

# Mudpuppy Conservation Area

## Ten-Year Area Management Plan FY 2019-2028



*Lisa D. Allen*

Forestry Division Chief

*9-17-18*

Date

## Mudpuppy Conservation Area Management Plan Approval Page

### PLANNING TEAM

Steve Paes, Resource Forester (Area Manager)

John Ackerson, Fisheries Management Biologist

Devin Wood, Private Land Conservationist

Darren Killian, Conservation Agent

Shannon Ehlers, Resource Scientist

Susan Farrington, Natural History Biologist

Sara Bradshaw, Conservation Education Consultant

### OZARK REGION

RCT Chair

Michael D. Smith  
Signature

8-16-2018  
Date

### FORESTRY DIVISION

Forest Management Chief

John Tuttle  
Signature

9/17/18  
Date

## OVERVIEW

- **Official Area Name:** Mudpuppy Conservation Area, #8737
- **Year of Initial Acquisition:** 1988
- **Acreage:** 1,404 acres
- **County:** Ripley
- **Region:** Ozark
- **Division with Administrative Responsibility:** Forestry
- **Division with Maintenance Responsibility:** Forestry
- **Statement of Primary Purpose:**
  - A. Strategic Direction**

Mudpuppy Conservation Area (CA) was purchased to protect and enhance the aquatic features of the Little Black River with emphasis on conserving the habitat for mussel species.
  - B. Desired Future Condition**

The desired future condition of Mudpuppy CA is:

    - A healthy old growth bottomland forest that protects the riparian corridor.
    - Healthy natural communities, including acid seeps, fens, and wetlands that protect and preserve rare plants and animals.
    - Healthy upland forest, woodlands, and wetlands that support neo-tropical migratory songbirds.
    - Grassland wildlife habitat.
  - C. Federal Aid Statement:** N/A

## GENERAL INFORMATION AND CONDITIONS

### I. Special Considerations

- A. Priority Areas:** Most of Mudpuppy CA is within the Little Black Forest and Woodland Conservation Opportunity Area. The number of species and communities of conservation concern present were the criteria for establishing the conservation opportunity area. The entire stretch of river on the area is part of the Little Black River Stream Reach Conservation Opportunity Area. Most of the conservation area is also within the Upper Little Black Priority Landscape and the Upper Little Black Fisheries Priority Watershed. All of the area is part of a Priority Forest Landscape.
- B. Natural Areas:** The 354-acre Spiderlily Natural Area occurs on the Mudpuppy CA. The natural area was established to recognize and protect the high-quality stretch of the Little Black River that is home to over a dozen mussel species, including a federally endangered species, and 60 species of native fish. It also protects high-quality mesic bottomland forest and riverfront forest natural communities and associated species of conservation concern.

**C. Other:** Mudpuppy CA is listed as a destination for the Great Missouri Birding Trail and is part of Audubon's Current/Jacks Fork Watershed Important Bird Area. As well, the 3.5 mile stretch of river within the Mudpuppy CA has been designated an Outstanding State Water Resource by the Missouri Department of Natural Resources.

## **II. Important Natural Features and Resources**

**A. Species of Conservation Concern:** Species of conservation concern are known from the 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 natural history biologist.

**D. Other:** There are several acid seeps, fens, and wetlands on the area.

## **III. Existing Infrastructure**

- Two parking lots
- Two picnic tables
- Levees around the wetland and two pond dams
- Trout Lily Trail (0.25-mile hiking trail)

## **IV. Area Restrictions or Limitations**

**A. Deed Restrictions:** 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:** The Missouri Department of Transportation and Ripley County have easements for Highway BB and County Road BB-2. There are several utility easements, including one with Ozark Border Electric Co-Op for a powerline right of way. The Little Black Watershed Sub-district has an easement to maintain a flood-control lake. One acre of the area is permanently flooded and another 8 acres floods after significant rain events (Figure 2).

**D. Cultural Resources:** Yes, records kept with environmental compliance specialist. Managers should follow best management practices for cultural resources found in the Missouri Department of Conservation (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:** Establishing accurate and identifiable boundary markers is a priority for this property.

## MANAGEMENT CONSIDERATIONS

### V. Terrestrial Resource Management Considerations

#### **Challenges and Opportunities:**

- 1) Maintain healthy forests and woodlands.
- 2) Maintain open fields for wildlife habitat.
- 3) Maintain and enhance species and communities of conservation concern.
- 4) Threats to biodiversity from invasive plants and animals.

**Management Objective 1:** Manage for healthy forests and woodland natural communities.

**Strategy 1:** Conduct a forest inventory of Compartment 2 in Fiscal Year (FY) 2020. (Forestry)

**Strategy 2:** Begin implementation of management recommendations of approved forest inventory in FY2022. (Forestry)

**Strategy 3:** Manage areas designated as old growth according to the *Missouri Forest Management Guidelines: Voluntary Recommendations for Well-Managed Forests* (Missouri Department of Conservation, 2014). (Forestry)

**Management Objective 2:** Continue wildlife management techniques that will provide habitat for a variety of wildlife species.

**Strategy 1:** Maintain the 44 acres of grassland being managed as open lands by mowing, disking, burning, and/or use of herbicide. (Forestry)

**Management Objective 3:** Protect and manage for species and communities of conservation concern.

**Strategy 1:** Manage giant cane stands to provide habitat for species of conservation concern. (Forestry, Wildlife)

**Strategy 2:** Manage and restore sensitive communities, including manual thinning in acid seep areas to encourage herbaceous vegetation. (Forestry, Wildlife)

**Management Objective 4:** Monitor and control invasive plant and animal species as feasible.

**Strategy 1:** Annually assess invasive plant species (e.g., sericea lespedeza and Japanese honeysuckle) and control as feasible. (Forestry, Wildlife)

**Strategy 2:** Monitor for feral hog activity and eradicate any found if feasible. (Forestry, Wildlife, Protection)

## VI. Aquatic Resource Management Considerations

### **Challenges and Opportunities:**

- 1) Reduce sedimentation by protecting and establishing riparian corridors in order to maintain and enhance water quality.
- 2) Protect mussels and other aquatic species of conservation concern.
- 3) Repair and/or replace stream crossings that are identified as restrictive to aquatic organism passage.

**Management Objective 1:** Enhance and/or protect from erosion and irreversible damage, the riparian corridor along Little Black River and tributaries, including springs, seeps, fens, and other unique communities associated with bottomland forests.

**Strategy 1:** Minimize sedimentation to Little Black River and tributaries, resulting from land management practices and/or road systems by following practices recommended in the *Missouri Watershed Protection Practice Recommended Practices for Missouri Forests: 2014 Management Guidelines for Maintaining Forested Watersheds to Protect Streams* (Missouri Department of Conservation, 2014). (Forestry, Design and Development)

**Strategy 2:** Maintain a riparian corridor with a minimum of 100 feet from the top of the bank on each side for third-order streams and larger (Little Black River), as documented in *Watershed and Stream Management Guidelines for Lands and Waters Managed by Missouri Department of Conservation* (Missouri Department of Conservation, 2009). (Forestry)

**Strategy 3:** Maintain a riparian corridor with minimum of 50 feet from the top of the bank on each side for first- and second-order streams (tributaries of Little Black River), according to *Watershed and Stream Management Guidelines for Lands and Waters Managed by Missouri Department of Conservation* (Missouri Department of Conservation, 2009). (Forestry)

**Management Objective 2:** Protect native mussel populations, particularly those of conservation concern.

**Strategy 1:** Monitor mussel populations in cooperation with Resource Science and Fisheries Divisions. (Resource Science, Fisheries)

**Management Objective 3:** Design and maintain appropriate stream crossings to minimize impacts to aquatic communities.

**Strategy 1:** Evaluate stream crossings, as concerns arise, and apply practices, as outlined in the *Watershed and Stream Management Guidelines for Lands and Waters Managed by Missouri Department of Conservation* (Missouri Department of Conservation, 2009). (Fisheries, Design and Development)

## VII. Public Use Management Considerations

### **Challenges and Opportunities:**

- 1) Provide for quality public use opportunities for a variety of activities that are commiserate with protecting natural features on the area.

**Management Objective 1:** Provide public access for recreational uses compatible with area natural resources and protection of endangered species habitat.

**Strategy 1:** Maintain existing roads and parking lots for public use. (Forestry, Design and Development)

**Strategy 2:** Continue to protect the fish, forest, and wildlife resources according to the *Wildlife Code of Missouri* and area plan. (Protection)

## VIII. Administrative Considerations

### **Challenges and Opportunities:**

- 1) Maintain right of way by Ozark Border Electric Co-op.
- 2) Maintain clearly identified area boundary lines.

**Management Objective 1:** Work with Ozark Border Electric Co-op to ensure that methods used to maintain the right of way are compatible with the natural communities and species of conservation concern.

**Strategy 1:** Communicate with Ozark Border Electric Co-op to evaluate methods as needed. (Forestry, Wildlife)

**Management Objective 2:** Provide clearly identified area boundary lines.

**Strategy 1:** Request a survey to identify the south boundary of the 7-acre inholding in FY2019. (Forestry)

**Strategy 2:** Remark boundary lines in FY2026 according to scheduled 10-year rotation. (Forestry)

### **Lands Proposed for Acquisition:**

When available, inholdings and 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:

	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28
<b>Terrestrial Resource Management</b>										
<i>Objective 1</i>										
Strategy 1		X								
Strategy 2				X						
<b>Administrative Considerations</b>										
<i>Objective 2</i>										
Strategy 1	X									
Strategy 2								X		



## APPENDICES

### Area Background:

Mudpuppy Conservation Area consists of 1,404 acres in Ripley County, 8 miles northeast of Doniphan at the end of Highway BB (Figure 1). Missouri Department of Conservation funds were used to purchase the 1,298-acre Littles-Spencer tract in 1988. The primary purpose of the acquisition was to protect the rare mussel species that occurred in this stretch of the Little Black River. Eighty acres were purchased in 1990 to acquire additional river frontage and 17 acres were purchased in 1996 to improve access. Most recently, 0.25 miles of additional river frontage was added to the area with a 10-acre donation from George Michel.

Modern use of the area probably started at the end of the 19th century when the Grandin Mill had extensive pine harvests in the vicinity. An active sawmill was also located a few miles downstream from the area in the community of King Bee. Most of the bottomland forests were eventually cleared for agriculture.

### Current Land and Water Types:

Land/Water Type	Acres	Miles	% of Area
Upland Forest	746		53
Bottomland Forest	503		36
Old Field	95		7
Grassland	44		3
Wetland	15		1
Impounded Water	1		<1
<b>Total</b>	<b>1,404</b>		<b>100</b>
Stream Frontage (permanent)		4.91	

### Public Input Summary:

The draft Mudpuppy Conservation Area Management Plan was available for public comment April 1-30, 2018. The Missouri Department of Conservation received no comments during this time period.

### 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: Missouri Department of Conservation.

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.

Missouri Department of Conservation. (2016). *Natural Heritage database [Arc Geographic Information System datafiles]*. Retrieved from Missouri Department of Conservation shape files.

Nelson, P. W. (2010). *The terrestrial natural communities of Missouri (2<sup>nd</sup> ed.)*. Jefferson City, MO: Missouri Department of Conservation.

**Maps:**

Figure 1: Vicinity Map

Figure 2: Area Map

Figure 3: Topographic/Easement Map

Figure 4: Land and Water Use Map

Figure 5: Aerial Photo

Figure 1: Vicinity Map

Figure 1  
Mudpuppy CA  
Vicinity Map  
Ripley County

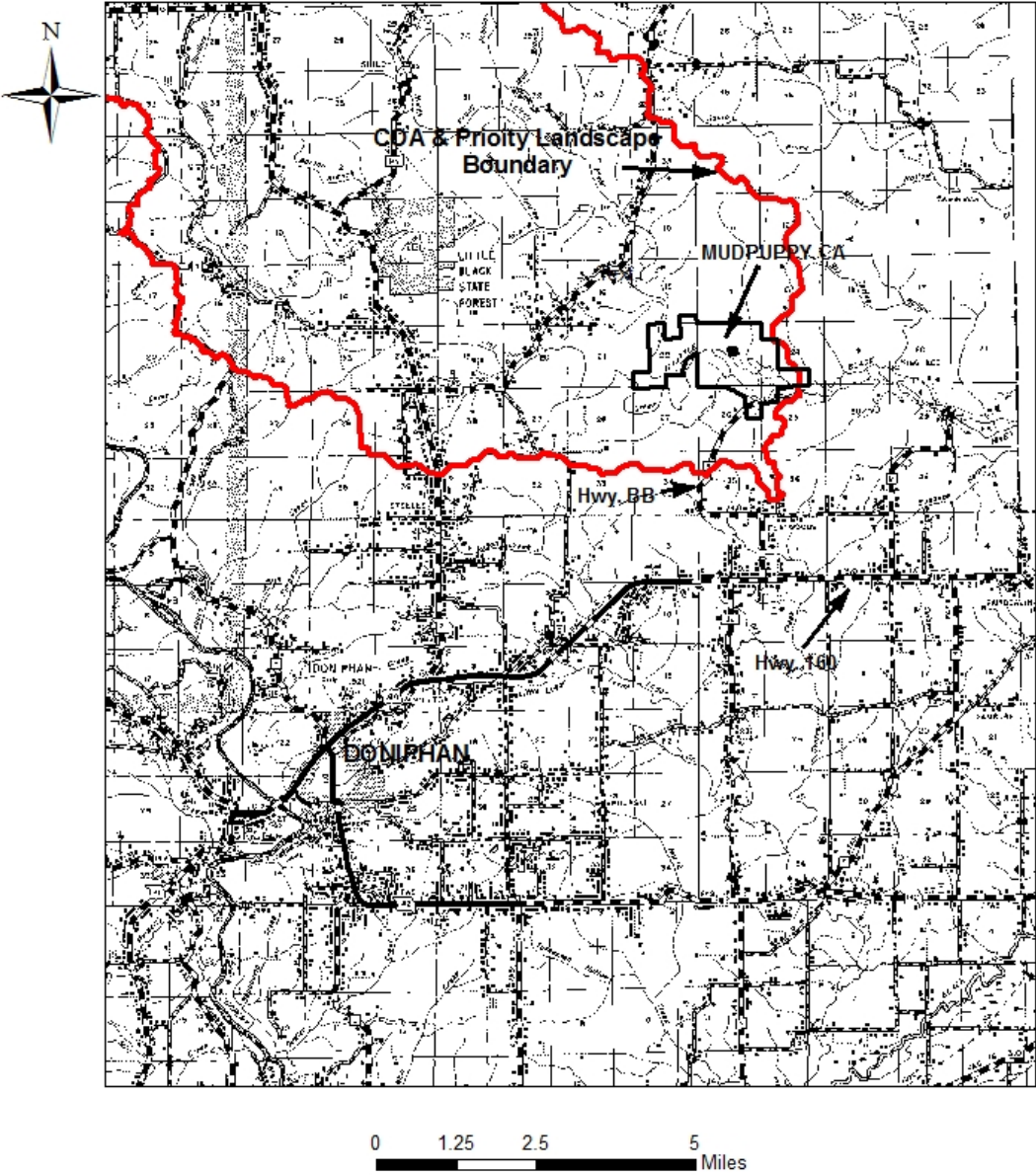
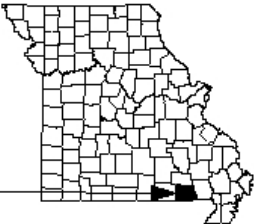


Figure 2: Area Map

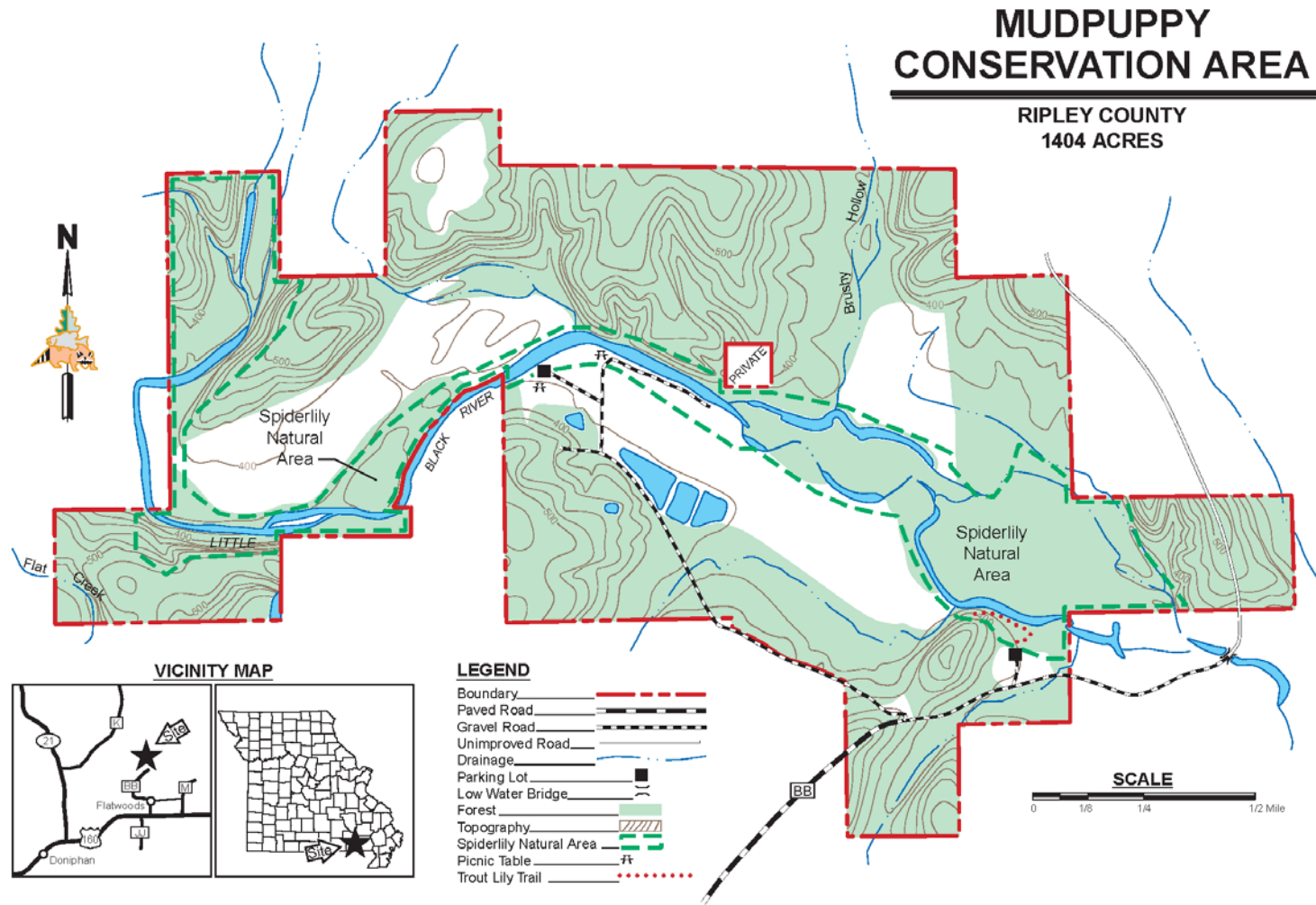




Figure 3: Topographic/Easement Map

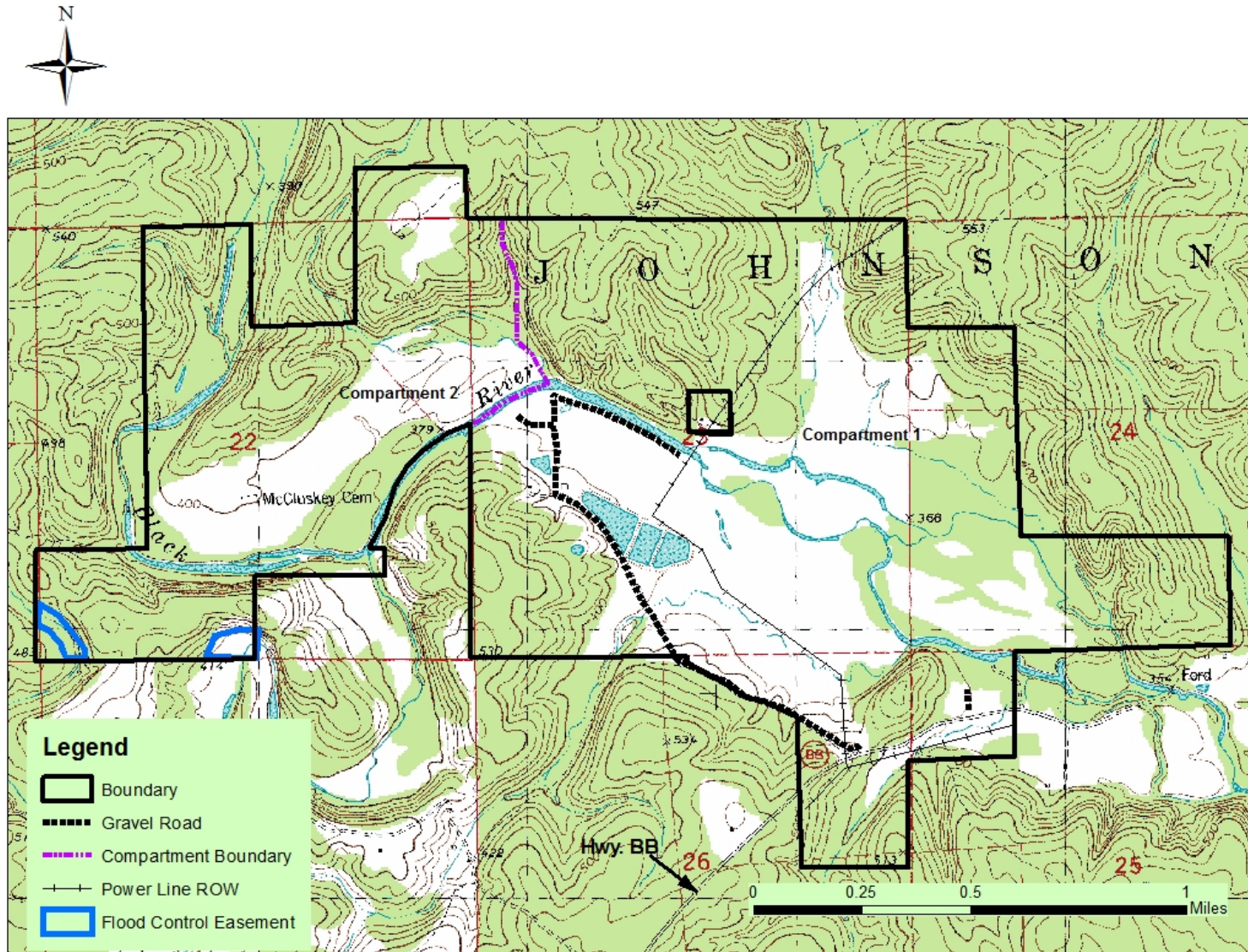




Figure 4: Land and Water Use Map

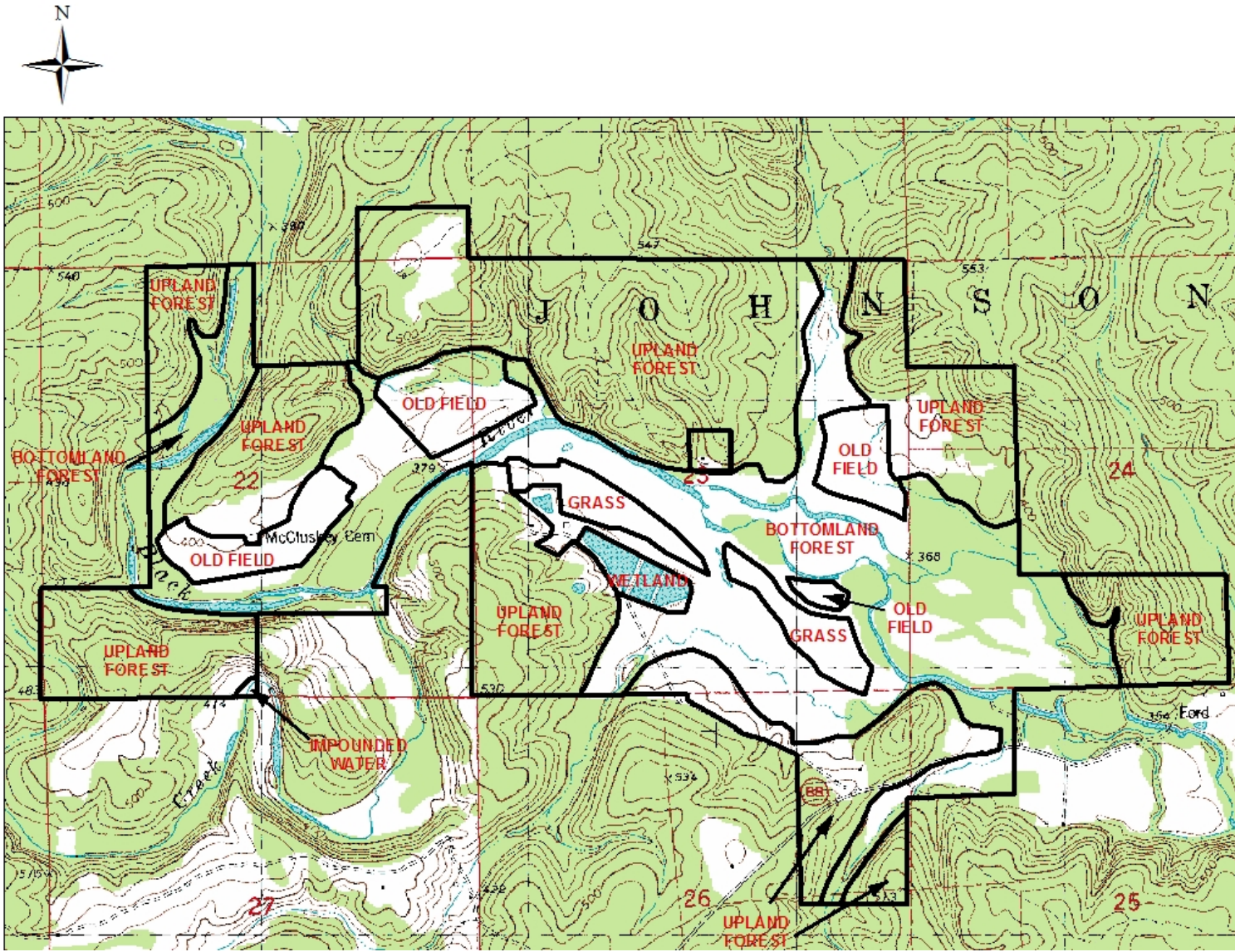




Figure 5: Aerial Photo

