

# Lamine River Conservation Area

## 25-Year Area Management Plan FY 2019-2043



Joel W. Porath

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**Wildlife Division Chief**

3/27/2019

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**Date**

## Lamine River Conservation Area Management Plan Approval Page

### PLANNING TEAM

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### CENTRAL REGION

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Wildlife Management Chief

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## OVERVIEW

- **Official Area Name:** Lamine River Conservation Area, #8304
- **Year of Initial Acquisition:** 1983
- **Acreage:** 6,019 acres
- **Counties:** Cooper and Morgan
- **Region:** Central
- **Division with Administrative Responsibility:** Wildlife
- **Division with Maintenance Responsibility:** Wildlife
- **Statements of Purpose:**

### A. Strategic Direction

Lamine River Conservation Area (CA) provides multi-purpose management of floodplain, river bluff, and upland habitats that support diverse wildlife populations and provide compatible public recreational opportunities.

### B. Desired Future Condition

The desired future condition is a healthy stream system associated with mature bottomland forest, wetland complexes, and limited floodplain cropland. This habitat transitions into river bluffs, to upland communities of woodlands, glades, and grasslands, interspersed with early and mid-successional old fields, shrubby edge, and limited cropland.

### C. Federal Aid Statement

- This area 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, fishing or other compatible wildlife-oriented recreation.
- This area was acquired with Dingell-Johnson Sport Fish Restoration funds to restore and manage sport fish, conserve and restore sport fish habitat (or a buffer to protect that habitat), and provide public access for sport fishing.

## 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. High Quality Natural Communities:** Yes, records kept with Missouri Department of Conservation (MDC) natural history biologist.
- C. Caves:** None
- D. Springs:** None
- E. Other:** Occurs in the Tipton Upland Prairie Plain, Upper Lamine River Savanna-Woodland Dissected Plain, and Lower Lamine River Oak Woodland Forest Hills land types (Nigh & Schroeder, 2002). These land types explain the geographic transition of the Lamine River floodplain to steep river hills and rolling upland terrain on the area. Missouri pre-settlement information, soil and landtype characteristics suggest savanna, woodland, and forest were the vegetation communities in the vicinity. A fringe of prairie existed in open upland flats. Forests along the Lamine River and smaller stream were cleared for cropland or pasture, except for narrow corridors or small patches. Upland woodlands and forests were converted to cropland and pasture, except on steeper, inaccessible hills, and river bluffs. The Lamine River, Richland Creek, Otter Creek, and Flat Creek are natural, un-channelized streams with no flood protection levees.

## **II. Existing Infrastructure**

- One concrete boat ramp
- Twenty parking lots
- Four designated campgrounds without amenities
- Nine fishable ponds (~ 20 total acres)
- Twenty non-stocked ponds (~7 total acres)
- Nine opportunistic wetlands (~ 43 total acres)
- Eight inventoried building/structures

## **III. Area Restrictions or Limitations**

**A. Deed Restrictions or Ownership Considerations:** None

**B. Federal Interest:**

- Uses of land acquired with Pittman-Robertson Wildlife Restoration 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.
- Uses of land acquired with Dingell-Johnson Sport Fish Restoration funds may not interfere with the purpose for which it was acquired. Closures to sport fishing must be based on the recommendations of the state fish and wildlife agency for fish and wildlife management purposes. 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:** Co-Mo Electric Cooperative and Union Electric (Ameren) overhead electric powerlines; Sprint Communications buried fiber optics; Cooper County culvert and bridge; unnamed utility right of way; Missouri Department of Natural Resources informational sign, and abandoned Whiteman Air Force Base buried missile cable.
  - D. Cultural Resources Findings:** Yes, records kept with MDC environmental compliance coordinators. Managers should follow best management practices for cultural resources found in the MDC Resource Policy Manual.
  - E. Endangered Species:** 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.
  - F. Boundary Issues:** None

## MANAGEMENT CONSIDERATIONS

### IV. Terrestrial Resource Management Considerations

Lamine River CA has floodplain, river bluff, and upland landscapes for citizens to enjoy. These landscapes, soils, terrain, and topography create management challenges and opportunities for openlands, woodlands, glades, forests, and wetlands.

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

- 1) Manage openlands to maintain early successional habitats, reduce invasive plant species, and control undesirable woody invasion.
- 2) Manage grasslands for diverse plant communities that benefit quail, grassland wildlife, and small game.
- 3) Manage open lands to provide wildlife benefits.
- 4) Improve woodlands, glades, and forest for natural community conditions to benefit wildlife.
- 5) Manage natural and opportunistic wetlands for seasonal and migratory wildlife benefits.

#### **Management Objective 1: Provide annual disturbance to maintain early to mid-succession old field habitats; emphasize reduction of fescue, invasive plants, and woody invasion.**

Strategy 1: Provide annual disturbance to maintain a diverse interspersed of grasses, forbs, and bare ground for nesting and brood habitat. (Wildlife)

Strategy 2: Provide and maintain desirable shrubby habitat for escape and winter cover, and covey headquarters. (Wildlife)

Strategy 3: Reduce invasive plants and reinvasion of dense monocultures of fescue, brome, and reed canary grass. (Wildlife)

Strategy 4: Control undesirable woody invasion. (Wildlife)

**Management Objective 2: Manage grassland and prairie remnant habitats for quail and grassland wildlife.**

Strategy 1: Favor diverse grass and forb grassland communities with prescribed fire, haying, and explore using grazing to increase bare ground and reduce litter accumulation and woody invasion. (Wildlife)

Strategy 2: Renovate rank warm-season grass plantings to a more diverse grass and forb response using summer and fall burns, and mechanical and chemical means to control invasive plants, fescue, and undesirable woody invasion. (Wildlife)

Strategy 3: Investigate using light to moderate grazing, where practical, to reduce dense grass and ground litter, and increase bare ground for nesting, bugging, and brood habitat for quail, grassland birds, and small game. (Wildlife)

**Management Objective 3: Manage open land with agricultural conservation benefits for wildlife.**

Strategy 1: Manage open land acres through permittee farmers and area staff using crop rotations and conservation practices. (Wildlife)

Strategy 2: Incorporate idle acres, legumes, and cover crops to create wildlife food and cover, complement soil health, and sustain early successional habitat. (Wildlife)

Strategy 3: Expand dove and small-game habitat through permittee bartered and contract plantings of small grains, green browse, and standing crops. (Wildlife)

Strategy 4: Continue open land reductions that consider flood-prone risk and alternative wildlife habitat benefits and management. (Wildlife)

**Management Objective 4: Manage glade, woodlands, and forests, and monitor overall forest health.**

Strategy 1: Remain up-to-date on the inventory schedule to reassess forest and woodland conditions. (Forestry)

Strategy 2: Utilize a variety of sustainable forest management techniques to promote healthy forest and woodland communities including, but not limited to, timber harvesting, forest 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 forest management, as described in MDC's manuals: *Missouri Watershed Protection Practice* manual (MDC, 2014b) and the *Missouri Forest Management Guidelines: Voluntary Recommendations for Well-Managed Forests* (MDC, 2014a). (Forestry)

Strategy 5: Continually monitor the overall health of the forest to address insect, disease, or abiotic factors that may arise. (Forestry)

**Management Objective 5: Manage natural and opportunistic wetlands.**

Strategy 1: Manage water control and disturbance in existing opportunistic wetlands to promote quality moist management and recreational opportunity. (Wildlife)

Strategy 2: Improve function of existing opportunistic wetlands through sediment removal and control of woody invasion. (Wildlife)

Strategy 3: Monitor and control nuisance and invasive aquatic plants like American lotus and reed canary grass. (Wildlife)

Strategy 4: Continue converting former crop fields in the floodplain to wetlands or bottomland forest where appropriate. (Wildlife, Design and Development)

**V. Aquatic Resource Management Considerations**

**Challenges and Opportunities:**

- 1) Maintain area ponds for use by multiple wildlife species.
- 2) Manage fish populations in area ponds.
- 3) Monitor fish populations in area streams.

**Management Objective 1: Maintain healthy ponds that support aquatic and terrestrial wildlife needs.**

Strategy 1: Monitor the health of the small ponds on an annual basis, and address any emerging problems as needed. (Wildlife, Fisheries)

**Management Objective 2: Manage fish populations and provide public fishing opportunities.**

Strategy 1: Perform electrofishing surveys every three years to assess the fish population in lakes. (Fisheries)

Strategy 2: Maintain fish habitat structures to enhance the fishery and fishing opportunities. (Fisheries)

Strategy 3: Provide annual maintenance stocking of 8-to-12-inch channel catfish to maintain the channel catfish population. (Fisheries)

**Management Objective 3: Monitor stream fish and mussel population trends and health through surveys and observation.**

Strategy 1: Conduct periodic electrofishing and seining of area streams.

(Fisheries)

Strategy 2: Conduct periodic mussel bed surveys. (Fisheries)

**Management Objective 4: Implement and maintain beneficial riparian corridor practices, as outlined in MDC's *Watershed and Stream Management Guidelines for Lands and Waters Managed by Missouri Department of Conservation* (MDC, 2009).**

Strategy 1: Periodically monitor habitat conditions of area streams. (Fisheries, Forestry)

Strategy 2: Identify riparian corridors that need to be widened and establish appropriate vegetation using tree planting, direct seeding or allowing natural regeneration. (Forestry)

**VI. Public Use Management Considerations**

**Challenges and Opportunities:**

- 1) Promote wise public resource use and outdoor recreational opportunities.
- 2) Monitor wildlife populations, management practices, and public use of resources.

**Management Objective 1: Provide area users with inviting compatible multiple-use opportunities for outdoor recreation, education, and information.**

Strategy 1: Maintain accurate area information and regulations through MDC's website, area brochures, posted area information, and staff contacts with area users. (Wildlife)

Strategy 2: Maintain walk-in field trails, lake dams and shorelines, camping areas, and boat ramp facilities. (Wildlife)

Strategy 3: Promote compatible uses for hunting, fishing, birding, hiking, and nature photography. (Wildlife)

Strategy 4: Consider Special Use Permits for designated, compatible area uses. (Wildlife)

Strategy 5: Seek to prevent or resolve any multiple-use interests and conflicts. (Wildlife)

**Management Objective 2: Monitor wildlife population trends through surveys and observation.**

Strategy 1: Conduct monitoring protocols for wildlife populations that could include quail, songbirds, deer, turkeys, small game, and bats. (Wildlife)

Strategy 2: Evaluate wildlife population trends with habitat use, management, and public use. Share findings with managers, researchers, and area users. (Wildlife)

Strategy 3: Encourage area user input of wildlife observations and harvest to compliment monitoring. (Wildlife, Fisheries, Forestry, Protection)

Strategy 4: Evaluate monitoring and management to support multiple area uses and area regulations. (Wildlife)

## **VII. Administrative Considerations**

### **Challenges and Opportunities:**

- 1) Maintain facilities and infrastructure to keep the area inviting for public use.
- 2) Consider land acquisition opportunities as they arise.

### **Management Objective 1: Maintain infrastructure for public use.**

Strategy 1: Dispose of unnecessary structures through bid process. (Wildlife)

Strategy 2: Monitor and maintain area and boundary signage. (Wildlife)

Strategy 3: Maintain public use facilities that include parking areas, camping areas, service roads, lake dams, and shorelines. (Wildlife)

### **Management Objective 2: Maintain clearly identified property lines.**

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

Strategy 2: Resolve boundary issues with adjoining landowners as they arise. (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 MDC priorities, as identified in the annual MDC land acquisition priorities, may be considered.

## MANAGEMENT TIMETABLE

Strategies are considered ongoing unless listed in the following table:

	Fiscal Year																										
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043		
<b>Terrestrial Resource Management Considerations</b>																											
<i>Objective 2</i>																											
Strategy 3	X		X		X		X		X		X		X		X		X		X		X		X		X		X
<i>Objective 3</i>																											
Strategy 4	X	X	X		X			X			X			X			X			X			X				
<i>Objective 4</i>																											
Strategy 1		X								X		X		X				X					X				
Strategy 2			X	X	X	X				X				X				X			X				X		
<i>Objective 5</i>																											
Strategy 2						X						X						X								X	
Strategy 4	X	X														X				X						X	
<b>Aquatic Resource Management Considerations</b>																											
<i>Objective 2</i>																											
Strategy 1			X			X			X			X			X			X			X				X		
<i>Objective 3</i>																											
Strategy 1		X				X				X				X				X						X			
Strategy 2			X				X				X				X				X						X		
<b>Administrative Considerations</b>																											
<i>Objective 1</i>																											
Strategy 2		X					X					X					X							X			

## APPENDICES

### Area Background:

The Lamine River Conservation Area (CA) was acquired in 1983 as a single ownership of 5,563 acres, known as the Nietzert-Stahl farm. The area, located on the Cooper/Morgan county line near Otterville, is named for the Lamine River, a prominent feature of the area.

As early as 1723, lead was discovered on the river by a French prospecting party guided by Director General Phillip Renault. The name Lamine refers to the early river name Riviere a la Mine or “river of the mine.” During the Civil War, La Mine crossing was a location where the railroad bridge crossed the river east of Otterville. The railroad and bridge were of strategic importance for Union supplies and in 1861 Union troops dug entrenchments to protect the bridge crossing. A Missouri Department of Natural Resource kiosk is located on the area immediately west of the Lamine River bridge that displays the historical account of the Civil War events and Union entrenchments

### Current Land and Water Types:

Land/Water Type	Acres	% of Area	Miles
Old Fields	1,553	26	
Forest	1,470	24	
Openland (Cropland/Food plot)	1,423	24	
Woodland/Glade/Savanna	959	16	
Grassland	304	5	
Wetland (wetlands, sloughs, streams)	267	4	
Lakes and Ponds	27	< 1	
Infrastructure	16	< 1	
<b>Total</b>	<b>6,019</b>	<b>100</b>	
Permanent Stream Frontage – Lamine River			12.0
Permanent Stream Frontage – Richland Creek			1.6
Permanent Stream Frontage – Otter Creek			1.25
Permanent Stream Frontage – Flat Creek			0.4
Intermittent Stream Frontage			6.0

### Public Input Summary:

The draft Lamine River Conservation Area Management Plan was available for a public comment period Nov. 1–30, 2018. MDC received comments from six respondents (Appendix A). The Lamine River 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.

MDC responses to themes and issues identified through the Lamine River Conservation Area Management Plan public comment period.

### **Terrestrial Resource Considerations**

#### **Suggests completing the wetland area at the northeast end of Deer Run Land.**

We would like to develop some more opportunistic wetlands on the area, but they require a considerable planning and investment and are not a priority at this time.

#### **Suggests increasing native grasslands on the area (in place of agricultural lands) to benefit wildlife.**

The area has considerably less agricultural land on it currently compared to what it had when it was acquired. We do consider increasing native grass acres, but they will not stay in grass cover unless we can give them more management effort (the grasslands will grow up in trees and shrubby cover). We often idle crop fields for a season or two to provide for herbaceous cover for wildlife.

Most of the area crop fields are in the Lamine River bottoms and historically were more likely to be forested than in grassland. As crop fields are idled, some will occasionally be put back into crops to keep them from getting too brushy; others will be allowed to succeed naturally to old field, then brush and eventually forest; and others may be restored to grass/forb mixes.

#### **Would like to see more hardwood trees on the areas. Suggests leaving hardwood trees so that they can grow.**

Approximately 40 percent of the area is covered by trees and it has been several decades since there has been a timber sale on the area. Forest inventories do take into account the health and composition of the forests.

Some parts of the area will be left to naturally succeed to tree and shrub cover, on other wooded sites we may thin the existing trees to benefit wildlife that prefer an open understory and lush forest floor community. We will continue efforts to remove non-native and invasive tree species, such as Siberian elms, black locust, red cedar, etc.

#### **Suggests restocking quail at Lamine River CA since this area has suitable land cover for them. Would like to know why quail are not on this area.**

There are quail on the area. Management methods for quail and other small game species are focused on vegetation management rather than stocking efforts which do not produce good results. Annual variation in quail numbers may be a product of poor weather during nesting periods, lack of prescribed fire, and succession from open and brushy habitats to more woody

conditions. We will continue to manage parts of the area for grassland and early successional habitats favorable to quail and other species.

**Suggests removing more fescue on the area.**

Many of the fescue fields have been treated multiple times over the last 20 years. Fescue is nearly impossible to completely eliminate via any method other than placing under an intense agricultural production rotation. Fescue will slowly rebound over time following any treatments that we can implement. Reducing fescue via prescribed fire and herbicide use will remain a priority.

**Suggests using less herbicide to remove invasive species.**

The selective use of herbicides according to label directions is the only economically viable alternative that we have for attempting to control the invasive species on the area. We use other practices, such as disking, burning, mowing, and chainsaws to control invasive species, but without an herbicide follow-up, most of these methods simply set back the invasive species rather than kill them.

**Suggests planting more pearl millet, grain sorghum, cowpea, and partridge pea.**

Various sorghums, millets, and legumes have all been used in food plots scattered across the area. While we haven't tried cowpeas specifically, we are open to trying new food plot ideas. Grain sorghum was grown for a couple of years as a commercial crop by a permittee farmer, but Johnson grass was a serious issue and the crop was discontinued.

**Public Use Considerations**

*Hunting*

**Suggests removing the antlers only restriction at this area. Doe appear to be abundant at this area. (2 comments)**

Lamine is no longer a "bucks only" conservation area. Antlered and antlerless deer may both be harvested. If harvesting an antlerless deer on the area a hunter must use their "Any deer" permit. "Antlerless only" permits are not allowed on this area.

*Trails*

**Suggests making the paths to the pond more accessible. Has difficulty walking the terrain to the ponds.**

Trails to the five larger area ponds are mowed five to six times per year as part of regular maintenance. We suggest calling 660-366-4652 and visiting with area staff to see if there is a particular pond that staff could mow in perhaps a different manner to help you with access.

**Suggests adding more horse-riding trails to this area.**

Horseback riding is not allowed on this area except on public roadways. Nearby Prairie Home Conservation Area has multi-use trails where horses can be ridden.

**Suggests adding more bike-riding trails to the area (e.g., trails that are easily accessible for bikes).**

Bicycling is not allowed on this area except on public roadways. Nearby Prairie Home Conservation Area has multi-use trails where bikes can be ridden.

**General Comments**

**Appreciates this area and how it is managed. Keep up the good work. (2 comments)**

Thank you very much!

**References:**

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

**Maps:**

Figure 1: Area Map

Figure 2: Land Cover Map

Figure 3: Aquatic Resources Map

Figure 4: Woodland/Forest Inventory Map

Figure 5: Infrastructure and Easement Map

**Additional Appendices;**

Appendix A: Lamine River Conservation Area Management Plan Public Comments

Figure 1: Area Map

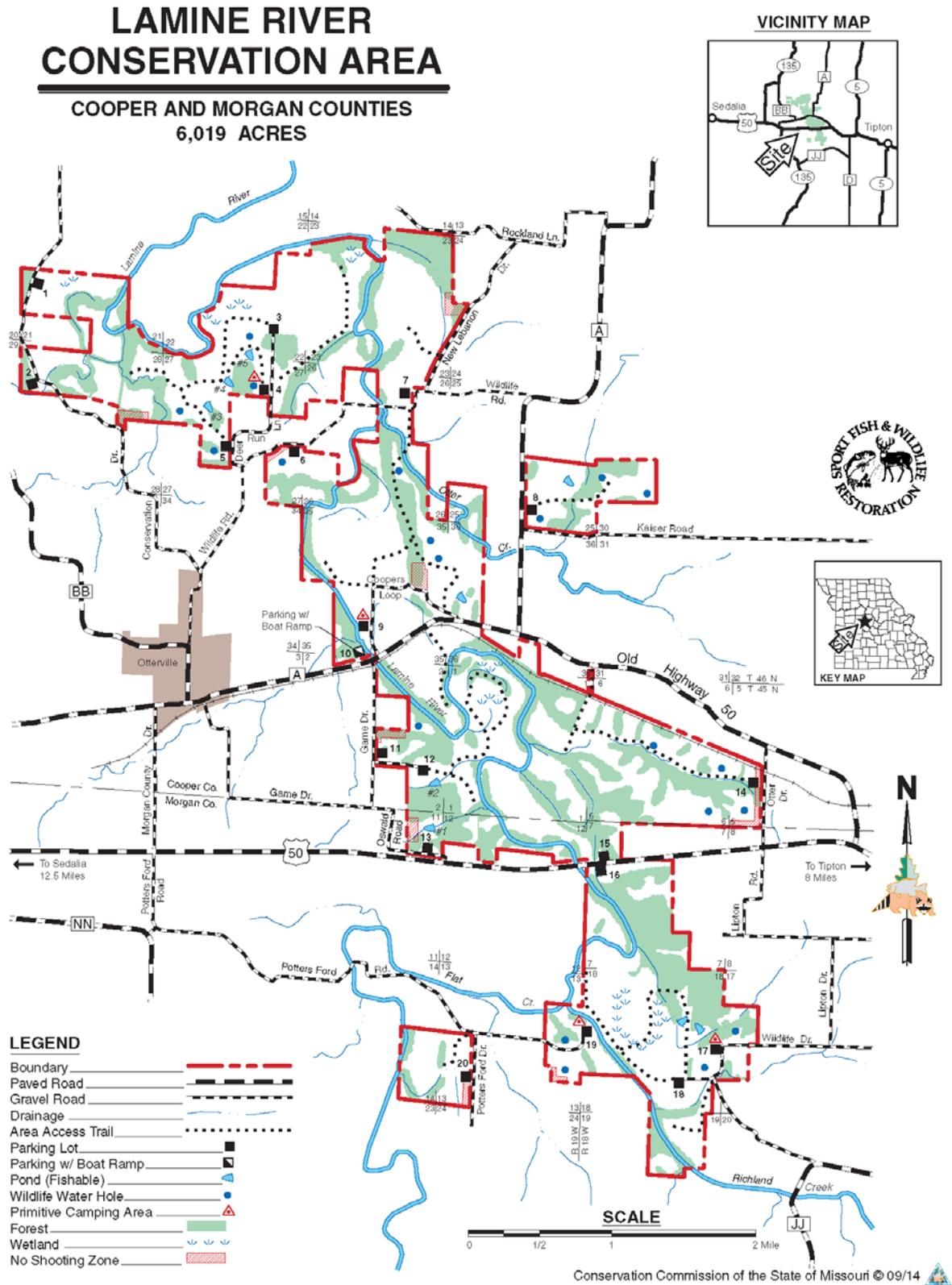
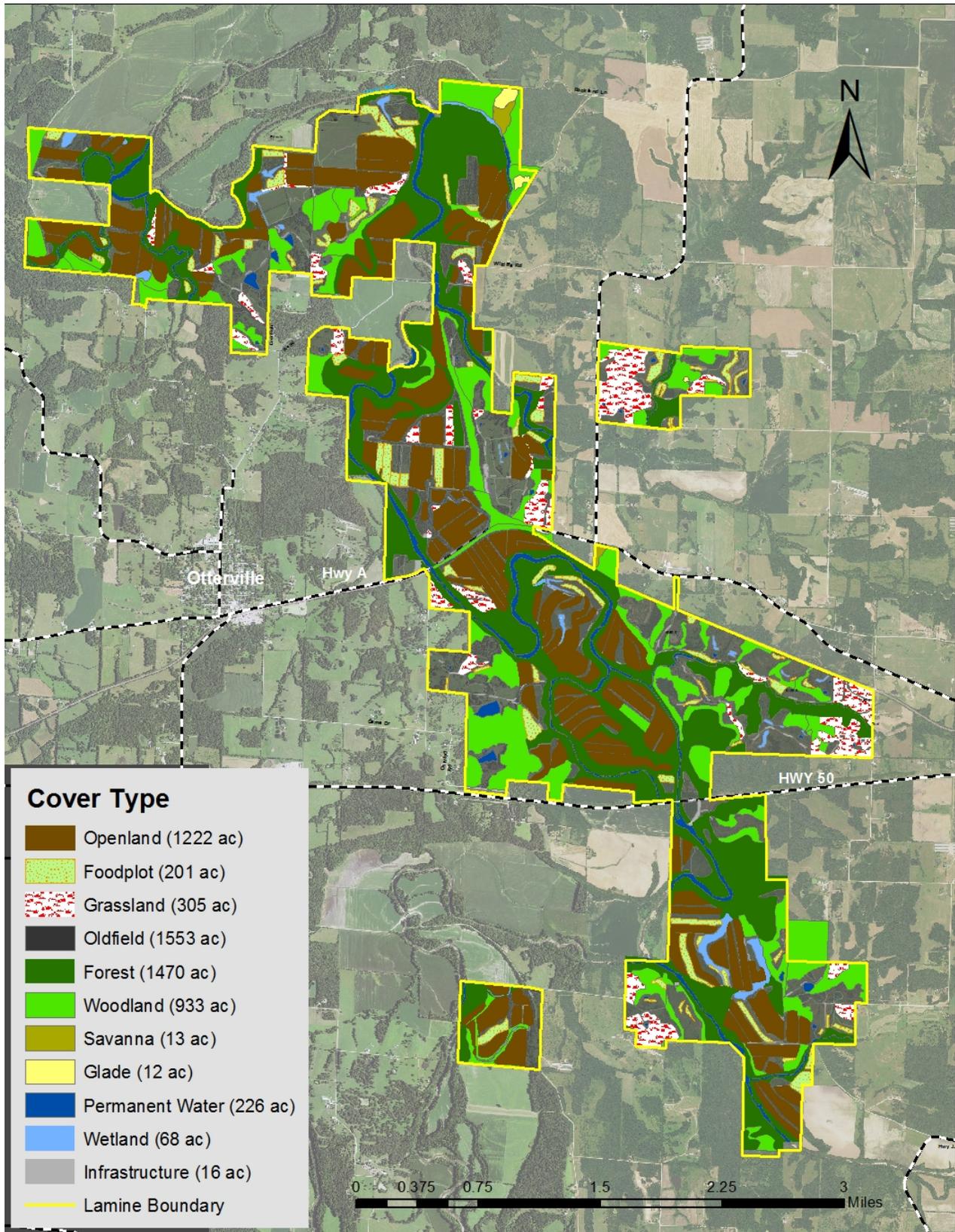
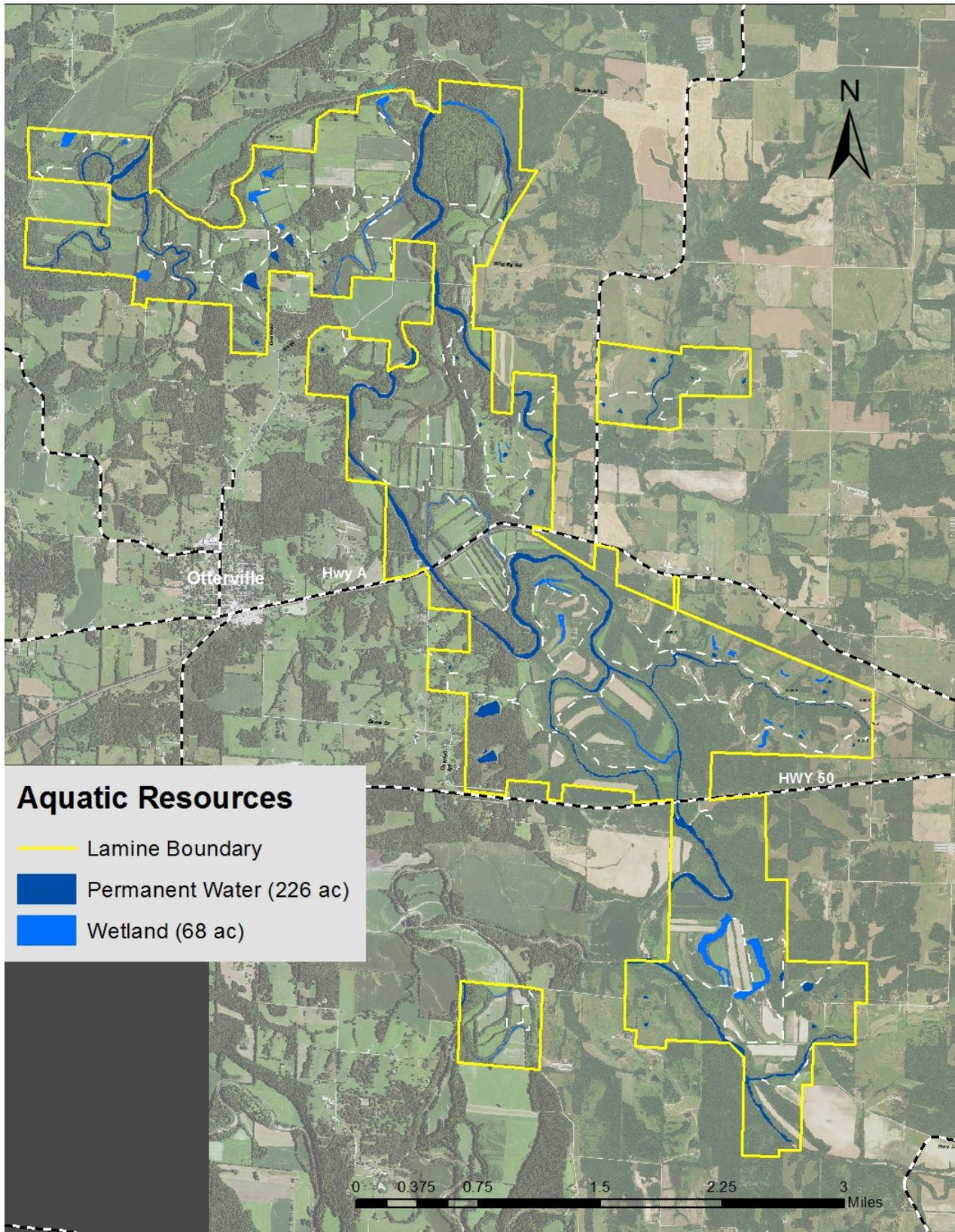


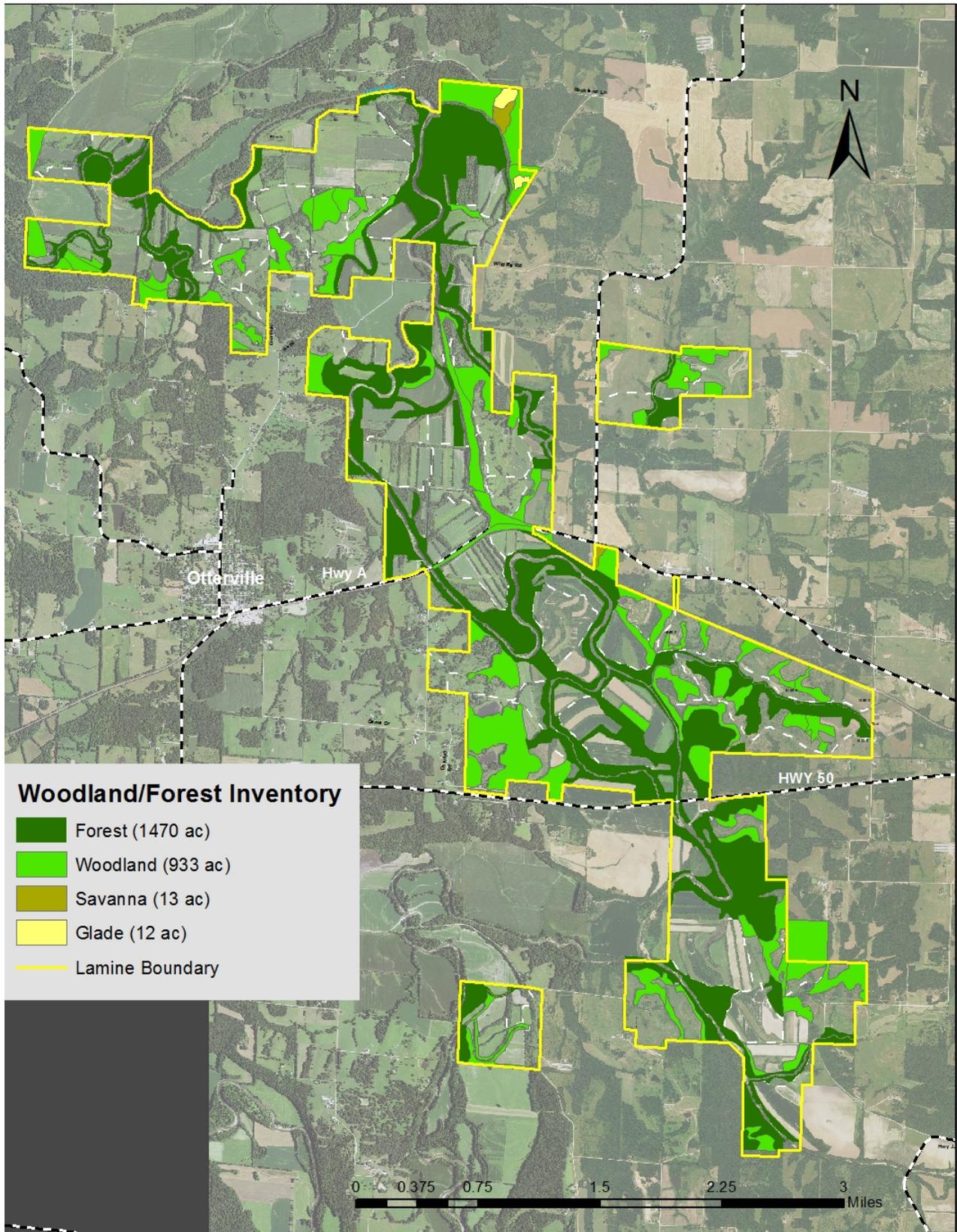
Figure 2: Land Cover Map



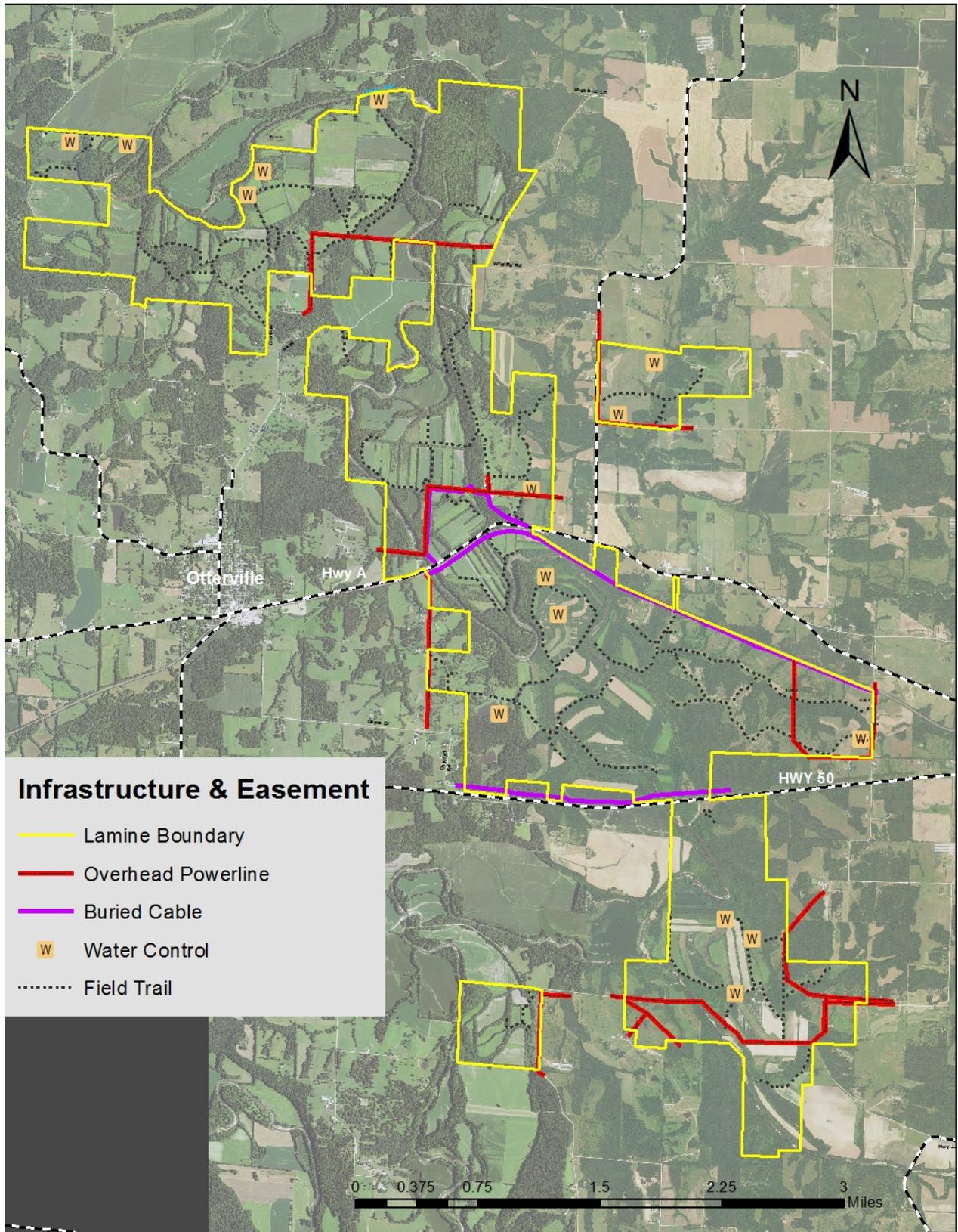
**Figure 3: Aquatic Resources Map**



**Figure 4: Woodland/Forest Inventory Map**



**Figure 5: Infrastructure and Easement Map**



## Appendix A: Lamine River Conservation Area Management Plan Public Comments

Received during public comment period (Nov. 1–30, 2018)

Dear MDC,

I had the pleasure of hunting the laminar area with my son for youth deer season. I would like to see the availability to shoot doe open up in this area. We hunted a 5 acre open area and repeatedly saw about 25 does at a sitting. It seems there is not a shortage of does. I'm not a trophy hunter and take great pleasure in a good doe as much as a buck. I appreciate your land and what you have done with it and just wanted to leave a comment.

Thank you,

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Please consider removing the antlers deer only restriction on this area. The doe are becoming heavily populated in the area and I think adding them to the available species to hunt could help the herd over all

I own property at the end of Deer Run Lane and connect on three sides to the area and the river on other side.

I think that the dept. has done a good job of managing the area, but some of the things I would like to see done are to complete the wetland area that was planed ,started but never finished at the northeast end of deer run lane. There should be more native grassland areas left for wildlife in some of the land that is now farmed. More hardwood trees established or left to grow. Bigger food plots or more grain left standing in farmed fields.

At one time quail were every where, there should be some kind of restocking program, the cover is there and no reason for them not to be back again. There is plenty of other wild life why not quail ?

One last thing get rid of more fescue and use less herbicide, plant more pearl millet, grain sorghum, cowpea, and partridge pea.

Keep up the good work.

I would like to see some walkable paths to the ponds, as a older man and from experience I have had, the terrain and landscape is very difficult for older people to walk to the ponds, with walk ways, these conservation areas and ponds will get more use. thank you

Please add either horse trails or multi use trails permitting horses to the area.

It would be nice to see more oppportunities for biking on conservation areas. I know there are some old roads or cut areas but they are normally pretty rough and the grass get pretty long at times. Thanks.