

King Lake Conservation Area

Fifteen-Year Area Management Plan FY 2018-2032





Wildlife Division Chief



Date

King Lake Conservation Area Management Plan Approval Page

PLANNING TEAM

Brian Gilbert, Wildlife Management Biologist

Jason Severe, Resource Forester

Matt Engel, Fisheries Management Biologist

Steve Buback, Natural History Biologist

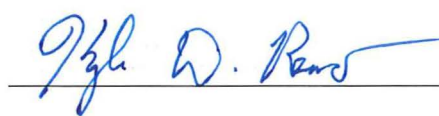
Jeff Powelson, Private Land Conservationist

Mark McNeely, Conservation Agent

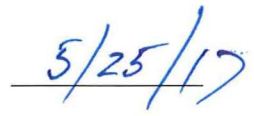
Brandon Lyddon, Conservation Agent

NORTHWEST REGION

RCT Chair



Signature



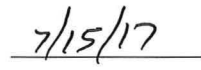
Date

WILDLIFE DIVISION

Wildlife Management Chief



Signature



Date

OVERVIEW

- **Official Area Name:** King Lake Conservation Area, # 8428
- **Year of Initial Acquisition:** 1984
- **Acreage:** 1,273 acres
- **County:** DeKalb, Gentry
- **Division with Administrative Responsibility:** Wildlife
- **Division with Maintenance Responsibility:** Wildlife
- **Statements of Purpose:**
 - A. Strategic Direction**

Manage for a wide range of game and non-game wildlife species, with emphasis on small game, grassland birds, and compatible recreational opportunities.
 - B. Desired Future Condition**

The desired future condition for King Lake Conservation Area (CA) is a wildlife-abundant, mixed agricultural/grassland/woodland landscape providing outdoor recreation for the public.
 - C. Federal Aid Statement**

N/A

GENERAL INFORMATION AND CONDITIONS

- I. Special Considerations**
 - A. Priority Areas:** Grindstone Creek 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

- III. Existing Infrastructure**
 - Five gravel parking lots
 - Two primitive camping sites
 - One concrete boat ramp
 - One lake dam with concrete water control structure
 - Three pond dams
 - Pond 1 and 2 fishing ponds (3 acres total)
 - King Lake fishing lake (231 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:** None
- D. Cultural Resources:** No known cultural resources.
- E. Endangered Species:** None observed.
- F. Boundary Issues:** None

MANAGEMENT CONSIDERATIONS

V. Terrestrial Resource Management Considerations

Over the past 30 years, much of the open land has been converted from agriculture to early successional management. During this transition, much of this open land has become dominated by non-native cool-season grasses and undesirable woody vegetation. A forest inventory was completed in 2006 and was re-evaluated in 2012. At that time, it was determined that the majority of the forest resource had little potential to be managed for hardwood forests/woodland habitats due to low overall quality, and poor species composition and stand size. Some areas, however, provide riparian benefits.

Challenges and Opportunities:

- 1) Overall low quality forest/woodland stands, many of which are dominated by honey locust, osage orange, elm, and hackberry.
- 2) Open land dominated by cool-season grasses, undesirable woody species, and invasive species, such as autumn olive, sericia lespedeza, and birdsfoot trefoil.
- 3) Wetland pools have poor drainage due to excessive siltation on the north side of the lake.

Management Objective 1: Manage open fields in a manner that provides early successional habitat to benefit upland wildlife populations.

Strategy 1: Utilize agricultural equipment for soil disturbances to benefit wildlife. (Wildlife)

Strategy 2: Fallow standing crop fields to promote annual habitat. (Wildlife)

Strategy 3: Renovate fields of fescue and smooth brome with native grasses/forbs to restore habitat for species of conservation concern and to benefit small game. (Wildlife)

Strategy 4: Manage old fields and grasslands to maintain early successional habitat, and control herbaceous and woody invasive plant species. (Wildlife)

Management Objective 2: Manage or enhance wetlands in a manner that provides moist soil habitats and improves vegetative diversity.

Strategy 1: Manipulate seasonal water levels, as allowed, by the level of Lost Creek to encourage native plant species. (Wildlife)

Strategy 2: Identify invasive species through opportunistic observations and use various treatments, as needed, for management and control of selected species. (Wildlife)

Management Objective 3: Manage riparian corridor.

Strategy 1: Maintain wooded areas located adjacent to King Lake and area drainages for water quality protection. (Forestry, Wildlife)

VI. Aquatic Resource Management Considerations

Over its lifetime, King Lake has filled with a great deal of sediment due to its large watershed to lake ratio (51:1) and periodic inundations by Lost Creek. King Lake currently has a maximum depth of 11 feet in a small area near the dam, and much of the lake is less than 1 foot deep. The periodic inundations by Lost Creek further complicate issues by allowing numerous reintroductions of non-native and nuisance fish species. It has very few predators due to very turbid conditions and sparse habitat, which has led to overabundant and stunted common carp, white crappie, and channel catfish populations. Attempts to introduce a flathead catfish fishery failed in the past due to fish escapement via the spillway and during periods of inundation by Lost Creek. Without major renovations, there is no potential for developing and managing a quality sport fishery in King Lake.

Challenges and Opportunities:

- 1) Explore alternative opportunities for King Lake.
- 2) Provide quality sport fish populations in area ponds.
- 3) Manage for native vegetation in area ponds.
- 4) Improve angling efficiency through brush pile installation and maintenance in area ponds.

Management Objective 1: Explore alternative uses of King Lake.

Strategy 1: Manage King Lake for migrating waterfowl. Using existing structures, manipulate water levels for moist soil emergence that provides

vegetative structure and a food source in the lake bed that could be opportunistically flooded in the fall. (Fisheries, Wildlife)

Strategy 2: Maintain current periodic monitoring, allowing the lake to continue toward conversion to a wetland. (Fisheries)

Management Objective 2: Provide quality sport fish populations in area ponds.

Strategy 1: Survey fish communities to monitor for any changes that need to be addressed through regulation changes, habitat alterations, altering stocking rates, introducing new species, and, as a last resort, renovations. (Fisheries)

Strategy 2: Consider new species introductions (redeer sunfish, black crappie, etc.) in suitable ponds to increase angling opportunities on the area. (Fisheries)

Strategy 3: Continue supplemental stockings of channel catfish to maintain quality angling opportunities. (Fisheries)

Management Objective 3: Manage for native vegetation in area ponds.

Strategy 1: Improve diversity of native aquatic vegetation community through introductions of beneficial native vegetation, such as pickerel weed, burhead, water plantain, pink water lilies, and spatterdock. (Fisheries)

Strategy 2: Reduce densities or eliminate non-native and nuisance aquatic vegetation to improve native diversity and angler access. (Fisheries)

Management Objective 4: Improve angling efficiency through brushpile installation and maintenance in area ponds.

Strategy 1: Install brushpiles as fish attractors in strategic locations and replace older piles as necessary. (Fisheries, Wildlife)

VII. Public Use Management Considerations

Challenges and Opportunities:

- 1) Enhance hunting, fishing, and trapping opportunities and non-game recreational opportunities.
- 2) Primitive camping is allowed at two locations. The camp site located near the boat ramp is heavily used during weekends and holidays during the summer months and often floods during heavy rain events.
- 3) Build relationships with neighboring landowners.

Management Objective 1: Provide public hunting, fishing, trapping, and non-game recreational opportunities.

Strategy 1: Implement annual management activities targeting improvement of terrestrial and aquatic habitat to improve wildlife and fish populations. (Fisheries, Wildlife)

Strategy 2: Explore options to provide access points for those that are mobility disabled. (Wildlife)

Strategy 3: Maintain service roads and trails to provide access for hunting, fishing, wildlife watching, hiking, and other non-game opportunities. (Wildlife, Design and Development)

Strategy 4: Issue special use permits to allow trapping on area. (Wildlife)

Management Objective 2: Provide safe and inviting primitive camping areas.

Strategy 1: Visually inspect the sites no less than once per month and after all high water events for litter, lake debris, and safety hazards. (Wildlife)

Strategy 2: Inspect gravel parking slips no less than once per year and add gravel as necessary. (Wildlife, Design and Development)

Management Objective 3: Promote a positive working relationship with neighboring landowners.

Strategy 1: Respond to neighbors with requests for shared fencing, boundary issues or trespass problems. (Wildlife)

Strategy 2: Respond to neighboring landowners with interest in habitat management on their private property. (Wildlife, Private Land Services)

VIII. Administrative Considerations

Challenges and Opportunities:

- 1) Maintain area infrastructure at current levels.
- 2) Consider land acquisition, when available.

Management Objective 1: Maintain area infrastructure at level established by policy.

Strategy 1: Maintain area infrastructure in accordance with Department guidelines. (Wildlife, Design and Development)

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:

	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32
Terrestrial Resource Management															
<i>Objective 1</i>															
Strategy 1		X		X		X		X		X		X		X	
Strategy 2	X		X		X		X		X		X		X		X
Strategy 3		X			X			X			X			X	
<i>Objective 2</i>															
Strategy 1	X		X		X		X		X		X		X		X
Aquatic Resource Management															
<i>Objective 1</i>															
Strategy 1		X		X		X		X		X		X		X	
<i>Objective 2</i>															
Strategy 3					X					X					X

APPENDICES

Area Background:

King Lake Conservation Area is located on the DeKalb and Gentry County line, 5 miles east of King City on Route Z, then 1 mile south on CR 500. The landscape is a mix of grassland, old field, woodland, and cropland. A shallow 231-acre lake lies in the core of the area that offers fishing and hunting opportunities.

King Lake was created in 1969 by the damming of Lost Creek, a small stream that flows through Gentry and DeKalb counties. The lake was built on private lands as a pilot project that combined an extensive federal-backed conservation program with a privately financed recreational venture. All federal help was limited to watershed flood control structures that would alleviate flooding in downstream agricultural lands. Recreational plans for the lake were to sell lakeside lots for houses as well as build a swimming pool, tennis courts, and a nine-hole golf course. Once construction of the lake was completed, recession and national economic decline failed to produce sufficient buyers for the lakeside lots. Because of this, later plans were developed to use the lake for irrigating as much as 5,000 acres of surrounding farmland. Initial investments of irrigation pipe were considered too high and this plan also failed.

King Lake and its surrounding tract of 854 acres were initially offered to the Department in 1974, but due to lack of funding in a slow economy, the purchase was not pursued. The same tract was offered again and purchased by the Department in 1984, naming it King Lake Wildlife Area. Two additional tracts were purchased in 1986 and 1987 completing the 1,273 acres that currently make up King Lake Conservation Area.

Current Land and Water Types:

Land/Water Type	Acres	Miles	% of Area
Old Field	328		26
Grassland (non-prairie)	320		25
Open Land	250		20
Open Water	234		18
Woodland	100		8
Wetland	41		3
Total	1,273		100
Stream Frontage		1.0	

Public Input Summary:

The draft King Lake Conservation Area Management Plan was available for a public comment period January 1–31, 2017. The Missouri Department of Conservation received comments from five respondents (Appendix A). The King Lake 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 King Lake Conservation Area Management Plan public comment period.

Supports adding more warm-season grasses for game species.

Warm-season grass restoration is a management objective listed in this plan.

Suggests planting milo for game species use.

The Department uses private farmers through mutually agreed upon Agriculture Crop permits to occasionally install food plots. In addition to this, under the Agriculture Crop permit terms, farmers are required to leave a percentage of their crops standing annually.

Supports wetland restoration at King Lake CA.

Due to the very high siltation rate in King Lake and the loss of sport fishing opportunities, future management practices on the lake will provide moist soil habitat and additional opportunities for waterfowl and shorebird use.

Concerned siltation is harming potential recreational opportunity on area ponds and King Lake.

Siltation is a natural process that affects every pond, lake or wetland. The Department owns and manages most or all of the ponds' watersheds on the area, which serves to slow siltation processes and preserve recreational opportunities over the long run. However, King Lake is occasionally flooded by Lost Creek, has a very large watershed to lake ratio (51:1), and the Department owns and manages very little of the watershed, of which, 86 percent is in pasture or cropland. All of these factors have contributed to a very high siltation rate and loss of sportfish populations. To offset the loss of sport fishing opportunities, management of the lake is beginning to shift from fisheries to waterfowl management.

Suggests adding a multi-use (hiking and horseback riding) trail around the lake.

Adding multi-use trails for horseback riding would increase interference with existing area users and could negatively impact sensitive habitats. The thin soils on King Lake CA are also highly susceptible to erosion. Horseback riders can pursue this recreational opportunity on Honey Creek

Conservation Area (54 miles away), Riverbreaks Conservation Area (40 miles away), Bonanza Conservation Area (58 miles away), and Clay County Parks Smithville Lake (57 miles away). Approximately 11 miles of access trails already exist on the area for hiking.

Offers volunteer service to assist the Department.

The area manager appreciates this offer and may pursue this in the future.

References:

Missouri Department of Conservation. (1985). *King Lake Wildlife Area interim plan*. Jefferson City, MO: Missouri Department of Conservation.

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

Waldrop, B. (1969, August 6). Sign contracts to build lake near King City. *St. Joseph Gazette*.

Maps:

Figure 1: Area Map

Figure 2: Aerial Map

Figure 3: Land Cover Map

Figure 4: Woodland Stand Map

Figure 5: Ecological Site Description Map

Figure 1: Area Map

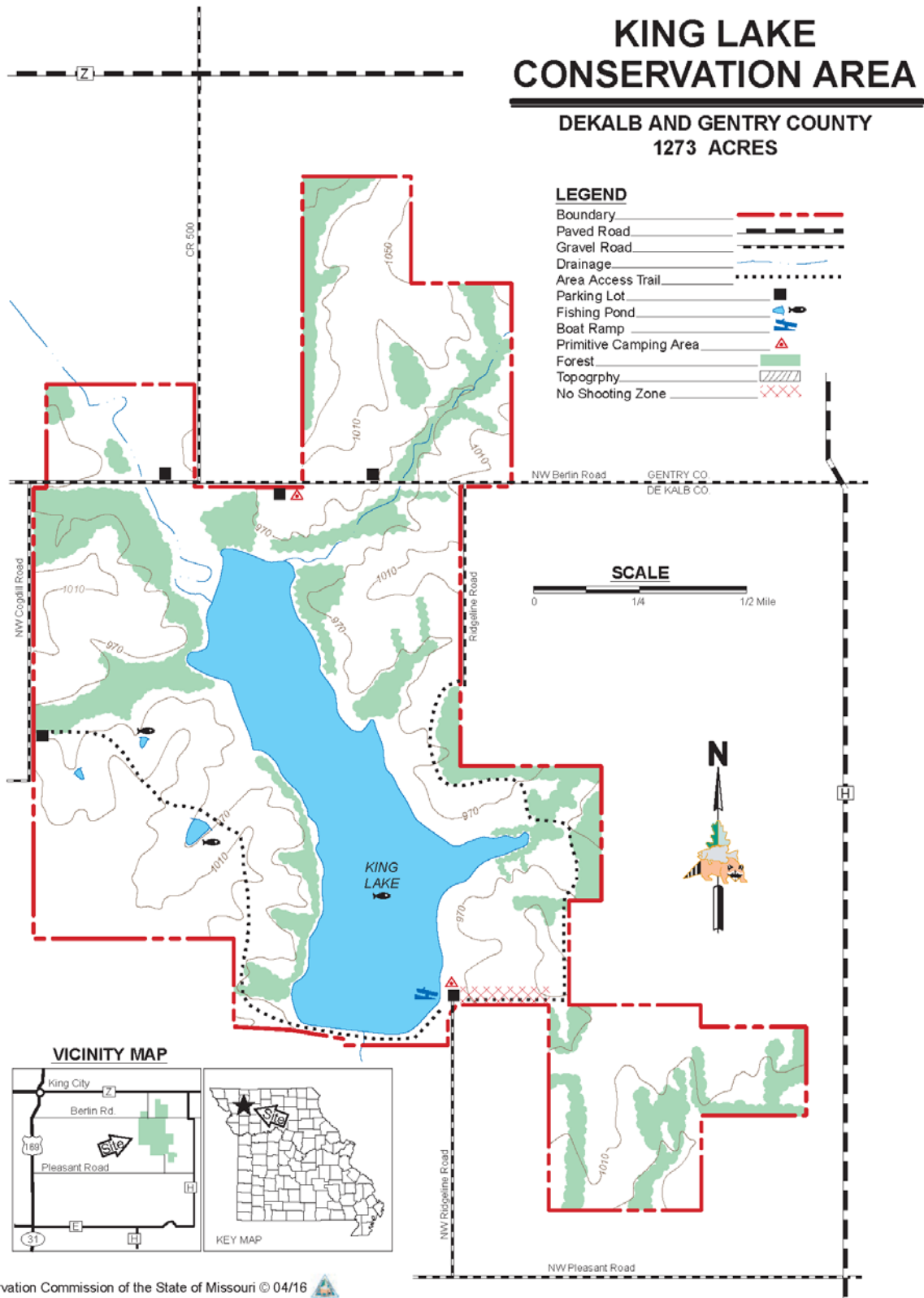


Figure 2: Aerial Map

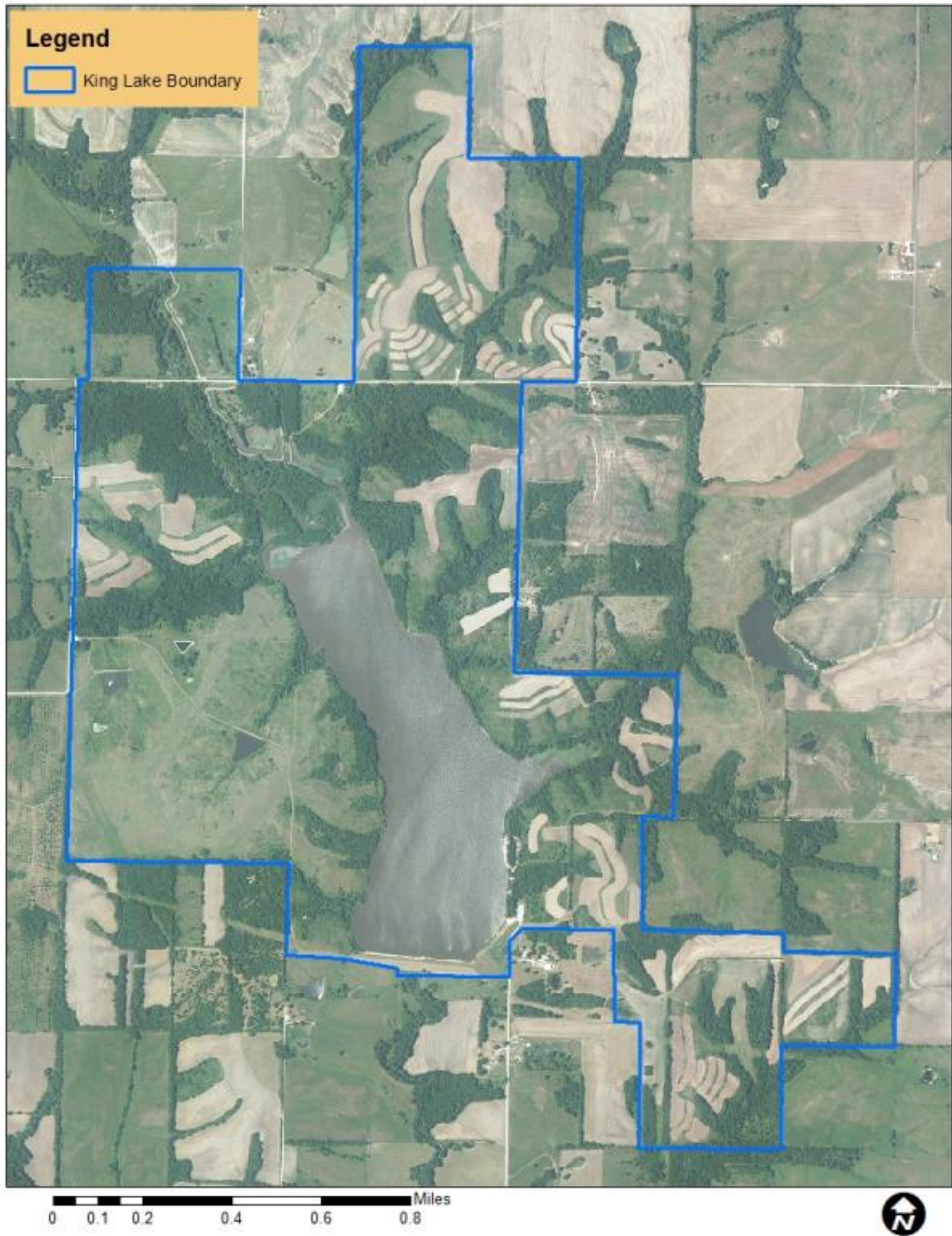


Figure 3: Land Cover Map

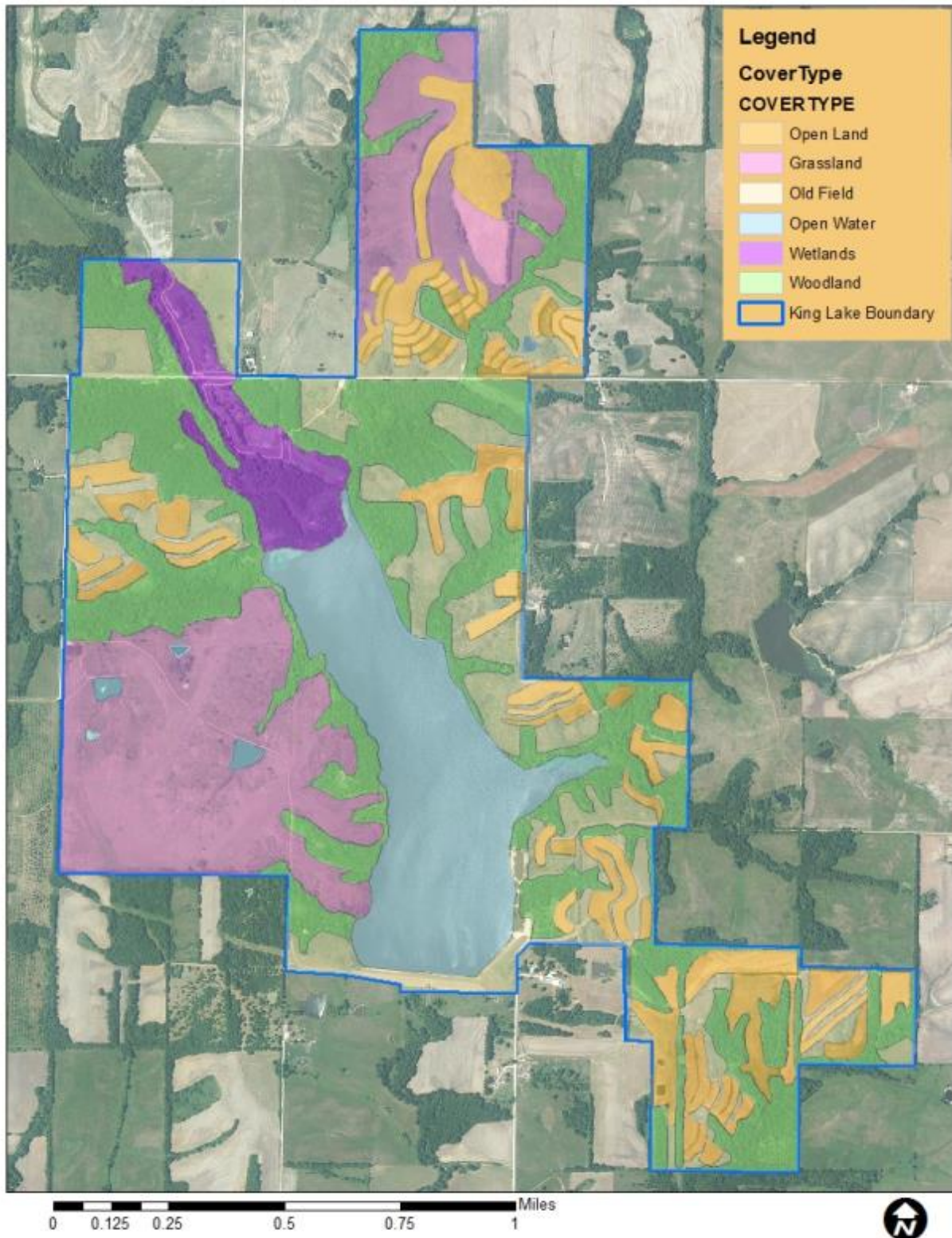


Figure 4: Woodland Stand Map

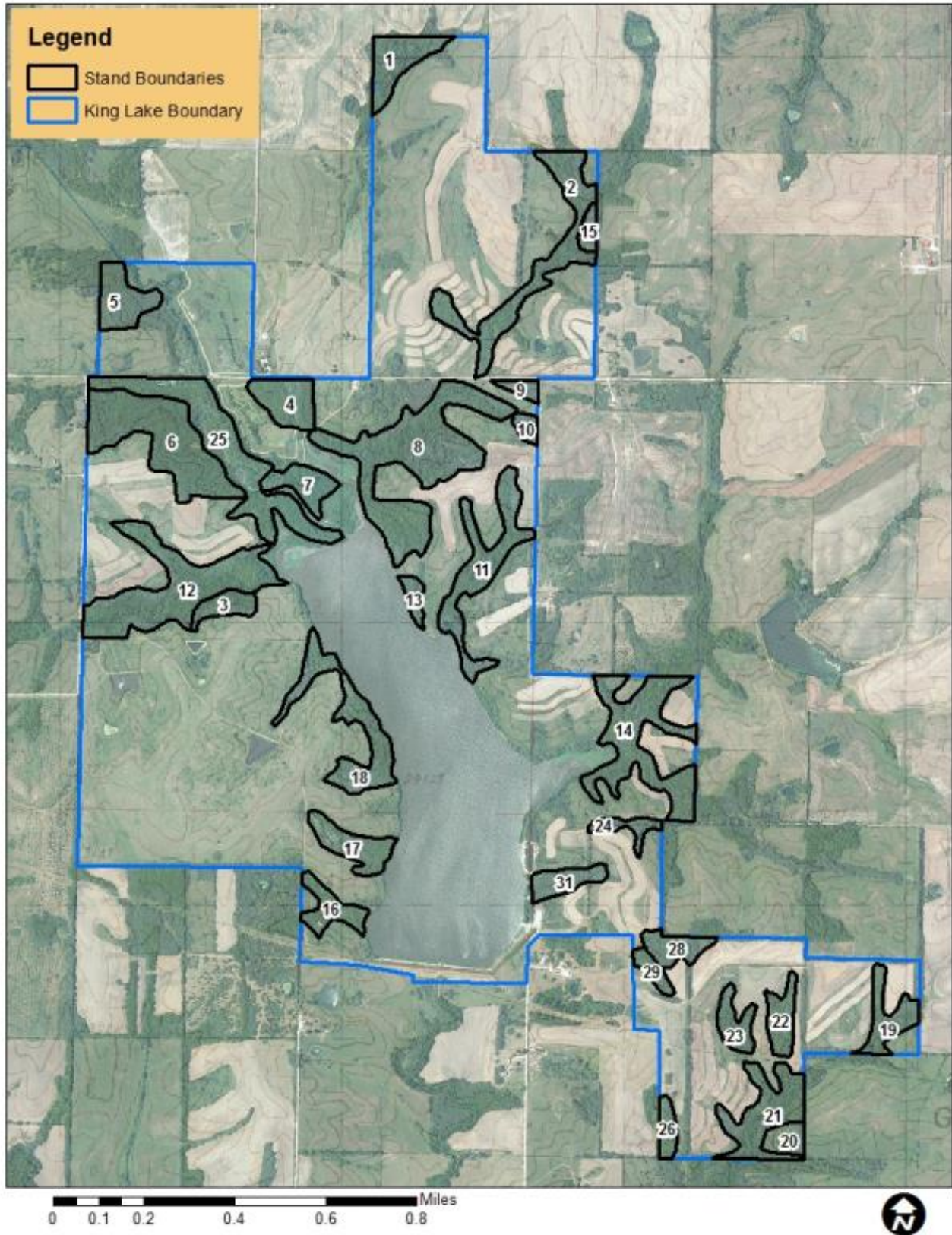
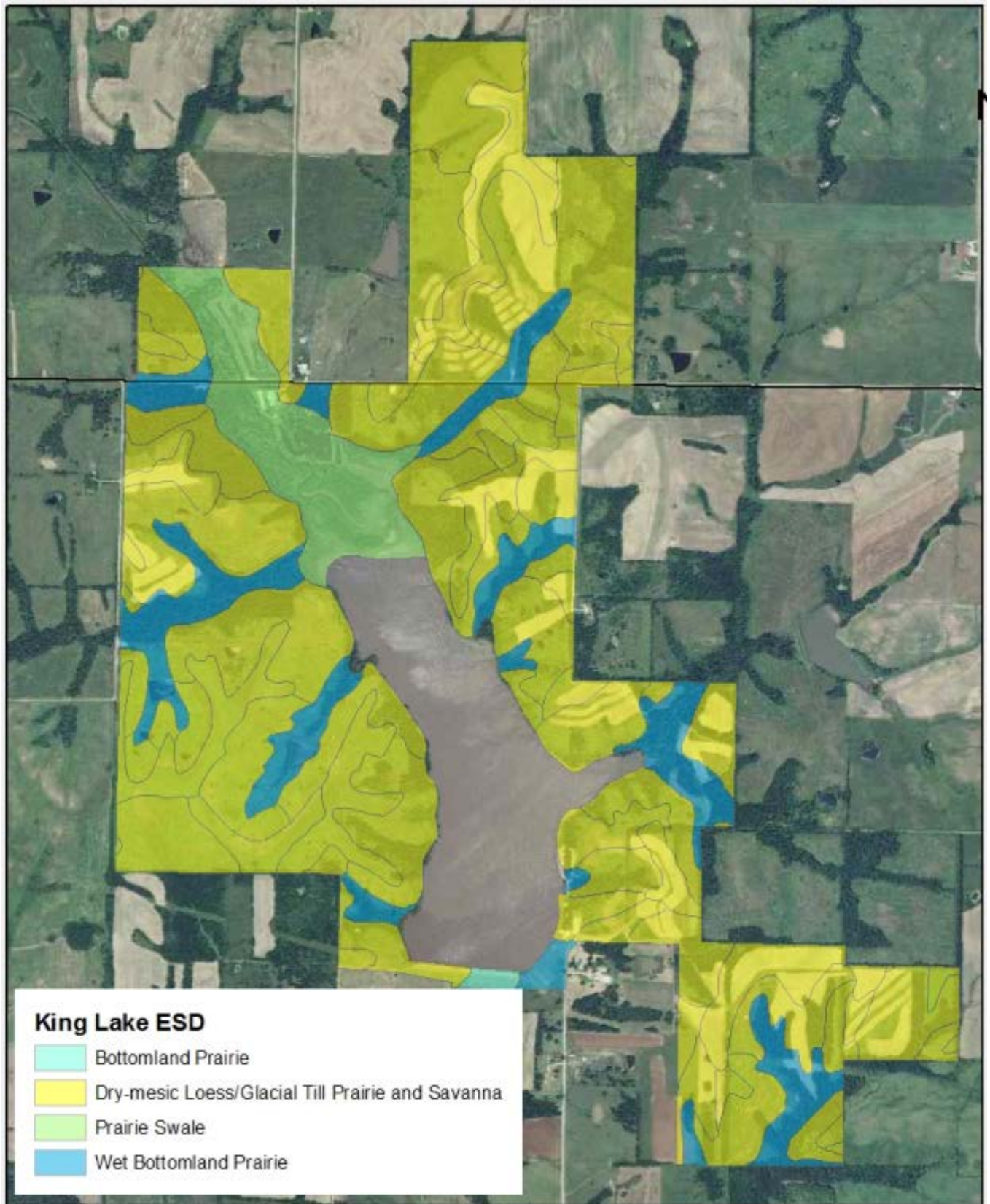


Figure 5: Ecological Site Description Map



Appendix A. King Lake Conservation Area Management Plan Public Comments

Received during public comment period (January 1-31, 2017):

<p>I like the idea of more Warm Season Grasses and good cover for Deer, Pheasant and Quail.</p>
<p>I am all for any wetland restoration/ improvements. I think that more of MDC's land should be considered for additional wetlands. They are a precious resource that is diminishing at very rapid rate. I have spoke with the area manager and will also offer any help voluntarily, in any way shape or form to MDC as a whole.</p>
<p>A hiking/equestrian trail around the lake perimeter would be an added bonus. A natural grass surface that is maintained with regular mowing would be sufficient. I walk almost daily around Limpp Lake just west of King City with the exception of summer months because the path is not mowed.</p>
<p>The siltation of this lake makes it a waste of a good potential resource. When new to the area, I only spent 30 minutes on this lake after seeing how shallow and barren it was-very disappointing waste of time. This is a common problem for many lakes in this area (Limpp, Pony Express, Harrison County, etc). I have yet to see the MDC implement any type of lake renovation in recent years. This siltation will continue to become a problem until the MDC develops and maintains a specialized and well funded team focused on rehabilitating many of these lakes. Small water fishing is a valuable recreation for people who desire to get away from the crowds and sometimes dangerous conditions on large impoundments and reservoirs. For example, kayak fishing is gaining in popularity and these medium sized lakes are custom made for this type of use. Please find innovative ways to open these lakes up to their full potential-either pumping or old fashioned dam cutting,draining and cleaning out. Lakes tremendous fisheries after these actions are taken.</p>
<p>I hunt king lake very frequently for rabbits, quail, and thanks to your wonderful management efforts, even pheasant!!! Your department has done an unbelievable job bringing back turkey, deer, and now- even game birds again. (Which I haven't seen since I was a boy on my first hunting outings. I'm 41 now) The main thing I want to point out is the use of milo on not just king lake, but pony express, and elam bend. It's a great food source during the hard winter months. I've noticed many rabbits and other small game in and around these milo fields, but the number of quail & pheasants that feed on this milo has been just remarkable. I've never seen anything like it in 30 years of hunting. Please continue to plant as much of it as is possible, as your efforts really are noticed and appreciated. Keep up the good work, and thanks again.</p>