# **Binder Community Lake**

Fifteen-Year Area Management Plan FY 2019-2033



Fisheries Division Chief

June 12, 2018
Date

### Binder Community Lake Management Plan Approval Page

#### PLANNING TEAM

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#### CENTRAL REGION

**RCT Chair** 

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Date

FISHERIES DIVISION

Fisheries Field Operation Chief

Signature

Date

#### **OVERVIEW**

• Official Area Name: Binder Community Lake, #6419

• Year of Initial Acquisition: 1965

• Acreage: 223 acres

• County: Cole

• **Division with Administrative Responsibility:** Fisheries

• **Division with Maintenance Responsibility:** Fisheries

• Statements of Purpose:

#### A. Strategic Direction

The primary purpose of Binder Community Lake is to provide recreational opportunities for the public, including fishing, bird watching, hiking, outdoor photography, wildlife viewing, and camping. The lake is also managed to provide quality habitat for all aquatic organisms as well as diverse public recreational opportunities.

#### **B.** Desired Future Condition

The desired future condition of Binder Community Lake is a quality fishery for the public and to maintain or enhance quality fish habitat, including controlling undesirable aquatic vegetation.

#### C. Federal Aid Statement

This area, or a portion thereof, was developed with Land and Water Conservation Fund dollars to provide land or facilities for public outdoor recreation.

#### GENERAL INFORMATION AND CONDITIONS

#### I. Special Considerations

A. Priority Areas: NoneB. Natural Areas: None

#### II. Important Natural Features and Resources

**A. Species of Conservation Concern:** None observed.

B. Caves: NoneC. Springs: None

**D.** Other: Besides the 155-acre fishing lake, this area also has an 8-acre wetland. The wetland was designed so water levels could be manipulated using Binder Lake as its water source. The wetland's primary purpose is for viewing shorebirds.

#### III. Existing Infrastructure

- Concrete boat ramp
- Courtesy boat dock
- Fishing jetty/platform, Americans with Disabilities Act (ADA) accessible

- Fishing dock (ADA accessible)
- Multiuse dock
- Shorebird viewing blind
- Binder Lake, 155-acre fishing lake
- Shorebird Marsh, 8 acres

#### IV. Area Restrictions or Limitations

- A. Deed Restrictions or Ownership Considerations: The Missouri Department of Conservation (the Department) and the City of Jefferson Parks and Recreation Commission (Jefferson City) has a Community Assistance Program agreement for the management of Binder Lake and Binder Park. The Department agrees to provide and maintain informational signs, conduct fish community surveys, fish stocking, and set fishing regulations. The Department will make any major repairs to boat ramp, docks, or jetties. Jefferson City agrees to remove litter, mow grass, and control unwanted grass on roads and parking areas. Jefferson City may also install rock to repair minor damage to jetties, boat ramp, and roads.
- **B.** Federal Interest: This land must provide land/facilities for public outdoor recreation in perpetuity. 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: None
- **D.** Cultural Resources Findings: No known cultural resources.
- **E. Endangered Species:** None observed.
- **F. Boundary Issues:** Establishing accurate and identifiable boundary markers is a priority for this property.

#### V. <u>Terrestrial Resource Considerations</u>

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

Maintain adequate riparian corridors along Dickerson Creek. The short reaches of Dickerson Creek have suitable riparian corridors.

**Management Objective 1:** Implement and maintain best stream and watershed management practices.

**Strategy 1:** Maintain riparian corridors around Binder Community Lake, according to *Watershed and Stream Management Guidelines for Lands and Waters Managed by Missouri Department of Conservation* (Missouri Department of Conservation, 2009). (Fisheries)

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

#### VI. Aquatic Resource Considerations

Aquatic resources at Binder Community Lake include Binder Community Lake, Binder Pond, a shorebird marsh, an intermittent stream, and an unnamed first-order tributary. Binder Community Lake is the third largest public lake within a 25-mile radius of Columbia. This 155-acre lake has 3.3 miles of shoreline, a volume of 1,395 acre-feet, a maximum depth of 28 feet and a mean depth of 9 feet (Figure 3). Binder Pond is approximately 0.8 acres and is located in the southeast section of the park. A shorebird viewing marsh is approximately 8 acres and is less than 5 feet deep; it was constructed below Binder Community Lake dam. Two small portions of Dickerson Creek (a second-order intermittent stream) occur at each end of Binder Community Lake within park boundaries. The upper section of Dickerson Creek flows approximately 2,000 feet before entering Binder Community Lake. The lower portion of Dickerson Creek acts as the principle spillway for Binder Community Lake and flows for about 1,200 feet before it reaches private property. An unnamed first-order tributary of Dickerson Creek (approximately 0.25 miles) drains into Binder Community Lake.

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

- 1) Continue to enhance or maintain fish habitat at Binder Community Lake. Numerous trees were left standing or placed in large piles throughout the lake basin during its construction in 1967. Much of this habitat remains as stumps and logs. Since 1966, hundreds of trees have been placed in the lake to create/maintain brush piles for fish attractors and habitat. Popular bank-fishing areas, which lacked fish-attracting habitat, were enhanced by placing used Christmas trees, red cedars, and hardwood trees within casting distance of the shoreline at various locations around the lake.
- 2) Maintain viable fisheries for largemouth bass, white crappie, black crappie, bluegill, redear sunfish, and channel catfish at Binder Community Lake. Fish sampling surveys during 2014 and 2015 found 14 fish species, including largemouth bass, bluegill, redear sunfish, white crappie, black crappie, green sunfish, common carp, channel catfish, flathead catfish, gizzard shad, brook silverside, hybrid sunfish (green sunfish x bluegill), yellow bullhead, and golden shiner. The lake currently supports a stockpiled bass population, which is dominated by too many small bass (≤12"). However, there are still good numbers of larger bass up to 20" and a high density of larger bluegill, averaging around 7".

- 3) There have been periodic problems with aquatic vegetation since Binder Community Lake was constructed. Fragrant water lily has been the predominant plant species for the last several years. To slow the spread of the water lily, the lake was treated with aquatic herbicides. Over the last few years, American lotus appeared in the lake, but was controlled with herbicide applications as well. Other aquatic plants observed at the lake include water primrose, coontail, cattails, water smartweed, filamentous algae, and buttonbush.
- 4) Continue to manage the shorebird viewing area; it has been actively managed since 1981.
- 5) Binder Pond is closed to public use; however, it is used for special events by the Department and Jefferson City. The pond is regularly stocked with hybrid sunfish to increase fish harvest opportunities for special fishing events.
- 6) The lower portion of Dickerson Creek has been highly channelized due to the construction of the principle spillway.

Management Objective 1: Maintain or develop and implement management strategies, as needed, to maintain high quality sport fisheries in Binder Community Lake. Survey and monitor all lake aquatic resources to determine current status and/or fisheries potential.

**Strategy 1:** Annually conduct spring electrofishing surveys to monitor largemouth bass and bluegill population status. (Fisheries)

**Strategy 2:** Conduct spring hoop-netting for channel catfish every three years to monitor population status. (Fisheries)

**Strategy 3:** Monitor crappie population status every three years through fall trapnetting. (Fisheries)

**Strategy 4:** Stock channel catfish on an annual basis. (Fisheries)

**Strategy 5:** Maintain current creel and length limits, unless desired population indices are not met for three years. The current fishing regulations at the lake are black bass 15" minimum with a daily creel limit of six; four channel catfish, blue catfish, and flathead catfish in the aggregate; 30 crappie; and all other fish, 20 in the aggregate. (Fisheries)

**Management Objective 2:** Manage and monitor the wetland to provide adequate habitat to attract various species of shorebirds and waterfowl.

**Strategy 1:** Provide proper water levels that shorebirds require by manipulating water levels with the water control structure. (Fisheries)

**Strategy 2:** Do routine maintenance on the water control structure for the wetland. (Fisheries)

**Management Objective 3:** Enhance diversity and quality of aquatic resources.

**Strategy 1:** Monitor and control nuisance aquatic plants. (Fisheries)

**Strategy 2:** Maintain aquatic vegetation at less than 30 percent coverage. (Fisheries)

**Strategy 3:** Plant native aquatic plant species from seed to improve diversity, as needed. (Fisheries)

**Strategy 4:** Construct hardwood and evergreen brush piles, as needed, for fish habitat. (Fisheries)

**Strategy 5:** Survey water quality for excessive nutrients, chlorophyll and other physical water parameters. (University of Missouri)

#### VII. Public Use Management Considerations

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

- 1) Provide access to quality public fishing opportunities. Boats are allowed on the lake with a no-wake restriction. Most of the fishing by anglers is done from boats. However, considerable bank-fishing does occur along the dam, jetties, near the boat ramp and fishing dock, and various places along the north shore.
- 2) Facilities at the lake include a boat ramp, courtesy boat dock, one multiuse dock, an ADA-accessible fishing platform, nine parking lots (eight are ADA-accessible), one ADA-accessible privy, a shelter house, three picnic areas, shorebird viewing blind, and numerous bank-fishing sites. There is also one ADA-accessible fishing jetty located near the boat ramp.
- 3) Provide up-to-date and easily accessible information about the area.
- 4) Jefferson City Parks and Recreation Department maintains the park around Binder Lake, which provides several picnic areas, benches, hiking and biking trails, an RV campground, and other recreational uses such as softball, volleyball, and disk golf for the public to enjoy. Since those types of activities are outside the scope of the Department's agreement with the City, this plan does not address those activities.

**Management Objective 1:** Provide access to public recreational opportunities.

**Strategy 1:** Maintain access to bank-fishing opportunities by controlling aquatic vegetation. (Fisheries)

**Strategy 2:** Maintain the shorebird viewing blind to give the public an additional recreational opportunity. (Design and Development)

**Management Objective 2:** Continue to provide public education concerning Binder Community Lake aquatic resources.

**Strategy 1:** Develop and/or maintain signs and displays that explain current fishing regulations and management efforts. (Fisheries)

Strategy 2: Disseminate information regarding Binder Community Lake and its fishery via the statewide fishing report, Department publications (e.g., Fishing Prospects), local newspapers, and electronic media (Department public website, Missouri Atlas database). (Fisheries, Outreach and Education)

#### VIII. **Administrative Considerations**

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

- 1) Work with Jefferson City to maintain boundary lines that are clearly demarcated.
- 2) Consider acquiring land, when available.

**Management Objective 1:** Maintain boundary lines that are clearly demarcated. Strategy 1: Inspect boundary lines on a rotating schedule. Replace or repaint boundary line signs, as needed. (Fisheries)

#### **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:

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	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30	FY31	FY32	FY33
Aquatic Resource Management Considerations															
Objective 1															
Strategy 2	X			X			X			X			X		
Strategy 3		X			X			X			X			X	

#### **APPENDICES**

#### Area Background:

The Missouri Department of Conservation (Department) and Jefferson City Parks and Recreation (Jefferson City) cooperate to provide numerous recreational opportunities at Binder Park, which is located off Rainbow Drive and Henwick Lane, west of Jefferson City.

Binder Park is named after Fred C, Fred H., and Frederick Binder. Fred C. Binder established a trust fund in 1918 to establish a park as a memorial to his father, son, and himself. The land donated to Jefferson City through the Binder trust fund totaled approximately 490 acres. Jefferson City then purchased an additional 154 acres in 1965 and 1966 to complete land acquisition for park development. Shortly thereafter, Jefferson City donated 223 acres to the Department (all park land below the 644-foot contour interval) with the stipulation that it was to be used to develop a community fishing lake (Figures 2 and 3).

In 1967, the Department completed the construction of 155-acre Binder Community Lake. Binder Community Lake was created by impounding Dickerson Creek on the northeast side of the area.

Along with Binder Community Lake, the Department provides the public with an ADA-accessible fishing jetty, ADA-accessible fishing dock, concrete boat ramp, multi-use dock, and courtesy dock. Jefferson City manages the park area around the lake, which provides many picnic areas, resting benches, hiking and biking trails, a recreational vehicle campground, and several other recreational uses such as softball, volleyball, and disk golf for public use. Jefferson City also manages a large shelter house that provides a picnic area that overlooks the lake and has attached ADA-accessible restrooms.

Directions: From Jefferson City, take Highway 50 west to the Apache Flats/St. Martin's Exit, continue west on Business 50, turn right (north) at South Binder Lake Road, left (west) on Rainbow Drive, and right (north) on Binder Park Road.

#### **Current Land and Water Types:**

Land/Water Type	Acres	Miles	% of Area
Lakes/Ponds	155		70
Forest and Woodland	30		13
Grassland (non-prairie)	30		13
Wetland	8		4
Total	223		100
Stream Frontage – Intermittent Streams		0.5	

#### **Public Input Summary:**

The draft Binder Community Lake Management Plan was available for a public comment period Dec. 1–31, 2017. The Missouri Department of Conservation received comments from 11 respondents (Appendix A). The Binder Community Lake 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.

<u>Department responses to themes and issues identified through the Binder Community Lake Management Plan public comment period.</u>

#### Suggests lengthening the boat ramp and reducing its steepness.

The Department has no immediate plans to repair or replace the boat ramp at Binder Lake.

Suggests changes in fishing regulations (e.g., to improve crappie fishing), including:

- Adopting a 9" minimum length limit for crappie species;
- Reducing the crappie catch limit to 10 per day;
- Managing the lake for large panfish;
- Stocking shad; and
- Providing walleye fishing.

Binder Community Lake's fishery is managed primarily for its largemouth bass, redear sunfish, bluegill, and channel catfish populations. Protecting crappie through fishing regulations in smaller lakes such as Binder Community Lake often leads to overpopulation especially when certain physical conditions exist. Crappie population control in small lakes is primarily dependent on variable recruitment and predation. One physical condition that can quickly lead to overpopulation by crappie is excessive aquatic vegetation. Excessive aquatic vegetation provides too much cover for crappie and interferes with predation from bass. Over the years, we have had trouble keeping aquatic vegetation at Binder Community Lake at desirable levels even though we try. Unfortunately, not every lake is suitable for developing good crappie populations. Binder Community Lake happens to be one of those lakes where it is better to manage for a low-density crappie population.

Binder Community Lake has a good population of redear sunfish with many in excess of 9 inches. The bluegill population also has numerous fish greater than 8 inches. Gizzard shad are already present in the lake. Stocking walleye into Missouri lakes that are similar in size to Binder Community Lake has not been successful in the past. As a result, we have no plans to stock walleye in the future.

Suggests managing the goose population better (e.g., reduce their wastes on the fishing jetty, reduce nutrient load into lake).

The goose population is monitored at Binder Community Lake annually and doesn't change much from one year to the next. Jefferson City Parks staff takes actions to limit the annual recruitment of goslings to the population. Unfortunately, large accessible mowed landscapes in or near open water will have goose use and goose waste present. If water quality issues arise in the future due to nutrient loading, additional management may be considered.

# Appreciates Binder Community Lake. Appreciates the variety of recreational opportunities available at the area. Enjoys watching migratory waterfowl at Binder Community Lake.

Thank you for your comment. Binder Community Lake and Park does provide numerous outdoor activities for many people to enjoy.

#### Suggests adding an archery range (or a 3-D walkthrough range) to the area.

This item will be submitted to the master plan firm currently working on a parkwide master plan for the Jefferson City Parks and Recreation system for their review and possible inclusion to the new plan.

### Suggests expanding boat storage and parking at the area to accommodate increased boaters.

This item will be submitted to the master plan firm currently working on a park wide master plan for the Jefferson City Parks and Recreation system for their review and possible inclusion to the new plan.

#### Suggests mentioning sailing usage in the plan.

Sailing is an activity that is already promoted on Binder Community Lake through the Department's Atlas database webpage.

#### Would like clarification on whether the "pavilion" referenced is the sailing pavilion.

The "pavilion" that was mentioned in the plan has been changed to the shelter house for consistency.

## Suggests adding the new shelter facilities, the sailing facilities (e.g., the small-boat launch), and the mountain bike paths to the list of infrastructure in the plan.

Although these facilities do exist on the area, this plan only addresses the infrastructure that the Department is responsible for maintaining. The Jefferson City Parks and Forestry Department maintains those types of activities for Binder Community Lake.

# Suggests reducing/removing vegetation in the lake and along the shoreline to improve fishing access (particularly for largemouth bass fishing). Suggests better management of the algal bloom.

Grass Carp have been stocked into Binder Community Lake to reduce the amount of aquatic vegetation along the shoreline. Some spot spraying of aquatic herbicides is also periodically done

to reduce the amount of aquatic vegetation. Binder Community Lake water quality is tested four times a year by the University of Missouri.

### Suggests better maintenance of the water control structure. Water levels were too high in the fall to support sandpiper and plover habitats.

The water level of the wetland is controlled by a volunteer that does their best to provide the best habitat possible. Rainfall can change water levels very quickly, making it a challenge to always have suitable water levels. If you would like to help by volunteering, please contact the Department.

### Suggests prohibiting fishing near the small-boat launching beach to prevent lost lures from becoming a hazard.

The Department will keep this area clear of excessive aquatic vegetation and woody debris to limit the loss of lures.

### Suggests improving the small-boat launching beach by grading the beach and improving access from the parking lot.

This item will be submitted to the master plan firm currently working on a park wide master plan for the Jefferson City Parks and Recreation system for their review and possible inclusion to the new plan.

#### Suggests adding a fishing dock on the north end of the lake.

There is already a fishing jetty and multi-use dock in that area of the lake.

### Suggests repairing the existing dock (by the boat ramp) so that the metal is not exposed.

This dock will be checked and any needed repairs will be done.

#### Suggests adding a courtesy dock that is parallel to the boat ramp.

A courtesy dock already exists by the boat ramp that boaters can use to load and unload passengers. The area between the courtesy dock and boat ramp has had big rocks removed and sand added to make this area more user-friendly for sail boaters.

#### Suggests adding a restroom at the boat launch area.

This item will be submitted to the master plan firm currently working on a park wide master plan for the Jefferson City Parks and Recreation system for their review and possible inclusion to the new plan.

### Suggests stricter enforcement of wake restrictions to improve recreational opportunities for non-motorized boats.

On Binder Community Lake, boaters with outboard motors over 10 horsepower have to motor at a no wake speed. Boaters with less than 10 horsepower motors are allowed to operate their boat

at top speed which might cause small wakes. Conservation agents periodically patrol the lake and will enforce the regulation when appropriate.

Suggests monitoring the limnology at Binder Community Lake and its watershed. Is concerned about declining water quality in the lake. Suggests including neighbors (within the lake's watershed) in efforts to improve water quality.

Binder Lake is sampled four times per year during the summer months by University of Missouri's Statewide Lake Assessment Program and/or University of Missouri's Lakes of Missouri Volunteer Program. Data can be obtained from the Department of Natural Resources website. Some parameters sampled include temperature, pH, chlorophyll, Secchi depth and turbidity, dissolved oxygen, suspended solids, phosphorus, nitrogen, and specific conductivity. The Department will incorporate the evaluation of limnological parameters into the management plan.

#### Suggests better enforcement of speeding vehicles/motorcycles on Binder Lake Road.

The possibility of adding more speed limit signs will be investigated by Jefferson City Parks and Recreation Department.

#### Suggests allowing reservations for fishing boat rentals.

This item will be submitted to the master plan firm currently working on a park wide master plan for the Jefferson City Parks and Recreation system for their review and possible inclusion to the new plan.

#### **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.

#### Maps:

Figure 1: Area Map

Figure 2: Topographic Map Figure 3: Aerial Photograph

#### **Additional Appendices:**

Appendix A: Binder Community Lake Management Plan Public Comments

Figure 1: Area Map

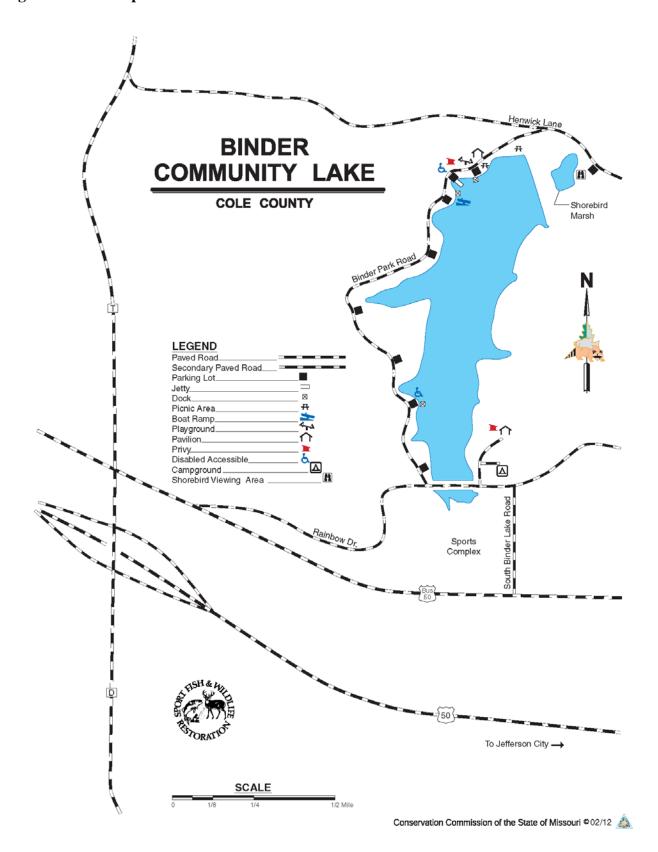


Figure 2: Topographic Map

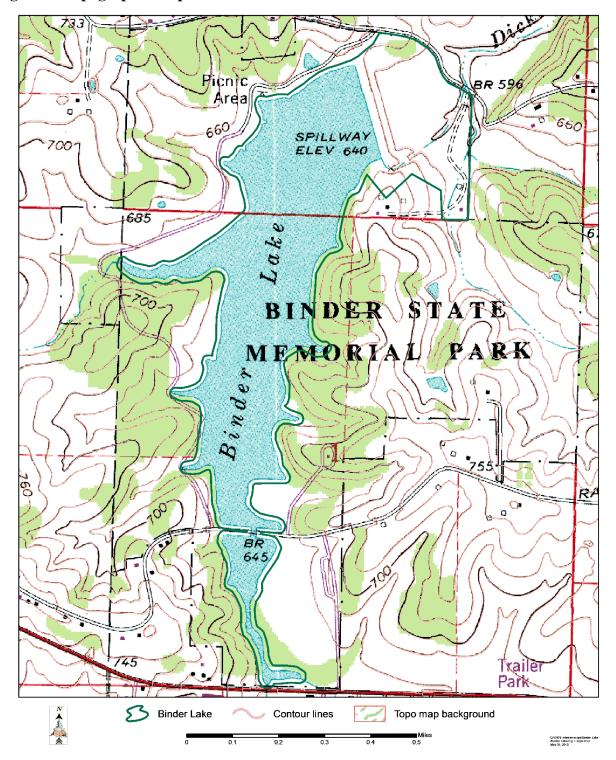
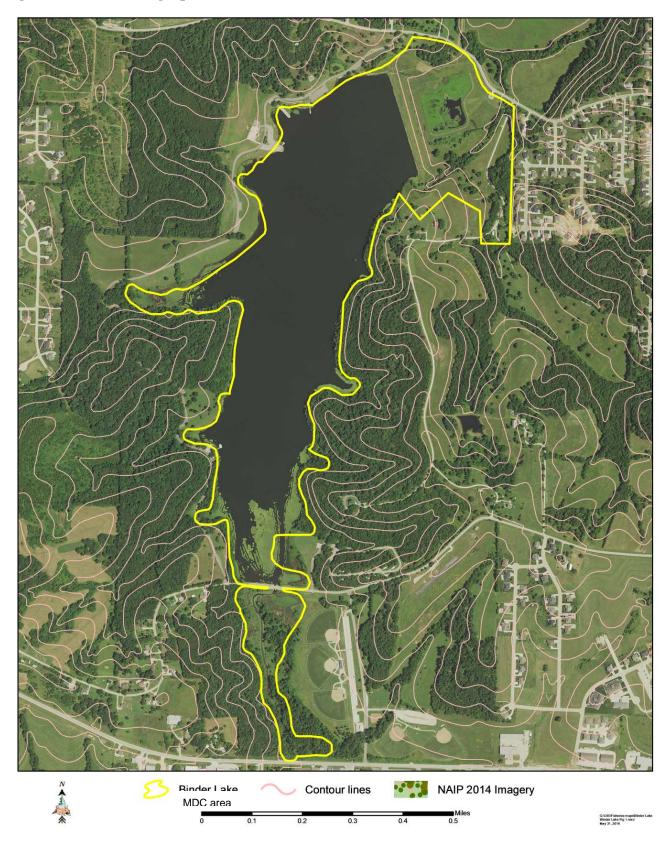


Figure 3: Aerial Photograph



#### **Appendix A: Binder Community Lake Management Plan Public Comments**

Received during public comment period (Dec. 1–31, 2017):

The current boat ramp is in my opinion to short and steep for safe boat launching. I also would like to see a minimum length of 9 inches be established for both species of crappie.

My family enjoys this area greatly. My only comments for improvement would be find some strategy to keep the geese - and their droppings - off the ADA fishing jetty if possible and to improve the prospects for bank fishing. Thank you.

Reduce the crappie limit to 10 fish per day. Enact a minimum length of 9 inches. Manage the lake for large panfish. The crappie are short and very skinny. I live in Jefferson City, but drive a long distance out of town to fish quality crappie. The lake should be more productive. Stock shad.

More in emphasis should be directed toward improving the Crappie populations. Binder lake was once a local destination for catching good numbers of quality size crappie.

It would also be nice to have a lake in the area with opportunities to catch walleye.

With the available surrounding woodlands and open fields, the department along with the city should consider constructing an archery range and or a 3D walk through range. There is a large number of archery hunters/enthusiasts in this area, and something like that would be very well utilized. I believe most would even be open to a reasonable fee.

I participate in sailing at Binder on a regular basis from spring to late fall. An expansion for boat storage and parking would be nice as we have grown the club membership from 6 to currently 30+.

Also on page 6 under Challenges and Opportunities, it is not clear that you are including the sailing pavilion or if it is referencing the older pavilion? There is no mention of the small boat launch and or sailing activity in the document. I think the usage for this sport should be included.

I would like to see the lily pad area on the south side by the bridge close to the softball fields have more openings to fish for largemouth bass. Previously it had what looked like paths between the Lillypads and was amazing for top water fishing for largemouth bass. Also on the southeast and south west side of bridge needs to be opened a little more like it previously was.

Another good thing would be more paths cu in the cattails so bass fisherman who fish from the bank could get closer to certain areas, for example, the north east side by the camp grounds, there appears to be no path to access the water channel on the right side looking from the bridge. Thanks

Binder Community Lake is a wonderful resource. I use the lower pond area to observe migratory waterfowl each spring & fall. The water control structure may need maintenance as there have been several times the water levels were not being managed correctly. I was told the issues were attributed to vandalism.

Thank you for the multi-recreational activities provided at Binder Community Lake. The diverse activities allow many to engage in nature and water recreation.

Under facilities at Binder Lake the small boat launching beach needs to be noted as this area is used extensively by kayakers, canoeists and small sailboats. The kayakers & canoeists engage in recreational paddeling and fishing. This is an area that may need to be designated as nonfishing as lost lures and hooks become a hazard to those kayakers, canoeists and small sailboats. The small boat launching beach needs enhancement - grading, sand and an improved access from the parking lot

The inventory of shelters does not include several new facilities. Also noting the community sailing facility and mountain bike paths seems appropriate especially as MDC promotes more diverse recreational activities.

The existing dock by the boat ramp is not serving the users well. It has become a fishing dock and not a courtesy dock. A fishing dock at the north end is needed the existing dock needs repair as the exposed metal will damage boats. Also suggest a courtesy dock parallel to the ramp for ramp launching - similar to the ramp at Rocky Mount Access

The algae bloom may not be a health issue but it is a lake management issue

Parking at the boat ramp needs expansion as it is often full

The goose population needs management

A restroom at the boat launch area would be well used

Binder Lake has the potential to be a great destination for kayak fishing, with some improvements in access and stricter enforcement of size/wake restrictions for motorized craft.

The number of shoreline weeds and the recent growth of algae have made shoreline fishing more difficult.

The large numbers of geese in the area (and the waste they produce) often renders improved facilities, such as the handicap fishing jetties, unusable.

Email comment: Dear Ms. Buechler (Public Involvement Coordinator),

During December the MDC sought public feedback on the "DRAFT Binder Community Lake Fifteen-Year Area Management Plan FY 2018-2032" document. I was traveling overseas for much of the time & missed the open period for providing comment on Area Plans via the website (https://mdc.mo.gov/conservation-area-management-plans/area-plans-viewcomment/area-plans-comments?ap=240385).

I shall be grateful if you would forward this late comment to the chairperson overseeing the above draft plan for Binder lake.

I'm a life scientist at MU (specializing in Plant Systematics & with some graduate training in Limnology. I also have much experience managing a small lake in Columbia, MO, especially the reduction of a large population of Canada Geese & enhancing biodiversity via the selective planting of native plant species - efforts cited by MDC staff who assisted me).

My comment on the draft Management Plan is that I would encourage the MDC to add a component of monitoring aspects of the Limnology of Binder Lake. I use the lake for recreation purposes and have been an annual 'user' for the past approx. 5 years. During this period I've observed a visible (qualitative) decline in water quality. This being noted by the growing presence of algal blooms in sheltered areas along the lake shore and excessive exotic macrophyte growth. This has been associated with a growing population of Canada Geese (know contributors to eutrophication scenarios). While the draft plan does address alien macrophyte growth, I suggest that monitoring of the following areas of the Limnology of the lake be added to the Management Plan: phosphate content (various forms of phosphate), pH, chlorophyll content, water transparency (details available via documentation on the web). My concern is that this 'hidden' area of water chemistry appear to have been overlooked in the management plan. When the water chemistry goes 'wrong' it impacts the ecosystem in profound ways, some of which are very undesirable to the average visitor, resulting in rapid decline in recreational use. While monitoring the water chemistry & biology of the lake is very important, almost equally important is to monitor the inputs from the watershed for the lake. I suggest that some explicit education of neighborhoods in the watershed(s) will need to be done so as to decrease the source of nutrients flowing into the lake (those source inputs will need to be detected & monitored), especially phosphate from residential and agricultural fertilizers, I know that MDC management will be well aware of the impact of adverse water quality on aquatic life e.g. fish, especially during the heat of summer, due to anoxic conditions. My qualitative observations in the changes in the water quality suggest that the water chemistry & associated biology (especially micro algae) is headed in the wrong direction. It will be recalled that there was such a scare regarding a potential Microcystis algal bloom during late 2017. It would be very good to work toward an escalation of such algal blooms in the future. This necessitates some critical proactive planning that addresses water chemistry issues.

I'm available for questions/feedback etc.

I can also be reached at Leszek@missouri.edu (dept of Biochemistry, & Division of Plant Science)

#### Regards,

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I found that water levels in the Shorebird Viewing Area were often too high this past August and September to support sandpiper and plover habitats. In general, only sparse scatterings of small and midsize sandpipers (observed: Least, Semipalmated (3), Pectoral, Solitary, Spotted, Lesser Yellowlegs (1)), as well as up to 60 Killdeer used the area. Even after rains, mudflats should be maintained as extensively as possible in order to support greater shorebird numbers and diversity during their fall migrations. Please maximize mudflats from August 15-October 15.

I would note that, beginning in mid-October, water levels have been appropriate to support a variety of dabbling and diving ducks, as well as American Coots.

One other concern that may or may not be appropriate for this forum: What can be done about vehicles speeding on Binder Lake Road--in particular, riders on small motorcycles? Frequent

speeding on this road (and on Rainbow Drive south of the lake) is dangerous and disruptive to the activities of human and animal visitors alike.

Thank you for managing this excellent State Park. Many birders, including myself, regularly benefit from your efforts.

Thank you for your excellence management of Binder Lake over the past years. I would like to see more emphasis on developing a more robust crappie fishery for anglers. I would also like to see fishing boat rentals available for reservations. Nothing fancy - maybe 12-14' John boats where anglers provide their own electric motors and other equipment. Thanks!