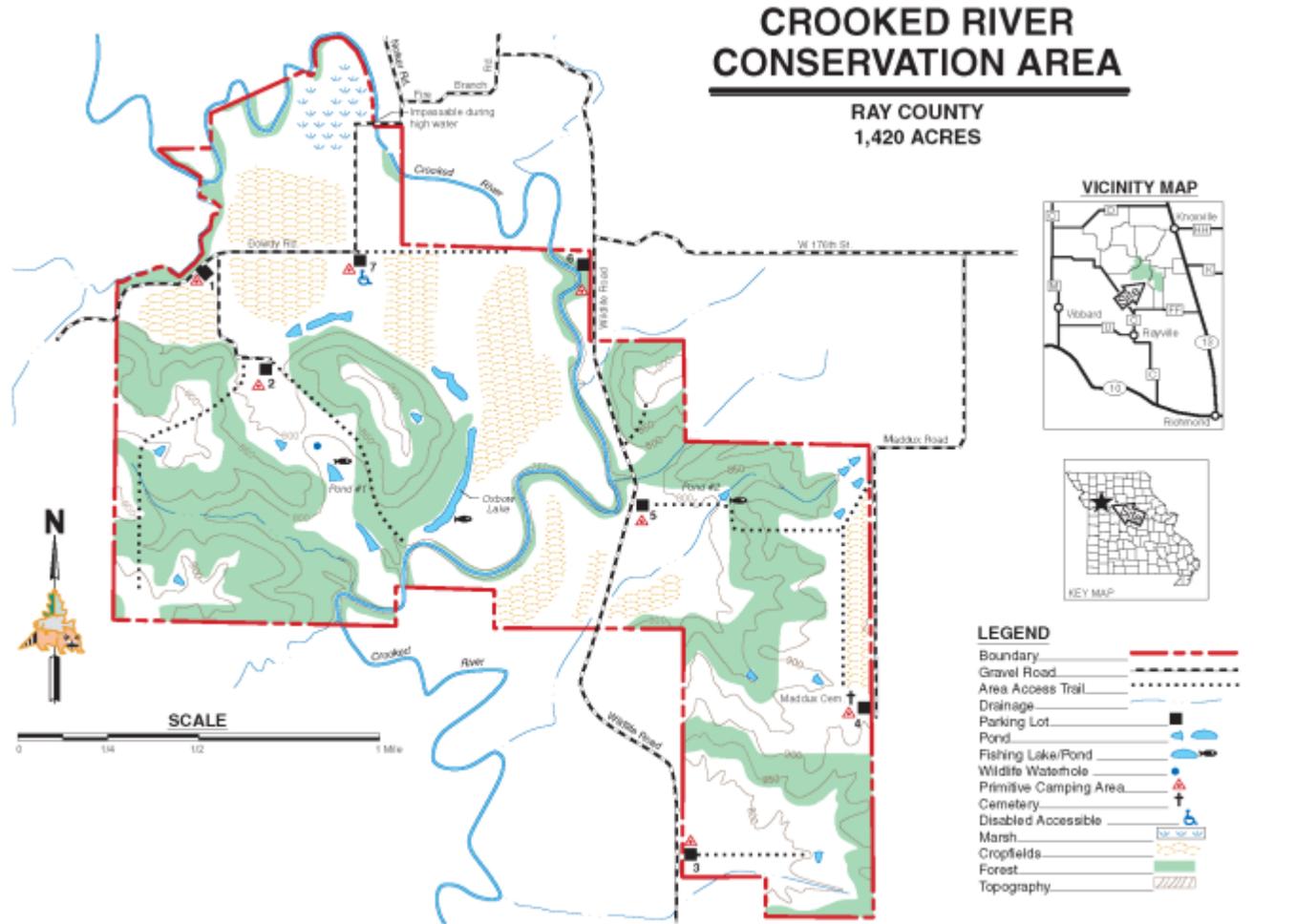
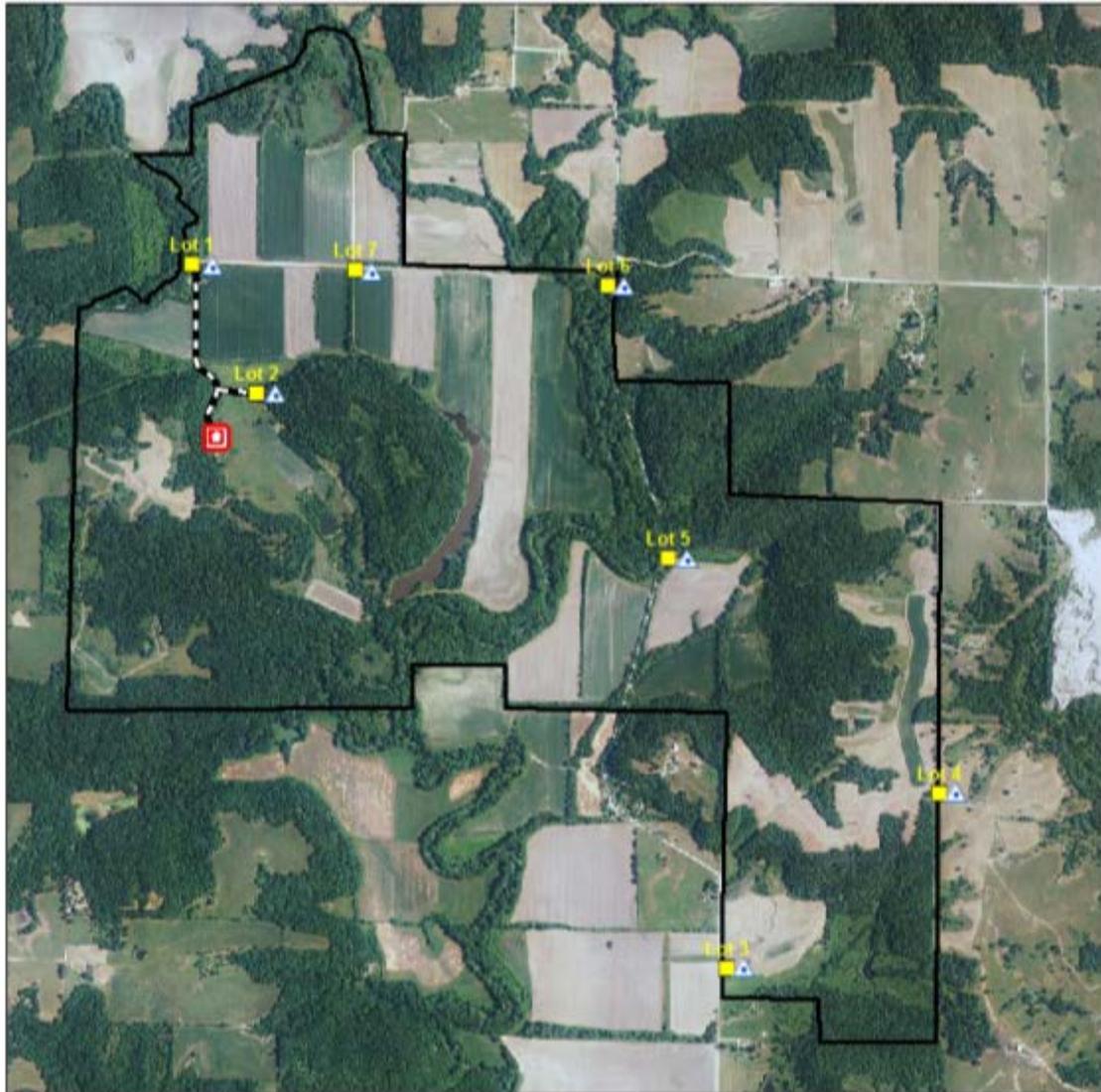


Figure 2: Infrastructure and Public Use Facilities



0 0.125 0.25 0.5 0.75 1 Miles

Legend

-  Maintenance Shed
-  Parking Lot
-  Primitive Camping
-  MDC Gravel Road
-  CRCA Boundary



Figure 3: Area Easements

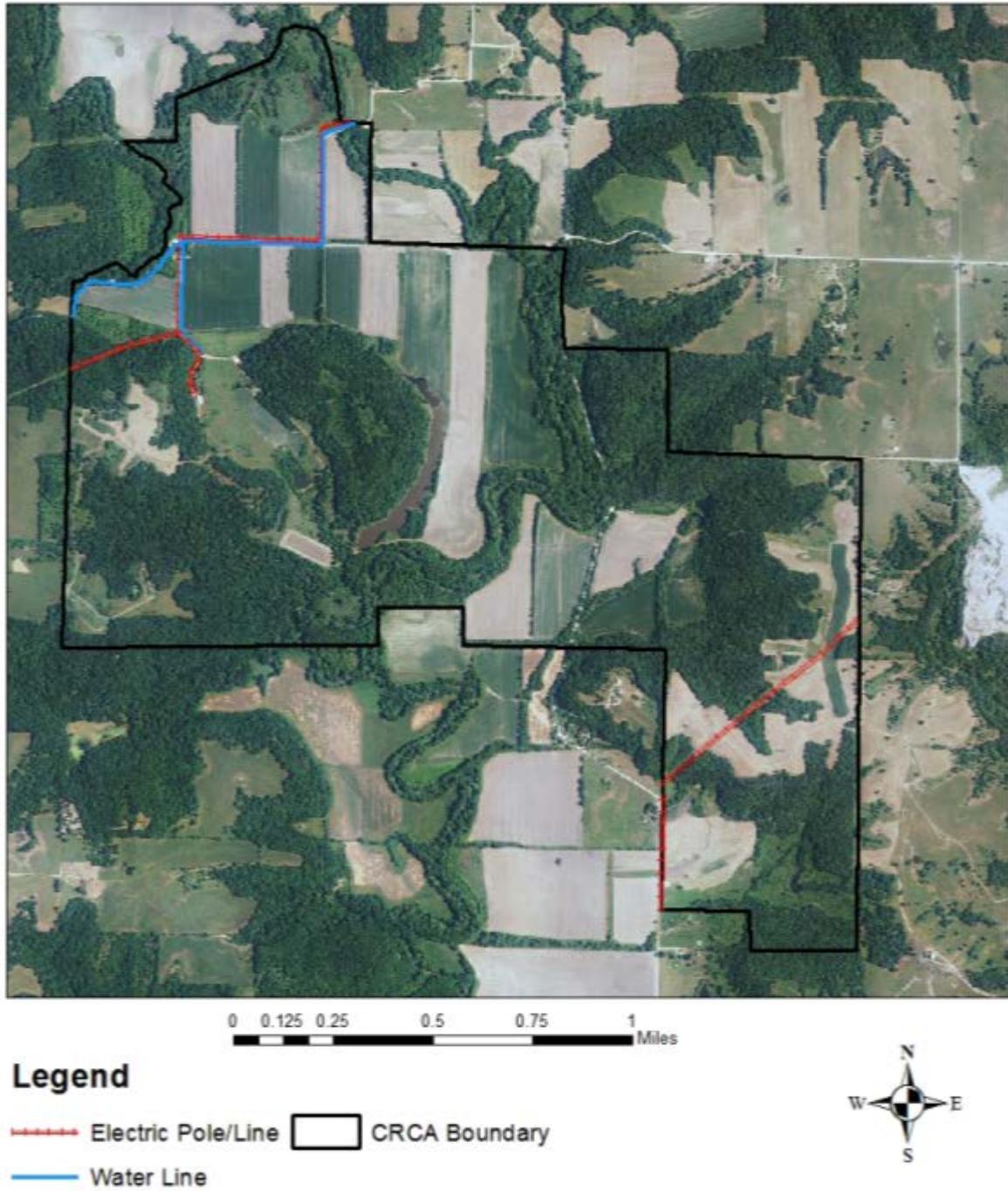


Figure 4: Habitat Cover Types

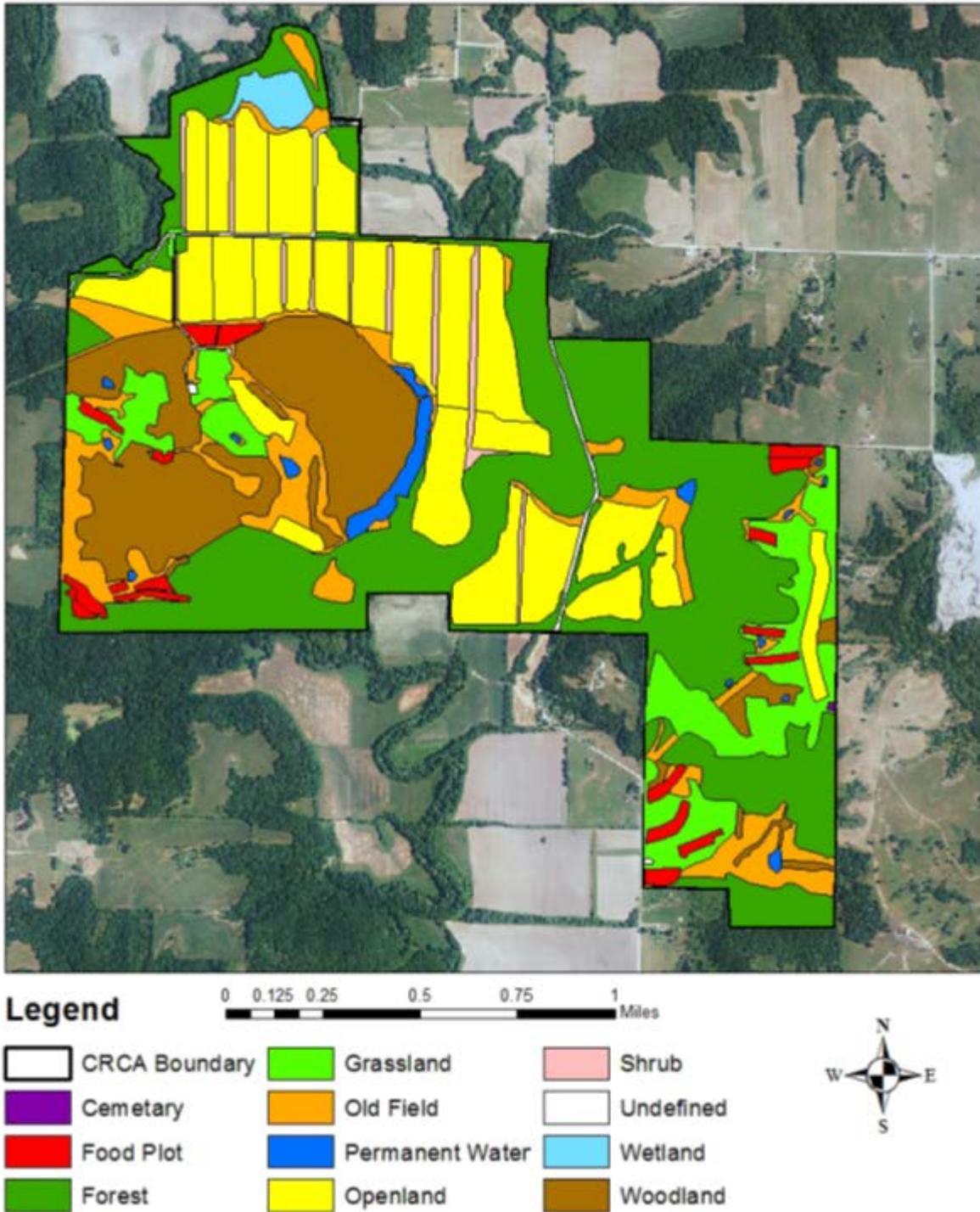


Figure 5: Forest Stand Boundaries and Management Prescriptions

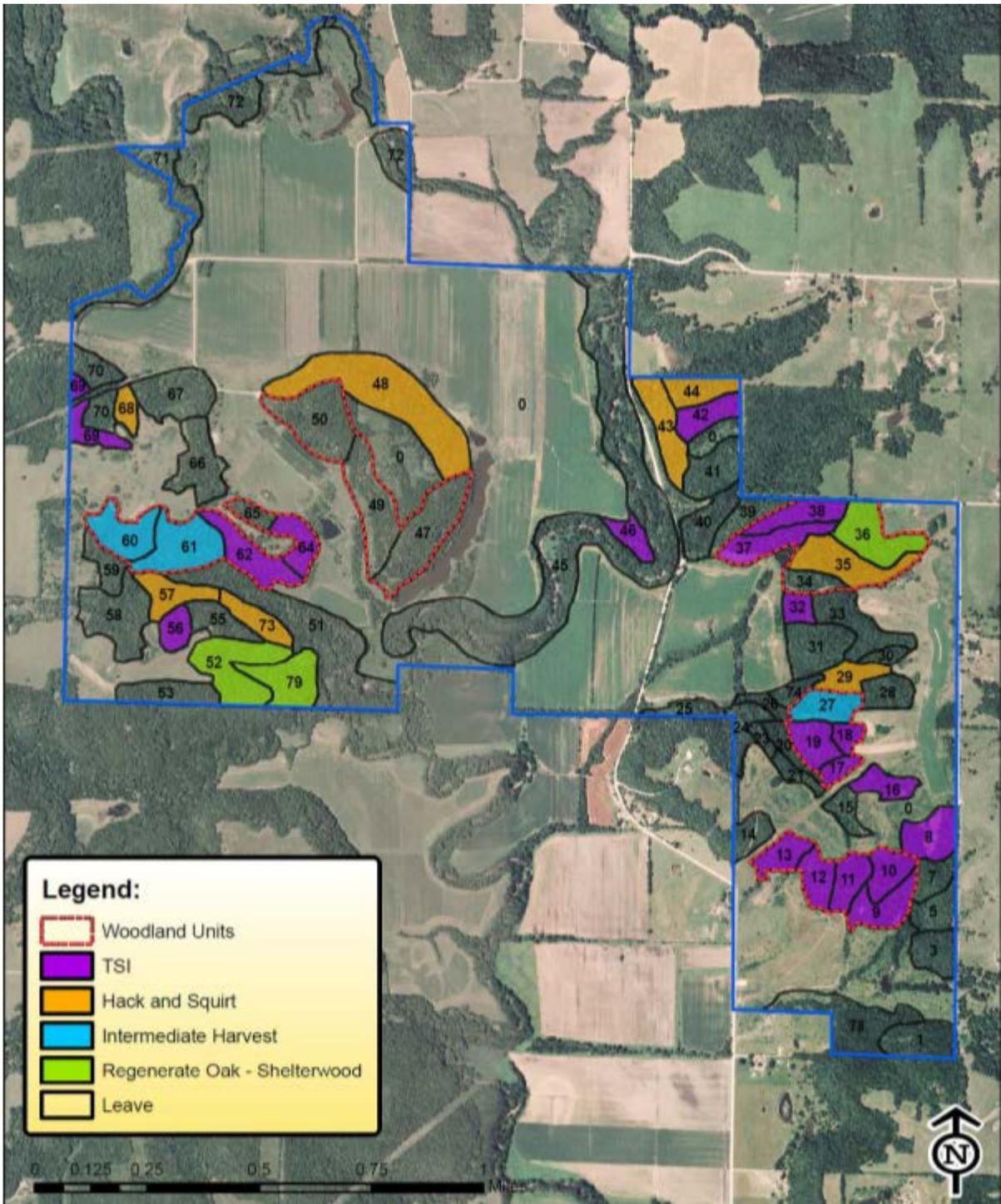


Figure 6: Area Streams and Ponds

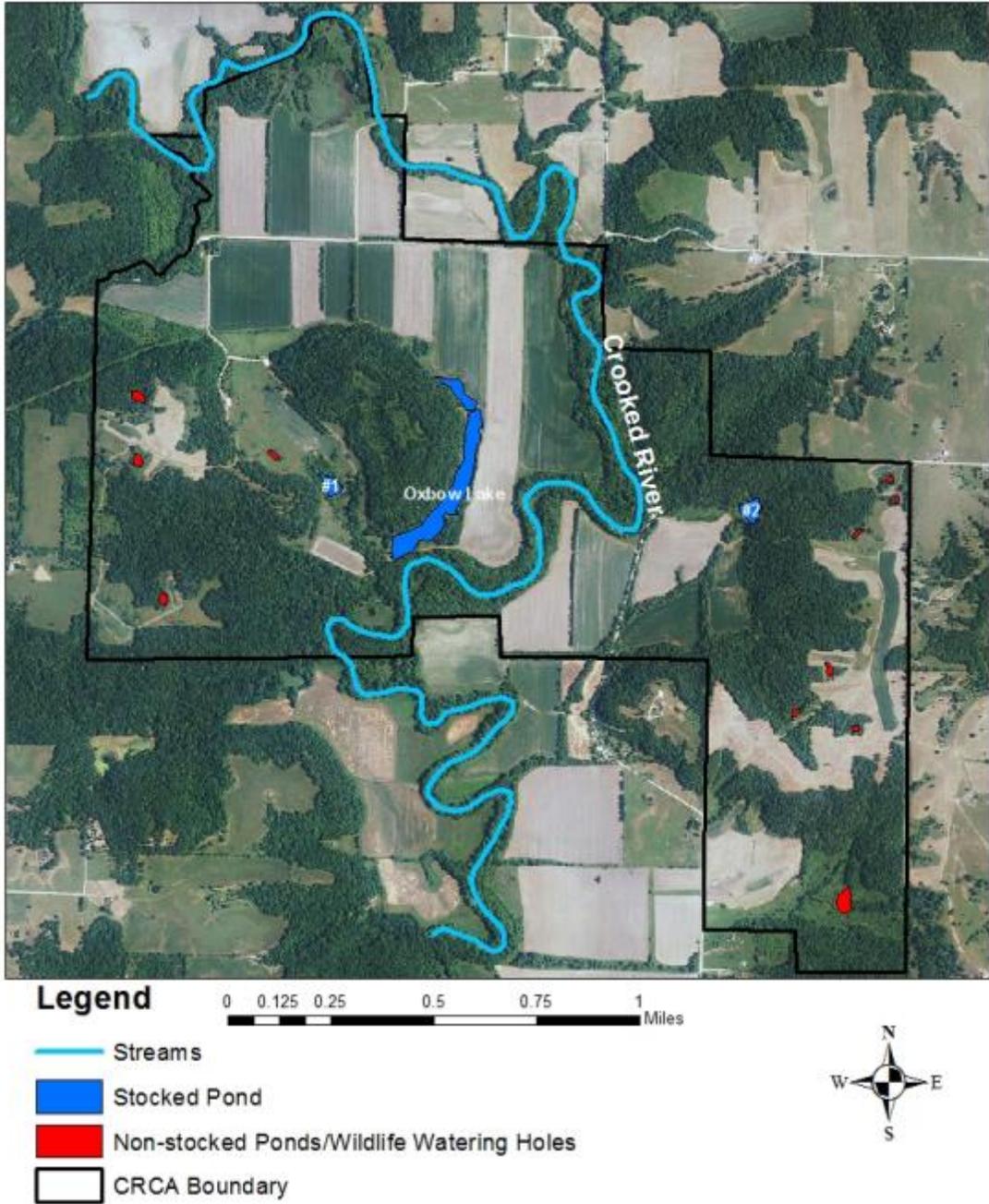
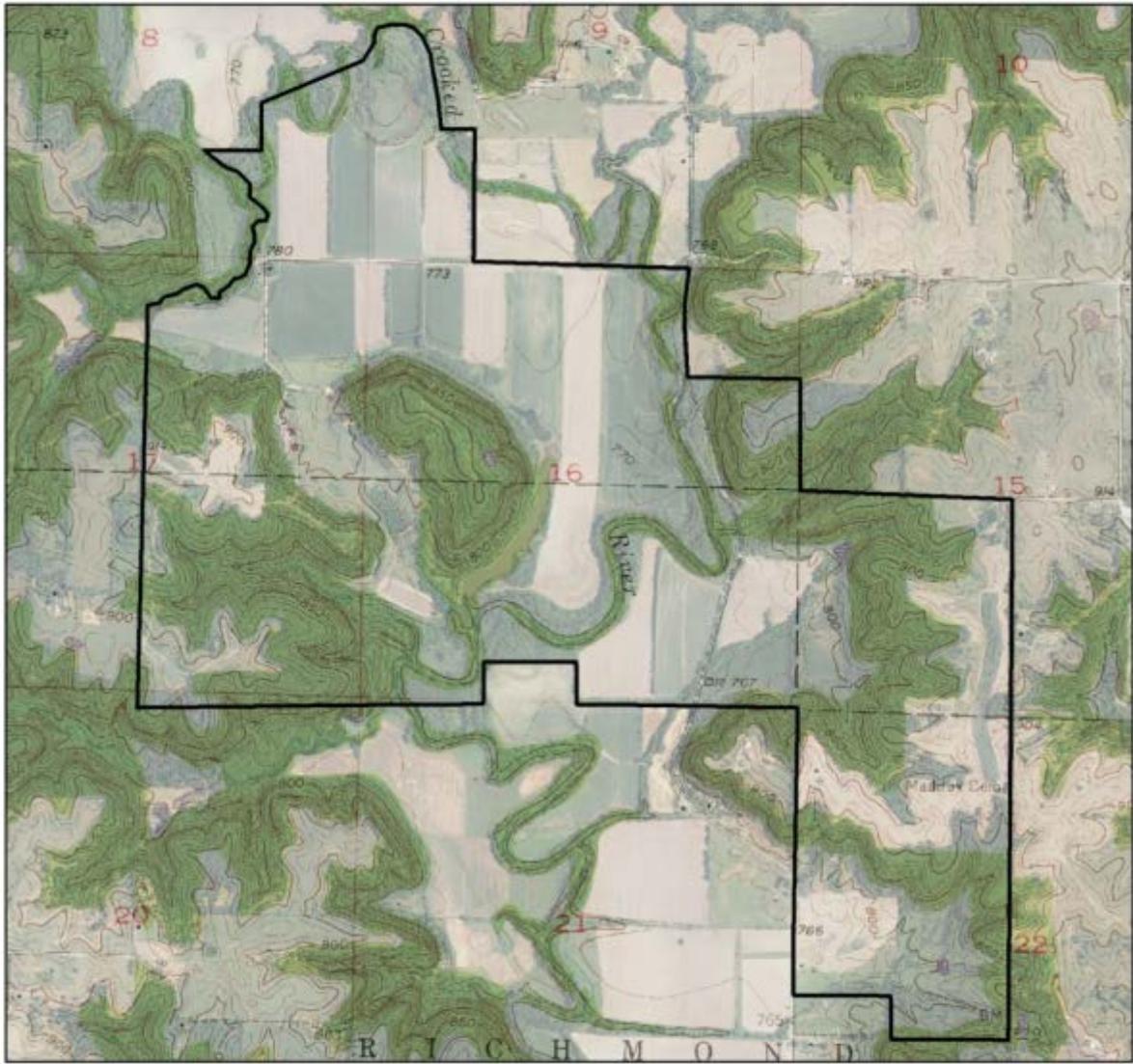
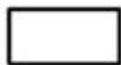


Figure 7: Topographic Map



Legend

 CRCA Boundary



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