Chloe Lowry Marsh Natural Area

Ten-Year Area Management Plan

FY 2018-2027

Wildlife Division Chief

21 March 2018

Date

Chloe Lowry Marsh Natural Area Management Plan Approval Page

PLANNING TEAM

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OVERVIEW

- **Official Area Name:** Chloe Lowry Marsh Natural Area, #9225
- **Year of Initial Acquisition:** 1992
- **Acreage:** 115 acres
- **County:** Mercer
- **Division with Administrative Responsibility:** Wildlife
- **Division with Maintenance Responsibility:** Wildlife
- **Statements of Purpose:**
  - **A. Strategic Direction**
    The primary purpose of the Chloe Lowry Marsh Natural Area (NA) (Figure 1) is to conserve and manage remnant natural freshwater marsh, wet-mesic prairie, and wet-mesic woodland natural communities representative of the Central Dissected Till Plains Physiographic Area. Management emphasis is placed on developing and maintaining habitat that supports freshwater marsh and woodland-dependent wildlife species and providing access for the public to use and enjoy.
  - **B. Desired Future Condition**
    The desired future condition of the Chloe Lowry Marsh NA is a diverse natural freshwater marsh and associated bottomland woodland plant community representative of historical conditions in the Central Dissected Till Plains Physiographic Area.
  - **C. Federal Aid Statement**
    N/A

GENERAL INFORMATION AND CONDITIONS

I. <u>Special Considerations</u>

A. Priority Areas: Lowry Marsh Wetlands – Wetland Conservation Opportunity Area

B. Natural Areas: All 115 acres are part of the Chloe Lowry Marsh NA. Lowry marsh is vital habitat to multiple wetland dependent species of conservation concern. This complex of freshwater marsh and wet-mesic bottomland prairie is a rare remnant of a once more common natural community across the Central Dissected Till Plains ecoregion of north Missouri. Most of these sites have been ditched and drained and converted to crop ground. The marsh developed in an abandoned meander of the Weldon Fork of the Grand River. Lowry marsh is highly valuable as a reference site for wetland restoration and reconstruction efforts.

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: Chloe Lowry NA is in the Central Dissected Till Plains, Grand River Hills Subsection, Grand River Alluvial Plains Landtype Association. Historically, this landtype association was a mosaic of marshes, wet prairie, and bottomland forest (Nigh & Schroeder, 2002). Past land use practices have greatly altered the landscape from this historical description. Today it is in row crops with narrow bands of bottomland timber and occasional wetlands.

III. Existing Infrastructure

- One parking lot
- Approximately 1 mile of abandoned railroad berm dissecting the area

IV. Area Restrictions and Limitations

A. Deed Restrictions or Ownership Considerations: None

B. Federal Interests: 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 known

MANAGEMENT CONSIDERATIONS

V. Terrestrial Resource Management Considerations

Much of the native grassland cover (Figure 2) was severely degraded prior to the Missouri Department of Conservation (the Department) acquiring the property. Introduced cool-season grasses and legumes were the primary cover type. In addition, introduced invasive species, such as sericea lespedeza, have become established on the natural area. With management, native prairie vegetation once again dominates the area, but continued management efforts will be required to maintain it.

Challenges and Opportunities:

1) The Chloe Lowry Marsh NA is listed as part of the Lowry Marsh Wetlands - Wetland Conservation Opportunity Area. This may provide additional opportunities to manage for diverse native plant and animal communities.
2) Continued monitoring and management will be required to control undesirable vegetation.
3) The hydrology of the marsh has been altered from historical conditions, making management more difficult, due to the incised channel of the Weldon Fork of the Grand River, the presence of an old railroad berm and drainage of adjacent properties. Maintaining adequate hydrology is critical to maintaining the natural features of the marsh.
4) The primary methods of managing vegetative communities on the Chloe Lowry Marsh NA will be mechanical tree removal, herbicide application, and prescribed fire.

Management Objective 1: Manage natural area to provide habitat for species of conservation concern associated with freshwater marsh, wet-mesic prairie, and wet-mesic woodland plant communities.

Strategy 1: Manage marsh and wet-mesic prairie plant community using prescribed fire, herbicide, and mowing, when conditions permit. (Wildlife)

Strategy 2: Manage wet-mesic woodland plant community using prescribed fire and mechanical treatments to obtain the desired structure and species composition. (Wildlife)

Management Objective 2: Control presence of invasive plant species.

Strategy 1: Conduct semiannual inspection of natural area for presence of invasive plant species. (Wildlife)

Strategy 2: Control invasive plant species and vegetation succession using herbicide, prescribed fire, and mechanical methods. (Wildlife)

VI. Aquatic Resource Management Considerations

Management of aquatic resources on Chloe Lowry Marsh NA is limited due to the ephemeral nature of natural wetlands and limited access to the Weldon Fork of the Grand River.

Challenges and Opportunities:

1) Historic hydrological alterations have disrupted the seasonal water flow of the marsh. Restoring this hydrology, wherever possible, will help to maintain the dependent plants and animals.

Management Objective 1: Improve hydrological conditions to the marsh and wet-mesic prairie.

Strategy 1: Conduct a feasibility study to evaluate the potential of water control structures and their use to benefit the remnant natural communities on the natural area by FY19. (Wildlife)

Strategy 2: Work with neighboring landowners to maintain and enhance water flow within the watershed of Chloe Lowry Marsh NA when feasible. (Wildlife)

Strategy 3: If found to be feasible, request through the Capital Improvements Committee approval and funding to install water control structures and use them to manage the natural communities of the natural area. (Wildlife)

Management Objective 2: Maintain a healthy riparian corridor along the Weldon Fork and unnamed creek.

Strategy 1: Maintain existing width of wooded riparian corridor along the river and creek. (Wildlife, Forestry)

Strategy 2: Control undesirable woody vegetation within the riparian corridor. (Wildlife)

Management Objective 3: Improve stability of eroded creek banks.

Strategy 1: Provide grade control as funding allows. (Design and Development, Wildlife)

VII. Public Use Management Considerations

The Chloe Lowry Marsh NA is managed for the conservation of freshwater marsh, wet-mesic prairie, and wet-mesic woodland plants and animals. The majority of public use is from deer hunters, bird watchers, and native plant enthusiasts.

Challenges and Opportunities:

1) The small size and location of the natural area limits public use.
2) Keep the area and its infrastructure well-maintained for public use and enjoyment.

Management Objective 1: Manage Chloe Lowry Marsh NA to conserve high quality examples of freshwater marsh, wet-mesic prairie, and wet-mesic woodland plant communities, and provide access for the public to enjoy.

Strategy 1: Annually review area regulations. (Wildlife, Protection)

Strategy 2: Maintain interior service roads to provide easy and unrestricted foot access by area users. (Wildlife)

Strategy 3: Periodically mow portions of marsh, when conditions permit, to help control dominant vegetation, promote less competitive species, and create periodic openwater habitat. (Wildlife)

VIII. Administrative Considerations

Chloe Lowry Marsh NA is listed as a Wetland Conservation Opportunity Area. This may result in additional administrative duties pertaining to project development, land acquisition, reporting, etc.

Challenges and Opportunities:

1) There are approximately 3 miles of shared boundaries between the Department and neighboring landowners.
2) Developing management agreements with neighboring landowners to improve local hydrological conditions and control invasive species would help improve management effectiveness on the natural area.
3) Consider land acquisition, when available.

Management Objective 1: Maintain area boundaries.

Strategy 1: Work with state and county authorities, as need arises, to maintain county rights of way bordering Department areas. (Wildlife)

Strategy 2: Work with neighboring landowners, as need arises, to ensure the maintenance of adequate boundary fencing. (Wildlife)

Management Objective 2: Work with neighboring landowners to increase management opportunities on the natural area and improve landscape functionality.

Strategy: 1: Pursue management agreements with adjoining landowners, when opportunities arise, to improve local hydrology, and control invasive species. (Wildlife)

Strategy 2: Pursue land acquisition opportunities from willing sellers in order to expand freshwater wetland habitat. (Wildlife)

Lands Proposed for Acquisition:
When opportunities arise, land adjacent to Chloe Lowry Marsh NA should be considered for acquisition from willing sellers. Tracts that improve landscape functionality for wetland species, improve habitat connectivity, have potential for wetland restoration, 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, should be considered.

MANAGEMENT TIMETABLE

Strategies are considered ongoing unless listed in the following table:

	FY18	**FY19**	**FY20**	**FY21**	**FY22**	**FY23**	**FY24**	**FY25**	**FY26**	**FY27**
Aquatic Resource Management										
Objective 1										
Strategy 1		X								
Objective 3										
Strategy 1		X								

APPENDICES

Area Background:
The Department purchased the property for Chloe Lowry Marsh Natural Area in 1992 and designated it as a natural area in 1995. The area was named after the late Chloe (Kauffman) Lowry. Mrs. Lowry had a great interest in the outdoors, especially the birds that used the natural marsh. The area provides a refuge for numerous plants and animals in an agriculturally dominated landscape. Migrating waterfowl, shorebirds, and a variety of amphibians depend on the wetland habitat of this ecosystem remnant. More than 110 plant species have been documented from the marsh and adjoining prairie and woodland habitats.

The area is managed primarily with mechanical methods and prescribed fire to maintain and enhance the integrity of the freshwater marsh. Chloe Lowry Marsh NA is open to public hunting and is a good place for birding.

Current Land and Water Types:

Land/Water Type	**Acres**	**% of Area**
Old Field	50	43
Wetland	40	35
Native Prairie (wet-mesic)	15	13
Woodland (wet-mesic)	10	9
Total	**115**	**100**

Public Input Summary:
The draft Chloe Lowry Marsh Natural Area Management Plan was available for a public comment period July 1–31, 2017. The Missouri Department of Conservation received comments from two respondents (Appendix A). The Chloe Lowry Marsh Natural 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.

<u>Department responses to themes and issues identified through the Chloe Lowry Marsh Natural Area Management Plan public comment period.</u>

Concerned with current management of this area, especially invasive species in the uplands and overgrown bulrush in the marsh. Suggests the use of prescribed fire and herbicide as management tools.

Management at the Chloe Lowry Marsh NA will attempt to highlight the high quality natural communities and species of special concern that exist there. This includes the need to control invasive species and woody cover encroachment, to restore hydrologic functioning and to improve and maintain the open character of the marsh, grasslands, and woodlands present at Chloe Lowry Marsh NA. The department recognizes the value of prescribed fire as a habitat management tool and is currently working to reinstate fire at the Chloe-Lowry Marsh. Plans are being drawn up to return fire to uplands (both open and wooded portions) and wetlands. Application of prescribed fire requires sufficient planning and a specific set of environmental variables, therefore fire will be applied when needed and as conditions and feasibility allow. We are exploring the option to install a water control structure on the east side of the marsh that will allow opportunistic movement of water from neighboring properties. In addition to reintroducing fire and improving hydrology, the Department will continue to utilize herbicide and mechanical control to reduce invasive species presence and woody encroachment.

Suggests edits to the land cover map.
The land cover map for Chloe Lowry Marsh Natural Area was updated this year to reflect both the management history of the property as well as its current status. Several areas have been re-seeded to native prairie vegetation; however these plantings have not progressed to the point where they would be considered grassland yet. As such they are still being considered old field vegetation.

Suggests adding informational signs.
Due to the low levels of public use, the area receives additional maintenance associated with infrastructure on unmanned areas. The area management team has decided against the addition of interpretive signage on Chloe Lowry Natural Area.

Suggests acquiring additional land.
The Department will consider acquisition of adjacent property if it becomes available.

References:
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: Cover Types

Additional Appendices:
Appendix A: Chloe Lowry Marsh Natural Area Management Plan Public Comments

Figure 1: Area Map

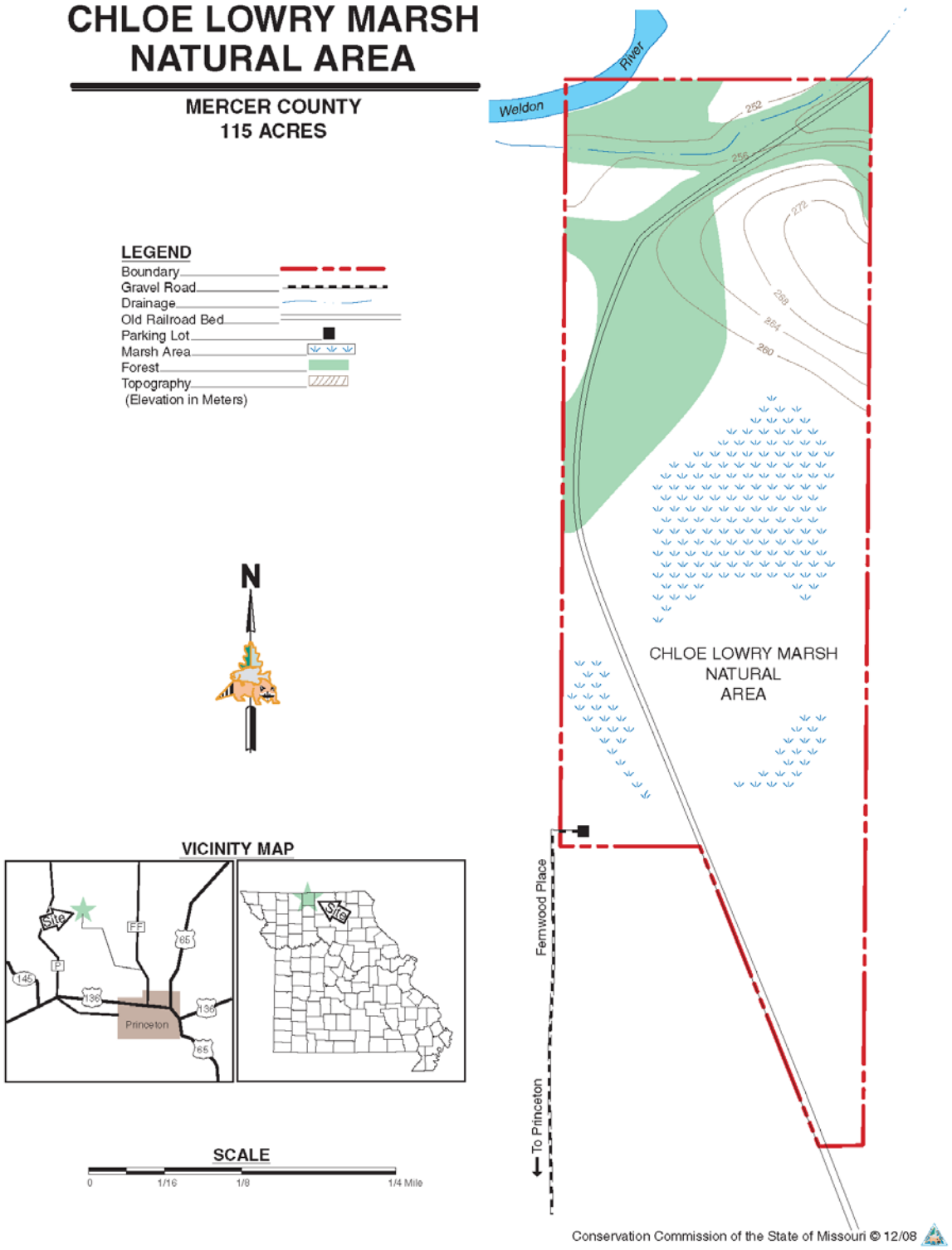

Figure 2: Chloe Lowry Marsh Natural Area Landcover Type

Appendix A: Chloe Lowry Marsh Natural Area Management Plan Public Comments

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

I would like to see some information signs. Additionally I just visited and wasn't sure if the railroad been was part of the area and how far down it I could walk. It was a pretty area!
Read with interest the Area plan for Lowry Marsh. I was the original manager of this area and know the history of both it and early management activities. It shocks me at what a mess it has become in the last several years. No fire has been applied in many years and from what I have seen the management has consisted of mowing around the parking lot, the top of the old railroad berm, and occasionally the field roads. None of which is performed too frequently. This Area used to be a nice place to visit, watch birds and hunt. Take a walk from the parking lot to the railroad berm, then along it in both directions to observe the marsh and wildlife. No longer easy to do because of the lack of upkeep. 6 rare plant species were identified on the Area at purchase time, two of which occurred nowhere else in MO. I doubt if they could be easily found today (if at all) because of the lack of management. Specifically fire. On the photo you show an old field area at the north eastern end of the property. This area was converted many years ago (1990's) to native warm season grasses/forbs using seed collected from the Helton Prairie Natural Area. So technically it is not old field. Other parts of the Area had native prairie remnant which the lack of fire has allowed to become overgrown and choked out. Fall burns to encourage the forbs and reduce the woody invaders and late fall glyphosate sprayings (after killing frost) would be very beneficial. Burning the marsh unit itself during a fall dry period would reduce the vegetation and allow some open areas to return. This in addition to the mechanical methods listed in the Area Plan. I would suspect that there isn't much, if any, shore bird use any more as the marsh portion is so choked with cattail and bulrush. Really no "shore" areas left. MDC dropped the ball a few years ago when they had a good opportunity to purchase a large tract of land east of the NA. This would have helped the hydrology of the area and restored some of the water flow. The creek crossing on the north end has been impassable for a number of years which prevents staff from accessing this part of the Area for management and boundary maintenance. A small open field in the NW corner of the area was planted to burr and swamp white oaks in the 90's utilizing both seedlings and acorns planted by hand. I would suspect that this area could benefit from some thinning or at least a look from the forester. I realize this is not a large natural area and is a small portion of the Upper Grand River District workload, but it certainly is a shame at what the lack of attention has allowed the area to become. The only real public activity that seems to occur on this area are kids tearing up the parking area cutting donuts with their cars, midnight rendezvous for lovers, and a few deer hunters in the fall. I have hunted waterfowl in the past on this area when water was present, but that would not be possible today with the vegetation choked marsh. In addition there were huntable populations of both quail and pheasants present on the area, but again it is so choked over with brush and thick vegetation I would suspect this would be a lesson in futility now. Maybe my comments will spur

some additional activities to help this area return to its former attraction. And help both the wildlife and native plant species.