

Yellow Creek Conservation Area

Fifteen-Year Area Management Plan

FY 2018-2032



Joel W. Pruthi

Wildlife Division Chief

4/29/2018

Date

Yellow Creek Conservation Area Management Plan Approval Page

PLANNING TEAM

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WILDLIFE DIVISION

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OVERVIEW

- **Official Area Name:** Yellow Creek Conservation Area, #8802
- **Year of Initial Acquisition:** 1988
- **Acreage:** 618 acres
- **County:** Chariton
- **Division with Administrative Responsibility:** Wildlife
- **Division with Maintenance Responsibility:** Wildlife
- **Statements of Purpose:**
 - A. Strategic Direction**

Provide, develop, manage, and protect quality bottomland hardwood forest 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 Yellow Creek Conservation Area (CA) is ecologically healthy forests, oxbows/wetlands, and riparian habitats.
 - C. Federal Aid Statement**

N/A

GENERAL INFORMATION AND CONDITIONS

I. Special Considerations

- A. Priority Areas:** Yellow Creek – Stream Reach Conservation Opportunity Area, Lower Grand River – Grassland Prairie Savanna Conservation Opportunity Area, Lower Grand River – Wetland Conservation Opportunity Area, Locust/Yellow Creek Fisheries Priority Watershed
- B. Natural Areas:** Yellow Creek Natural Area (474 acres) is one of the last remnant hardwood bottomland forests in the vicinity of Swan Lake National Wildlife Refuge and was once punctuated with pockets of wet prairies.

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:** The Missouri-Grand River Alluvial Plain Subsection consists of moderately broad alluvial plains subject to frequent flooding. The plain contains numerous oxbow and remnant channels. Historically this landtype was dominated by wet prairie with the rest containing bottomland forest and marsh (Nigh & Schroeder, 2002).

III. Existing Infrastructure

- Two parking lots
- Two individual campsites (no amenities)
- Two footbridges
- South hiking trail, 0.5 miles
- North hiking trail, 1.6 miles

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: One known electric easement exists on the area (Figure 2).

D. Cultural Resources Findings: None

E. Endangered Species: Endangered species are not known from this site, but are found in the surrounding area. Area managers should consult annually with the natural history biologist.

F. Boundary Issues: None

MANAGEMENT CONSIDERATIONS

V. Terrestrial Resource Management Considerations

Yellow Creek CA contains a mix of forested habitats managed primarily for bottomland wildlife species. Historically, wet/mesic bottomland woodlands, featuring bur and swamp oak dominated the area (Nigh & Schroeder, 2002). Patches of wet-mesic prairie were common on slightly higher ground. Altered hydrology within the watershed, stream channelization, channel incision, siltation, and floodplain constriction have degraded the bottomland woodland community and eliminated the prairie elements.

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) Hydrology within watershed is highly altered and compromised. Siltation has degraded the forest community and filled in oxbow lakes.
- 5) Yellow Creek Natural Area designated on 474 acres of bottomland forest.

Management Objective 1: Maintain and promote healthy bottomland forests to enhance wildlife habitat and forest health. Repeated high flows and restrictions caused by levees impede natural sheet flow across landscape, which have greatly impacted forest understory recruitment.

Strategy 1: Conduct inventories, as needed, on forest compartments to develop prescriptions for ecological and silvicultural treatments. (Forestry)

Strategy 2: Utilize a variety of sustainable forest management techniques to promote healthy forest communities, including, but not limited to, tree harvesting, forest thinning, firewood cutting, salvage cuttings, tree planting, seeding, prescribed fire, and invasive species removal. (Forestry, Wildlife)

Strategy 3: Utilize best management practices during forest management as described in the Missouri Department of Conservation (Department) manuals: *Missouri Watershed Protection Practice Recommended Practices for Missouri Forests: 2014 Management Guidelines for Maintaining Forested Watersheds to Protect Streams* (Missouri Department of Conservation, 2014) and *Missouri Forest Management Guidelines: Voluntary Recommendations for Well-Managed Forests* (Missouri Department of Conservation, 2014). (Forestry, Wildlife)

Strategy 4: Monitor for invasive species within existing wetland/oxbow habitats and take appropriate action to eradicate or remove invasive species. (Forestry, Wildlife)

Management Objective 2: Maintain and promote diverse wetland habitat communities, such as seasonally flooded herbaceous marsh, shrub/scrub, and semi-permanent emergent vegetation, where feasible.

Strategy 1: Explore feasibility of renovating existing oxbows by removing trapped sediment to restore microtopography features and improve plant species diversity. (Wildlife)

Strategy 2: Monitor for invasive species within existing wetland/oxbow habitats and take appropriate action to eradicate or remove invasive species. (Wildlife)

VI. Aquatic Resources Management Considerations

Yellow Creek, a second-order stream, is the major drainage on the area. Approximately 4 miles of stream frontage exists on the area along Yellow Creek and Elk Creek (Figure 5).

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) Control invasive aquatic vegetation and manage for native aquatic vegetation.

- 5) Monitor Yellow Creek for logjams and remnant oxbows for excessive siltation.

Management Objective 1: Maintain riparian corridor and stream habitat conditions on Yellow Creek CA.

Strategy 1: Inventory riparian and stream habitat conditions on Yellow Creek CA by March 1, 2019. (Fisheries)

Strategy 2: Implement and maintain good riparian corridor practices on Yellow Creek CA, based on inventory results and according to Department guidelines (Missouri Department of Conservation, 2009). (Fisheries)

Strategy 3: Monitor gully erosion every five years. Work with U.S. Department of Agriculture Natural Resources Conservation Service staff to implement appropriate practices where erosion is severe. (Fisheries)

Strategy 4: Monitor and control invasive species such as purple loosestrife and reed canary grass, when appropriate, along stream corridor. (Wildlife, Fisheries)

VII. Public Use Management Considerations

Yellow Creek CA receives significant public use during hunting seasons. The most popular hunting seasons include spring turkey, waterfowl, and fall archery deer.

Challenges and Opportunities:

- 1) Maintain area infrastructure.
- 2) Provide hunting, fishing, and nature/wildlife viewing opportunities.
- 3) Improve educational and interpretive opportunities.

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 for area users. (Wildlife, Design and Development)

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

Strategy 1: Conduct management activities such as control of invasive species, forest thinning, and oxbow/wetland renovations that will provide habitat for a variety of species. (Forestry, Wildlife)

Management Objective 3: Maintain infrastructure, regulations, and Atlas database to provide access and reflect resources and recreational opportunities.

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)

Management Objective 4: Maintain trails for appropriate uses.

Strategy 1: Conduct an assessment of the condition of the trails. Identify problem erosion areas and sections that need re-routing to improve sustainability and reduce maintenance. (Wildlife, Design and Development)

Strategy 2: Update and maintain accurate signage on all trails consistent with Department guidelines. (Wildlife)

VIII. Administrative Considerations

Challenges and Opportunities:

- 1) Maintain area boundary lines.
- 2) Build relationships with neighboring landowners.
- 3) Consider land for acquisition, when available.

Management Objective 1: Maintain clearly identified property lines.

Strategy 1: Inspect and maintain boundaries on a five-year cycle, or as needed. (Wildlife)

Strategy 2: Resolve boundary issues with adjoining landowners as they arise. (Wildlife)

Management Objective 2: Facilitate a good working relationship with neighboring landowners.

Strategy 1: Work with neighbors to minimize any boundary, trespass, or other issues affecting Yellow Creek CA or private property. (Wildlife, Fisheries)

Strategy 2: Work with willing neighboring landowners to expand seasonal and semi-permanent herbaceous wetland management and healthy forest stand management beyond Yellow Creek CA boundaries. (Wildlife, Private Land Services)

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:

	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32
Aquatic Resource Considerations															
<i>Objective 1</i>															
Strategy 1		X													
Strategy 3				X					X					X	

APPENDICES

Area Background:

Yellow Creek Conservation Area (CA) is in Chariton County, approximately 5.5 miles south of Sumner. From Sumner take Route RA south 1 mile, turn west onto Hog Ridge Avenue, then immediately south 3.5 miles to the area. Yellow Creek CA includes 618 acres (474 acres is designated a natural area) of predominantly bottomland forest and several small oxbows and slough meanders. The eastern boundary of Yellow Creek CA is shared with Swan Lake National Wildlife Refuge. This area provides a vital riparian buffer for Yellow Creek, Elk Creek, and backwater Grand River flows.

Yellow Creek CA was purchased in 1988 in order to protect the wet mesic bottomland forest and the un-channelized portion of Yellow Creek. This tract of bottomland forest is the largest block of bottomland hardwood forest remaining in northwest Missouri. Many species of neo-tropical warblers rely on this tract for migratory and nesting habitat. This area is beneficial for prothonotary warblers, wood ducks, hooded mergansers, and other migratory wildlife.

Current Land and Water Types:

Land/Water Type	Acres	Miles	% of Area
Forest	580		94
Wetland	32		5
Old Field	5.5		1
Infrastructure	0.5		<1
Total	618		100
Stream Frontage		4	

Public Input Summary:

The draft Yellow Creek Conservation Area Management Plan was available for a public comment period Sept. 1–30, 2017. The Missouri Department of Conservation received comments from two respondents (Appendix A). The Yellow Creek 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 the Yellow Creek Conservation Area Management Plan public comment period.

Suggests making access to oxbow lakes more accessible for disabled users.

This site is not conducive for an ADA access due to frequent flooding on the area which leads to excessive loads of sediment and woody debris. Maintaining the existing trail and footbridge is a continual challenge since they are frequently threatened/damaged by flood water and debris. Area infrastructure will be maintained at current levels due to budget and staffing constraints. The Department has no plans to create a disabled-accessible trail on the Yellow Creek CA. Nearby Fountain Grove CA and Grand Pass CA offer disabled-accessible hunting blinds.

Suggests better maintenance of the wooded pothole, which is used heavily. Suggests adding another wooded pothole to the area.

Area wetland infrastructure will be maintained at current levels on remnant oxbows due to budget and staffing constraints, as well as local flooding. The modern hydrological conditions of Yellow Creek make it impractical to manage for flooded timber without the construction of costly infrastructure and manipulation comparable to that of other wetland/waterfowl areas. Habitat management conducive to current hydrology, such as removal of woody invasion in remnant oxbows, may be a possibility, if conditions warrant and there is budget support for conducting the project.

The area managers do a fantastic job.

Thank you for your continued support of conservation on this area.

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

Maps:

Figure 1: Area Map

Figure 2: Easement Map

Figure 3: Habitat Cover Types Map

Figure 4: Forest Stand Boundaries

Figure 5: Area Streams

Additional Appendices:

Appendix A: Draft Yellow Creek Conservation Area Management Plan Public Comments

Figure 1: Area Map

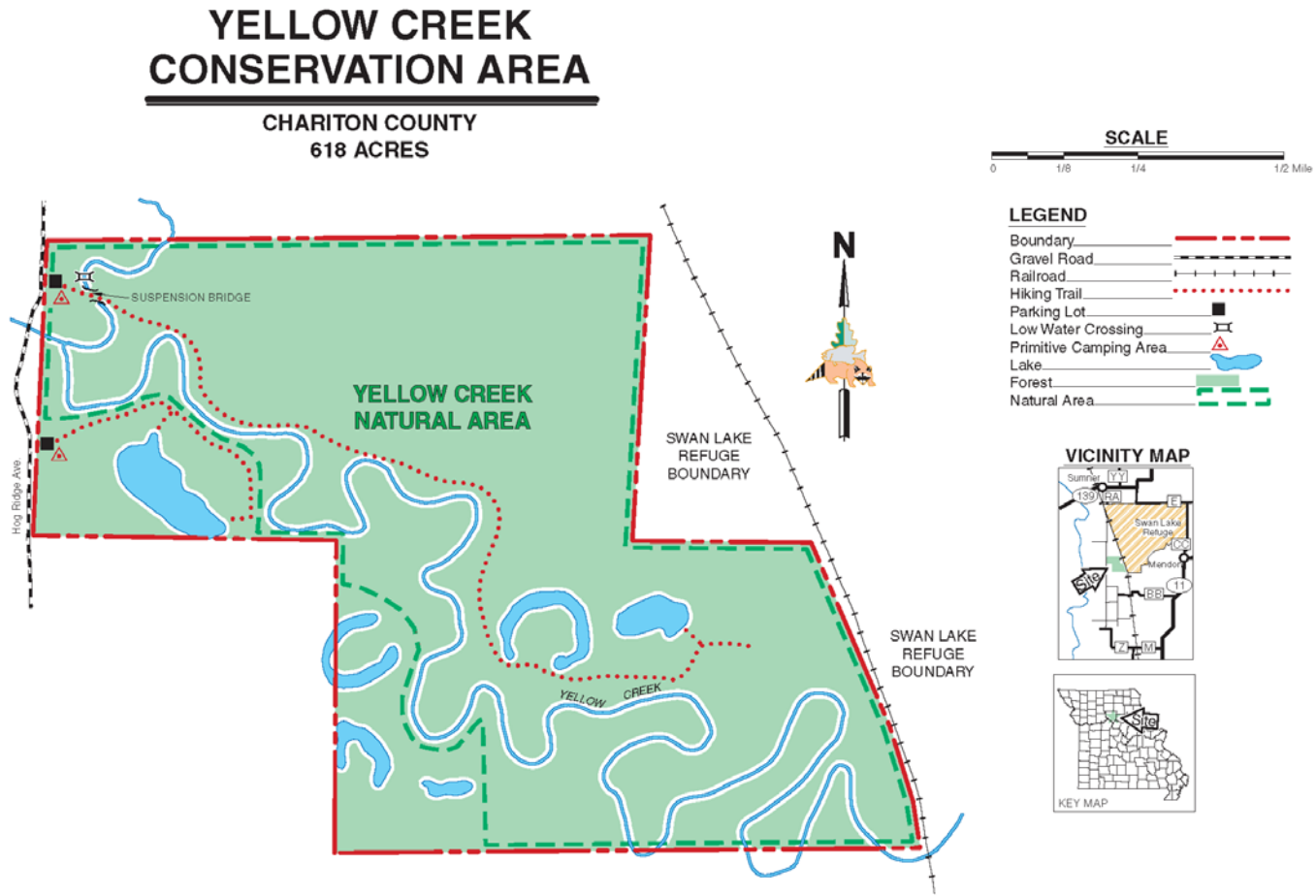
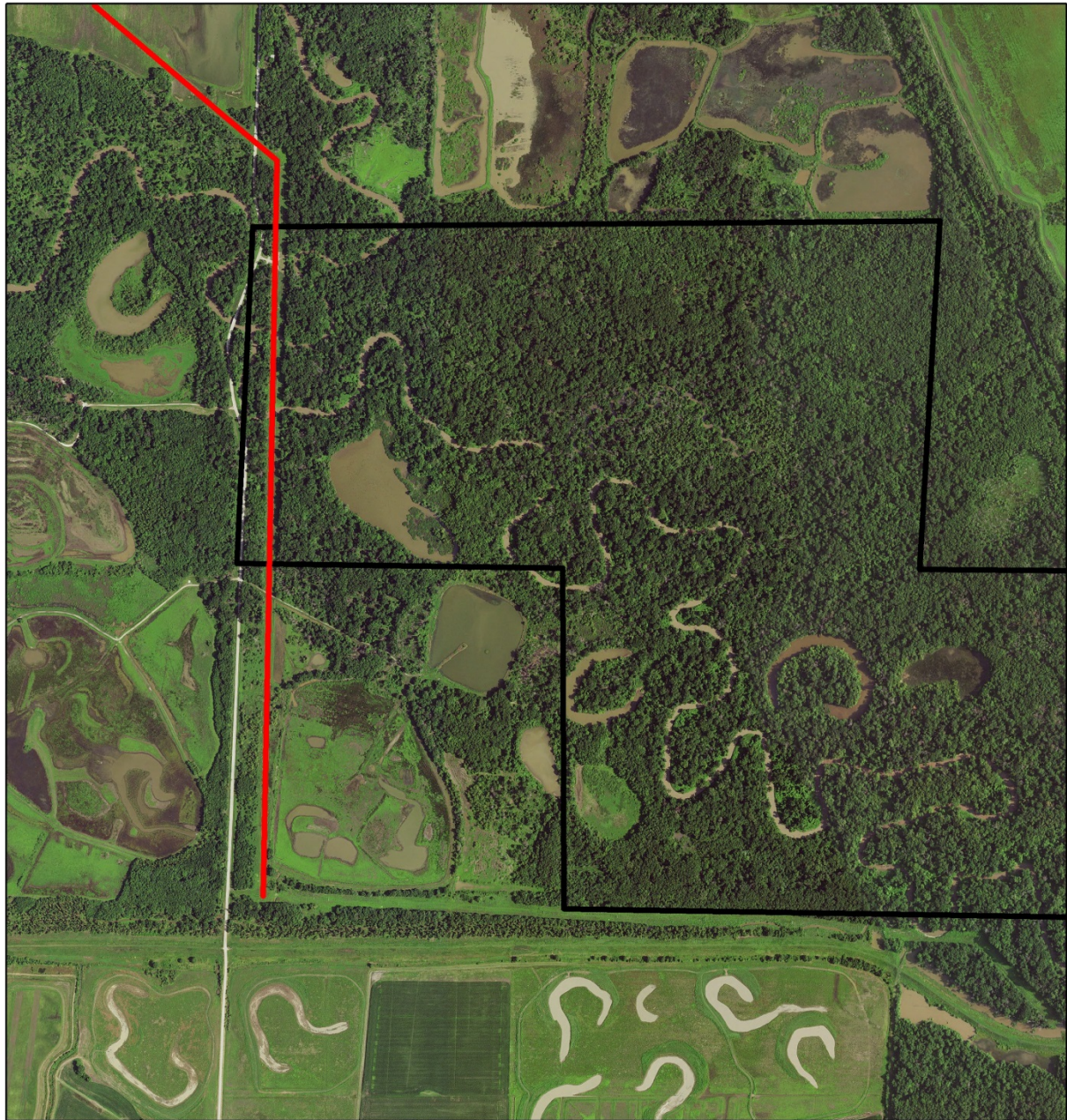




Figure 2: Easement Map



Legend

-  Electric Line
-  Area Boundary

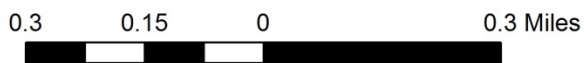
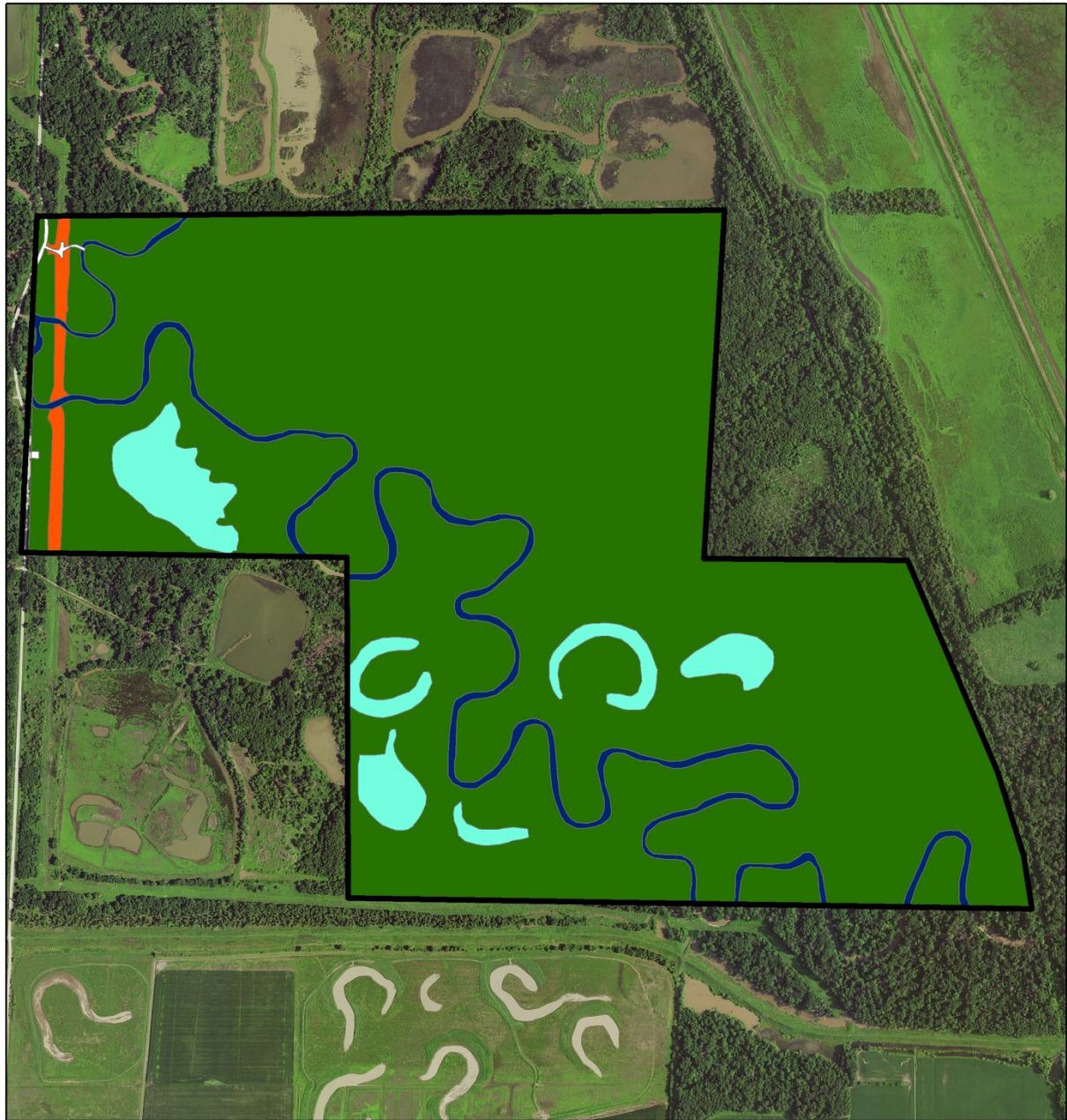







Figure 3: Habitat Cover Types Map



Legend

- | | |
|--|--|
|  FOREST |  OLD FIELD |
|  WETLAND |  INFRASTRUCTURE |
|  OPEN WATER |  Area Boundary |

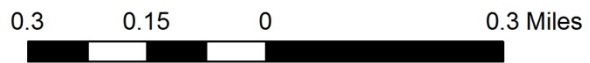
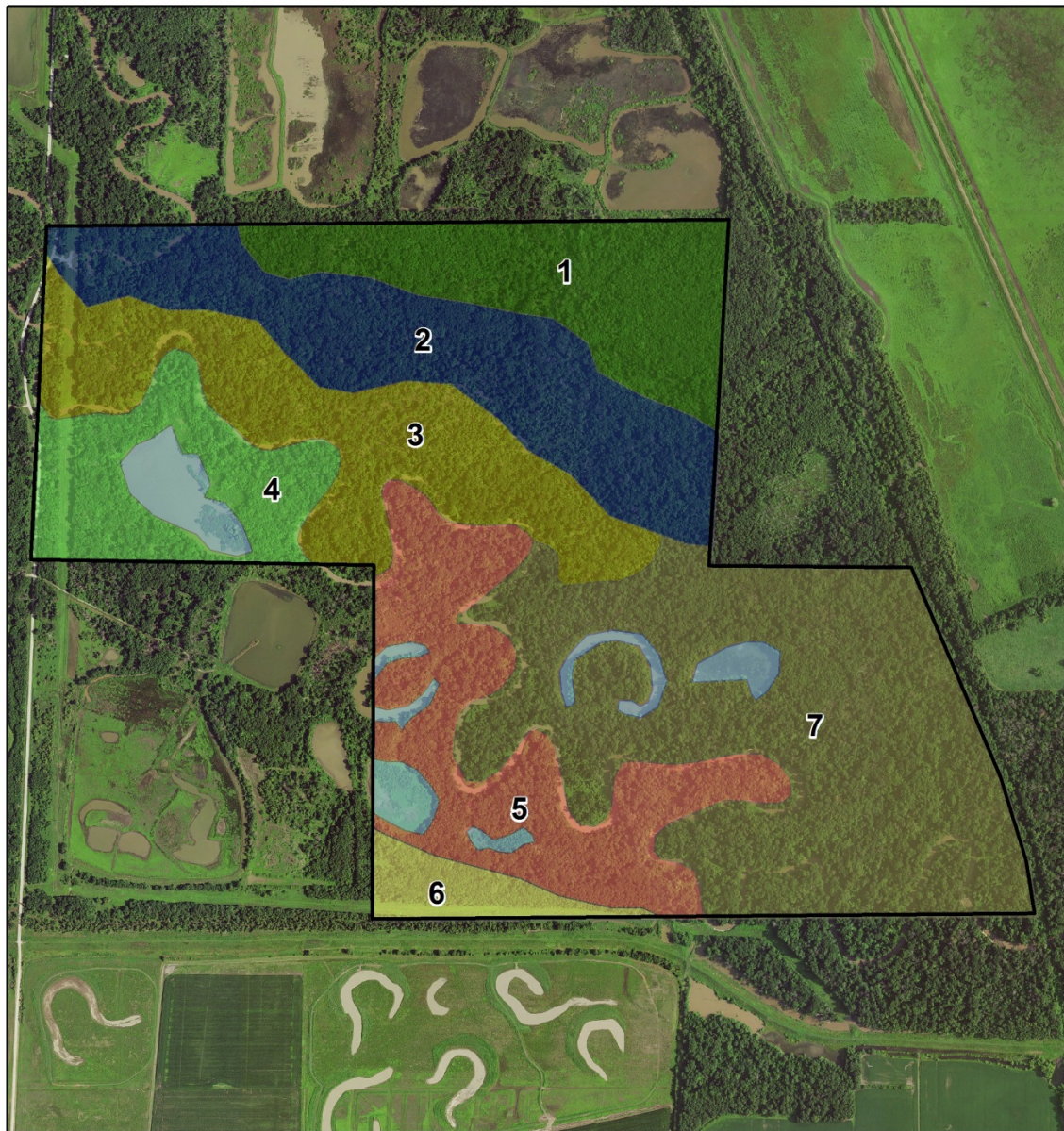


Figure 4: Forest Stand Boundaries



Legend










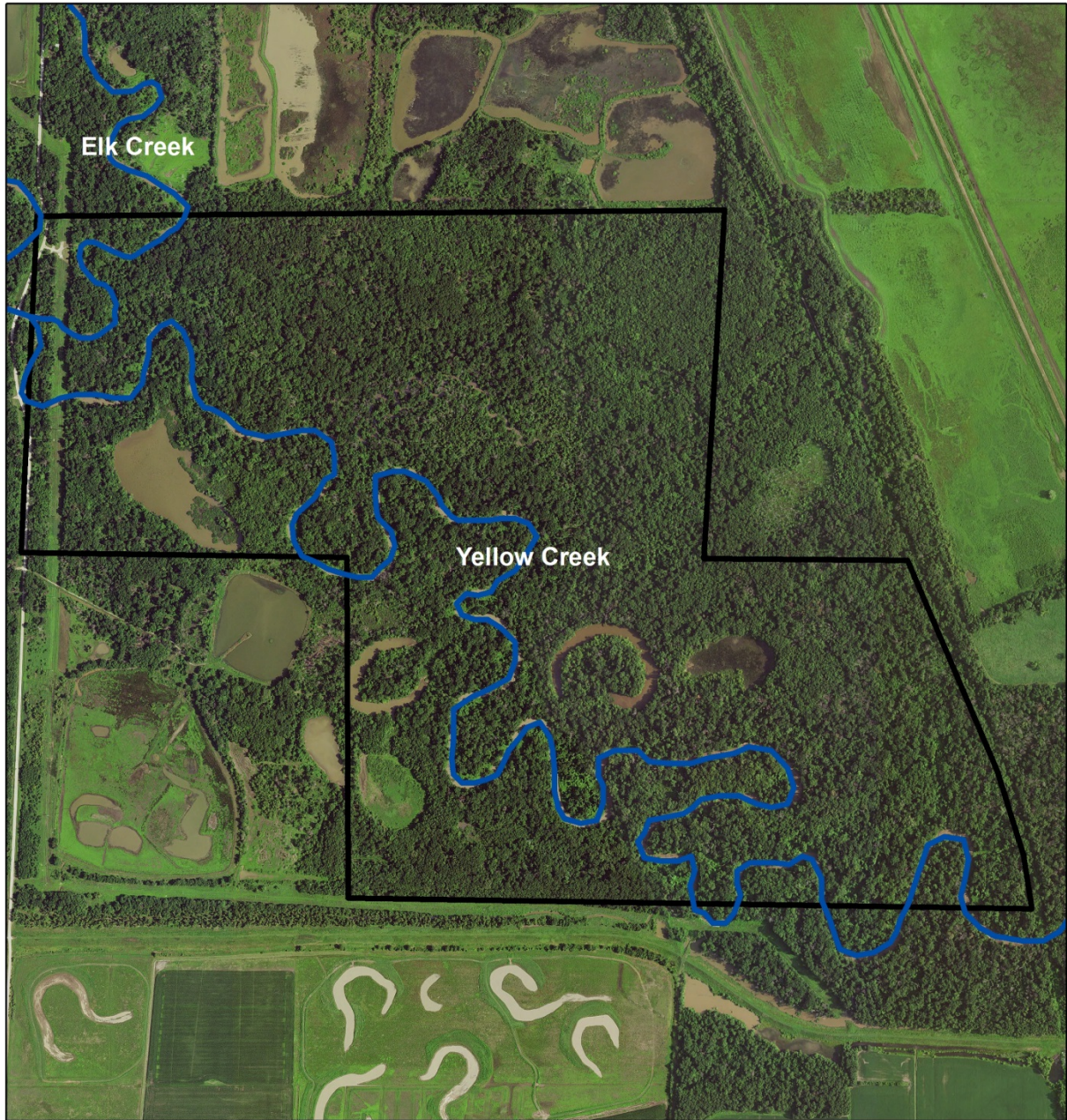


- | | |
|---|---|
|  Stand 1 |  Stand 6 |
|  Stand 2 |  Stand 7 |
|  Stand 3 |  Wetland |
|  Stand 4 |  Area Boundary |
|  Stand 5 | |

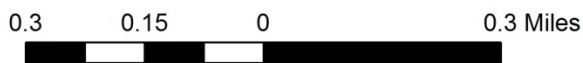


Figure 5: Area Streams



Legend

-  Streams
-  Area Boundary



Appendix A: Draft Yellow Creek Conservation Area Management Plan Public Comments

Received during public comment period (Sept. 1–30, 2017):

I would like to see the water area's more accessible to older hunters. Wider paths with easier ways to get back to the oxbows. This is one of the reasons I do not use the place.

You have a unique ecosystem at Yellow Creek. I waterfowl hunt, improving the wooded pothole in the very back or far east southeast quadrant in zone 7 would be beneficial . I've hunted it when it floods and especially when the flood drops out, it can be good and needs to be maintained. It receives HEAVY usage during certain times, an additional wooded flooded pothole or similar one would be beneficial and get heavy additional usage during certain periods. I understand this will probably never happen, but if you could control an area of that woods with berms, a water control structure on and/or nearby Yellow Creek, you very easily could have Arkansas flooded green timber or a mini Bayou Meto public hunting area with the existing ecosystem right here in Northern Missouri. I guess that would be the dream scenario for me, a secondary pothole in the very back of the property surrounded by trees and improvement of the existing circular pothole to the far east southeast in zone 7 is needed at this conservation area. It would take additional pressure off the public hunting areas that are turning away 20-30 parties a day during the migration and would get heavy and appreciative public usage, more so then any other type of public usage on the CA.

Thanks for letting me comment, I know the area managers of Chris Freeman and Brian Anderson do a fantastic job. They may laugh at my mini-Bayou Meto or flooded green timber idea but I think it would be a cool and heavily used project if it ever happened. It would be a cool project to research and just tinker with at the possibility as well. I'm not sure if the countour maps in Yellow Creek CA or LIDAR imaging would help in the tinkering of the possibilities with berms and water control structures along with floodable green timber possibilities.