

Poplar Bluff & Stephen J. Sun Conservation Areas

Ten-Year Area Plan
FY 2018-2027



Lisa M. Allen

Forestry Division Chief

5-11-18

Date

**Poplar Bluff & Stephen J. Sun Conservation Areas Management Plan
Approval Page**

PLANNING TEAM

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Bruce Henry, Natural History Biologist

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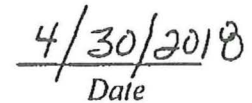
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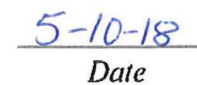

Signature


Date

FORESTRY DIVISION

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OVERVIEW

Area Name	Area Number	Year Acquired	Acreage	County	Administrative Responsibility	Maintenance Responsibility
Poplar Bluff Conservation Area (CA)	6529	1965	1,133	Butler	Forestry	Forestry
Stephen J. Sun CA	8902	1988	485	Butler	Forestry	Forestry

Statement of Primary Purpose:

A. Strategic Direction

Manage and sustain the areas' existing natural communities (bottomland forest, stream, oxbow lake, upland forest, Black River riparian corridor, shrub swamp) and provide quality wildlife habitat for a variety of species through forest management and open field management. Emphasis is on managing forest and wetland wildlife that occur in the lower Black River forested wetlands and the adjacent Ozark upland forest.

B. Desired Future Condition

The desired future condition is a diverse upland and bottomland hardwood forest habitat that supports and sustains all of the natural communities and associated wildlife, a productive and diverse fishery, and opportunities for the public to use and enjoy the areas' natural resources.

C. Federal Aid Statement

The Poplar Bluff and Stephen J. Sun CAs were acquired with Pittman-Robertson Wildlife Restoration funds to restore and manage wildlife, conserve and restore suitable wildlife habitat and provide public access for hunting or other wildlife-oriented recreation.

GENERAL INFORMATION AND CONDITIONS

I. Special Considerations

Area Name	Priority Areas	Natural Areas
Poplar Bluff CA	Priority Forest Landscape, Black River Stream Reach Conservation Opportunity Area	Poplar Bluff Forest Natural Area ¹
Stephen J. Sun CA	Priority Forest Landscape, Black River Stream Reach Conservation Opportunity Area	None

¹The Poplar Bluff Forest Natural Area was designated in 1971 and expanded in 1996 to 77 acres.

The purpose of the natural area is to protect a high quality wet-mesic bottomland forest and forested acid seep natural community.

II. Important Natural Features and Resources

Area Name	Species of Conservation Concern	Caves	Springs	Other
Poplar Bluff CA	Yes ¹	None	None	Yes ^{2,3}
Stephen J. Sun CA	Yes ¹	None	None	Yes ^{3,4}

¹Species 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.

²The area contains wet-mesic bottomland forest, a forested acid seep, and riparian corridors along the Black River.

³These two conservation areas represent the contact zone of two major ecosystems: the Ozark Highlands and the Mississippi Lowlands. The areas include typical upland Ozark forest and bottomland forest along Indian and Hickory Creek, and the Black River.

⁴Carpenter Lake is an oxbow of the Black River. It is the only known example of a natural lake occurring along the Ozark Highlands/Mississippi Lowlands junction. The area also includes shrub-swamp around Carpenter Lake, freshwater marsh, and riparian corridors along the Black River and Indian Creek.

III. Existing Infrastructure

Area Name	Parking Lot	Lakes/Ponds	Other
Poplar Bluff CA	1	Pond #1 (1-acre fishing lake), 5 wildlife watering holes (2 acres total)	Archery range with pavilion, picnic tables, 2.5 miles gravel road
Stephen J. Sun CA	1	Carpenter Lake (7-acre fishing lake)	N/A

IV. Area Restrictions or Limitations

Area Name	Deed Restrictions	Federal Interest	Easements	Cultural Resources	Endangered Species	Boundary Issues
Poplar Bluff CA	None	Yes ²	Yes ³	None known	Yes ⁴	None
Stephen J. Sun CA	Yes ¹	Yes ²	None	None known	None observed	None

¹The naming of Stephen Sun CA is a reservation on the title.

²Uses of land acquired with the federal funds may not interfere with the purpose for which it was acquired. Federal funds may also be used in the management of this land. Fish and wildlife agencies may not allow recreational activities and related facilities that would interfere with the purpose for which the State is managing the land. Other uses may be acceptable and must be assessed in each specific situation.

³A power line right of way crosses a portion of Poplar Bluff CA.

⁴Endangered species are known from this area. Area managers should consult the Natural Heritage Database annually and review all management activities with the natural history biologist.

MANAGEMENT CONSIDERATIONS

V. Terrestrial Resource Management Considerations

This predominantly forested area is a mixture of upland and bottomland forest. The upland forest of the two areas is typical Ozark upland oak-hickory. These forest stands contain black oak, scarlet oak, post oak, white oak, southern red oak, hickories, elms, and maple.

Poplar Bluff CA

Poplar Bluff CA (1, 138 acres) contains two forestry compartments (Appendix 3). Compartment 1 contains 39 stands. Compartment 2 contains 50 stands.

Compartment 1 (566 acres) was last inventoried in 2008. Most of the compartment is in the saw-timber size class. Uneven-aged management harvest was completed on 77 acres in 2012. Open bottomland areas, containing 143 acres (the former Laughlin tract), were direct-seeded and planted to bottomland tree species in 1995. Stand 18 (36 acres) is the largest stand in the Poplar Bluff Forest Natural Area. It has a high stocking of large cherrybark oak, saw-timber sized trees (up to 30-inch diameter), but the area has practically no red oak regeneration. The Missouri Department of Conservation (the Department) is attempting to establish red oak advance regeneration by under-planting cherrybark oak in this stand. The Department completed 30 0.11-acre blocks of cherrybark oak under-planting in this stand in 2014. Growth and development of these seedlings will be monitored for the next several years.

Compartment 2 (571 acres) was inventoried in 2009. A portion of this compartment (139 acres) is being restored to woodlands and has had both tree thinning and prescribed fire applied. A 62-acre uneven-aged management harvest is planned for 2015. Most of this compartment is in the saw-timber and large-pole size classes.

Stephen J. Sun CA

Stephen J. Sun CA (506 acres) contains one forestry compartment with 19 stands. It was inventoried in 2003. Most of the upland forest was heavily cutover in the early 1980s and is now in the small saw-timber size category. The bottomland stands are variable and contain some bottomland oaks species, but also sugarberry, sycamore, black walnut, and maple occur. Eighty-six acres of crop fields were planted to cherrybark oak, pin oak, nuttall oak, black oak, white oak, and sycamore seedlings in 1990. Forty-two acres of these plantations were thinned by crop tree release in 2010-2012.

Wildlife populations are normal-to-abundant because of the large block of forest cover. Wildlife species that use the area are typical upland wildlife species (deer, turkey, fox

squirrel) and wildlife of the Lower Mississippi Alluvial Valley forested wetlands. Mallard and other waterfowl use the area during winter and wood ducks are permanent residents. Wading birds, shorebirds, and forest interior songbirds use the forest cover and associated wetlands. Alligator snapping turtles and many other amphibians and reptiles use the lowland sites and area around Carpenter Lake. Deer, turkey, squirrels, and both cottontail and swamp rabbits use the forest and the 86 acres of crop fields on the east half of Sun CA. Stands of giant cane occur along the Black River under a forest canopy and may eventually provide suitable nesting habitat for a State-endangered bird species.

Challenges and Opportunities:

- 1) Manage bottomland hardwood forest, upland hardwood forest, and open areas to provide quality habitat for wildlife.

Objective 1: Manage bottomland hardwood forest for a species mix characteristic of the natural communities. Priority wildlife species are those that depend on and utilize lowland wetland forests and associated open wetlands (shrub swamps, oxbows, and sloughs).

Strategy 1: Follow the Southeast Region Forest inventory schedule and inventory each compartment on a 10- to 20-year re-entry. (Forestry)

Strategy 2: Develop and implement forest management actions (e.g., harvest and forest thinning) from inventory data, as budget and time constraints allow. (Forestry)

Strategy 3: Use uneven-aged (or all-aged) harvests and forest thinning to create forest habitat conditions suitable for wetland forest wildlife species. A long-term goal is to have 35 percent to 50 percent of forested acres meet the desired stand structure conditions, based on the Desired Forest Conditions table (Appendix 4), per *Restoration, Management and Monitoring of Forest Resources in the Mississippi Alluvial Valley: Recommendations for Enhancing Wildlife Habitat* (Lower Mississippi Joint Venture Forest Resource Conservation Working Group, 2007). (Forestry)

Strategy 4: Monitor the development of cherrybark oak under plantings in the 30 0.11-acre plots in Stand 18 of the Poplar Bluff Forest Natural Area. Consult with the Department's natural areas coordinator on the best course of action to sustain red oaks in this bottomland forest natural area. (Forestry)

Strategy 5: Continue pre-commercial thinning on all 20- to 25-year old tree plantings. Use the Desired Forestry Conditions guidelines in Appendix 5 (Lower Mississippi Joint Venture Forest Resource Conservation Working Group, 2007) to maintain species diversity. (Forestry)

Strategy 6: Widen the riparian corridor to 150 feet by eliminating row crops in the narrow forest strip in Stands 12 and 14 at Stephen J. Sun CA. (Wildlife)

Strategy 7: Consider releasing cane in riparian corridors in Stands 12 and 14 at Stephen J. Sun CA. (Forestry)

Strategy 8: Protect and preserve sycamores for potential heronries and other nest sites along Black River and Indian Creek during harvest operations. (Forestry)

Objective 2: Manage upland hardwood forest for a species mix characteristic of the natural communities. Priority wildlife species are those that depend on and utilize upland Ozark forests and woodlands.

Strategy 1: Follow the Southeast Region Forest inventory schedule and inventory each compartment on a 10- to 20-year re-entry. (Forestry)

Strategy 2: Develop and implement forest management actions (harvest and forest thinning) from inventory data, as budget and time constraints allow. (Forestry)

Strategy 3: Uneven-aged (or all-aged) harvests and forest thinning are used to create forest habitat conditions suitable for upland forest and woodland wildlife species. Manage for snags and cavity trees at optimum level. (Forestry)

Strategy 4: Continue woodland restoration through periodic prescribed fire on the three units (total of 241 acres) in Poplar Bluff CA Compartment 2. (Forestry)

Strategy 5: Maintain the old growth designation for Stands 4, 5, 6, 7, 8, 9 in Poplar Bluff CA Compartment 1 (90 acres). (Forestry)

Objective 3: Manage existing open areas on Stephen J. Sun CA to improve wildlife habitat.

Strategy 1: Annually issue and administer Agricultural Crop Permits for crop and hay fields. (Wildlife)

VI. Aquatic Resource Management Considerations

The aquatic resources of these two areas include 1.25-mile frontage to the Black River, 1.5-mile frontage to Indian Creek, 1.25-mile frontage to Hickory Creek, Carpenter Lake (7 acres), and a small constructed pond. Bank stability on the Black River frontage, Indian Creek, and Hickory Creek is good and there are no serious erosion problems. Float fishing on this portion of the Black River is a popular activity.

Carpenter Lake has a dense floating macrophyte (water shield and spatter dock) development on 100 percent of the shoreline and 50 percent of the surface area. The lake is subject to flooding by the Black River during extreme floods. Maintaining a balanced or hatchery-supplemented fish community for public angling on a small remote lake is not a feasible management option. Producing quality angling at Carpenter Lake is best accomplished by limiting access and, thus, reducing angling pressure. The lake should continue as a designated walk-in fishery.

Challenges and Opportunities:

- 1) Preserve and protect natural communities around Carpenter Lake.
- 2) Provide pond fishing opportunities at Poplar Bluff CA.

Objective 1: Preserve and protect Carpenter Lake and associated freshwater marsh and shrub swamp.

Strategy 1: Maintain a buffer (minimum 100 feet wide) of natural vegetation around the lake, marsh, and swamp. (Forestry)

Objective 2: Provide pond fishing opportunities in the small pond at Poplar Bluff CA Compartment 2.

Strategy 1: Provide bank access by maintaining trails and access points along pond shorelines. (Forestry)

Strategy 2: Manage Pond 1 for quality fishing through appropriate regulations, fish stocking, and habitat management. (Forestry)

VII. Public Use Management Considerations

Challenges and Opportunities:

- 1) Maintain area infrastructure to provide public access to fishing, hunting, and other recreational uses.
- 2) Maintain area signage and boundaries.
- 3) Prevent use of all-terrain vehicles at the areas.
- 4) Continue CART agreement with Butler County Road Department.

Objective 1: Maintain current fishing, hunting, and recreational access.

Strategy 1: Annually maintain current parking lots and 4 miles of existing roads. (Design and Development)

Strategy 2: Provide primitive camping on a walk-in basis. (Forestry)

Strategy 3: Maintain the archery range on Poplar Bluff CA. Annually update the special use permit with Indian Creek bow hunters for use and maintenance assistance. (Forestry)

Strategy 4: Annually maintain the walk-in fishing access to Carpenter Lake (old field road). (Forestry)

Strategy 5: Properly sign and maintain a safety zone around the Poplar Bluff Gun Club property. Sign and maintain safety fence around the archery range. (Forestry)

Strategy 6: Maintain 10 miles of boundary and signs on Poplar Bluff CA and 5 miles on Stephen Sun CA every five years. (Forestry)

Strategy 7: Discourage illegal all-terrain vehicle use on the area by signing.
(Forestry)

Strategy 8: Annually resign the Poplar Bluff Forest Natural Area. (Forestry)

VIII. Administrative Considerations

Challenges and Opportunities:

- 1) Consider land acquisition, when available.

Lands Proposed for Acquisition:

When available, inholdings and/or 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
Terrestrial Resource Management										
<i>Objective 1</i>										
Strategy 1						X				
Strategy 2								X		
Strategy 4	X	X	X	X	X					
Strategy 5			X		X					
Strategy 6	X	X								
<i>Objective 2</i>										
Strategy 1						X				
Strategy 2								X		
Strategy 4	X			X			X			X
Public Use Management										
<i>Objective 1</i>										
Strategy 6		X					X			

APPENDICES

Public Input Summary:

The draft Poplar Bluff & Stephen J. Sun Conservation Areas Management Plan was available for a public comment period April 1–30, 2017. The Missouri Department of Conservation received comments from one respondent (Appendix A). The Poplar Bluff & Stephen J. Sun Conservation Areas 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 Poplar Bluff & Stephen J. Sun Conservation Areas Management Plan public comment period.

Opposes banning all-terrain vehicles (ATVs).

Because ATVs are a motorized vehicle, the disturbance to natural conditions on this area is much more substantial than non-motorized bicycles. Almost all bicycle use on the area is to reach Carpenter Lake. If we allow ATV use on the area, it would be very hard to restrict use to just the trail to Carpenter Lake, and we would allow widespread motorized use and disturbance on the area.

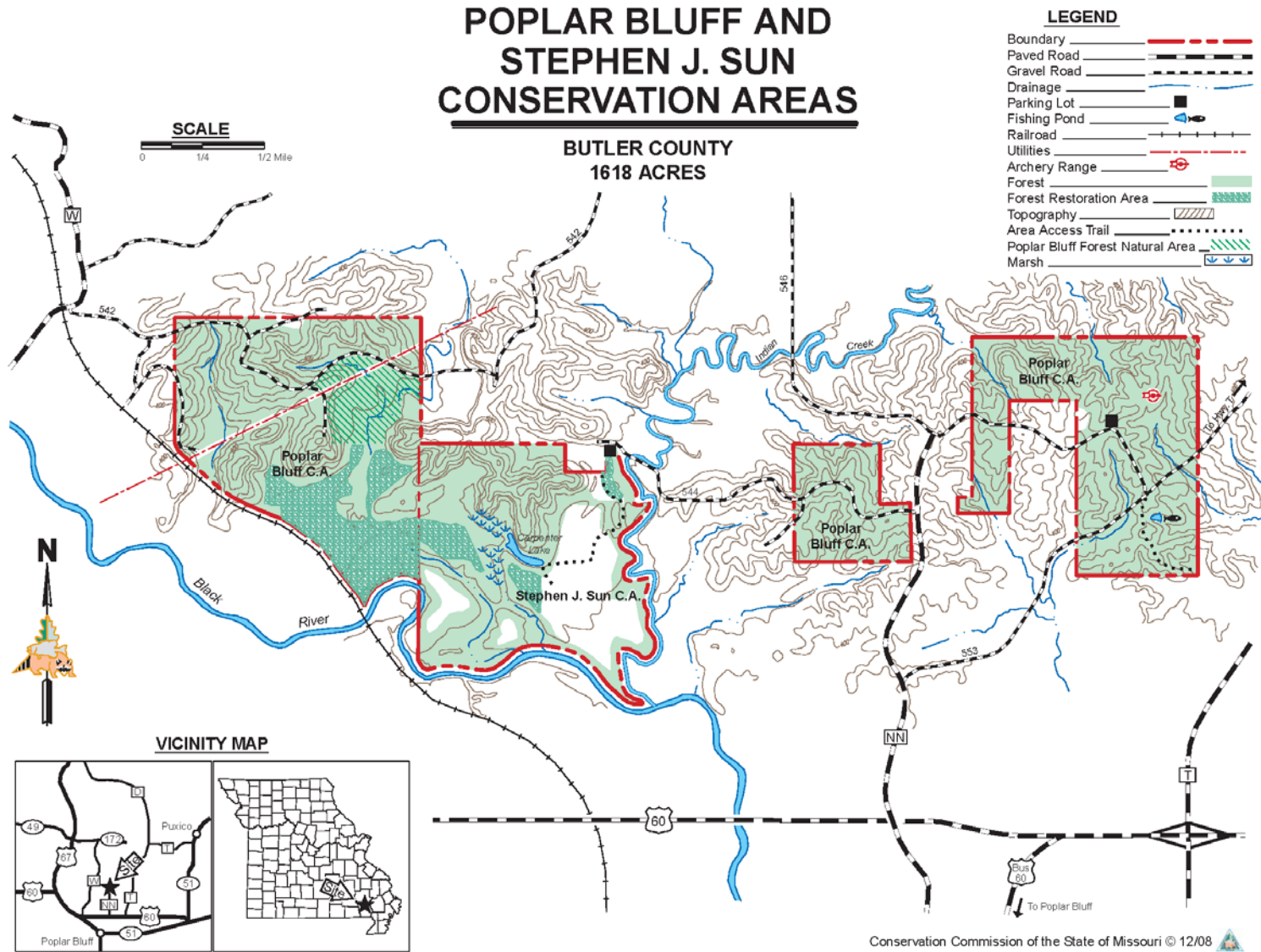
References:

Lower Mississippi Valley Joint Venture Forest Resource Conservation Working Group. (2007). *Restoration, management and monitoring of forest resources in the Mississippi Alluvial Valley: Recommendations for enhancing wildlife habitat*. Wilson, R., Ribbeck, K., King, S., & Twedt, D. (Eds.). Vicksburg, MS: LSU Printing Services.

Appendices:

Appendix 1. Poplar Bluff and Stephen J. Sun Conservation Areas Map
Appendix 2. Poplar Bluff and Stephen J. Sun Conservation Areas Background
Appendix 3. Forestry Compartments at Poplar Bluff and Stephen J. Sun Conservation Areas
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Appendix 1. Poplar Bluff and Stephen J. Sun Conservation Areas Map



Appendix 2. Poplar Bluff and Stephen J. Sun Conservation Areas Background

Poplar Bluff and Stephen J. Sun Conservation Areas (CAs) are located in Butler County, 2 miles east of Poplar Bluff on U.S. Business 60, then 3.5 miles north on Route NN. Turn left on County Road 544 and follow it 1 mile west to the area parking lot. These two conservation areas comprise 1,637 acres in three tracts and include 6-acre Carpenter Lake and the 80-acre Poplar Bluff Natural Area. The University of Missouri acquired what is now Poplar Bluff CA under the Land Grant College Act of 1862. The Missouri Department of Conservation purchased this 912-acre tract from the University of Missouri in 1965. An additional 240 acres were purchased in 1995.

Stephen J. Sun CA consists of 485 acres. The Department acquired parts of this conservation area in 1988, thanks to a donation by the Sun family. Department funds were used to purchase the remainder of the lands.

These two conservation areas represent a unique contact zone of two major ecosystems: the Ozark highland and the coastal plain wetland. The hills of Poplar Bluff CA have soils of primarily Clarksville or Loring silt loams. The soils covering the fields of Stephen J. Sun CA are mainly Elk, Adler, and Calhoun silt loams. Upland tree species include hickory and black, white, and scarlet oak. Cherrybark oak, sweetgum, red maple, and sugarberry are the primary bottomland species.

Several endangered species and unusual plants inhabit both areas. On Stephen J. Sun CA both river otter and swamp rabbits have been observed. The Poplar Bluff Natural Area provides an opportunity to experience a high quality bottomland forest with many large trees.

Carpenter Lake is an old oxbow lake, located at the contact zone between the Ozarks and the Mississippi lowlands.

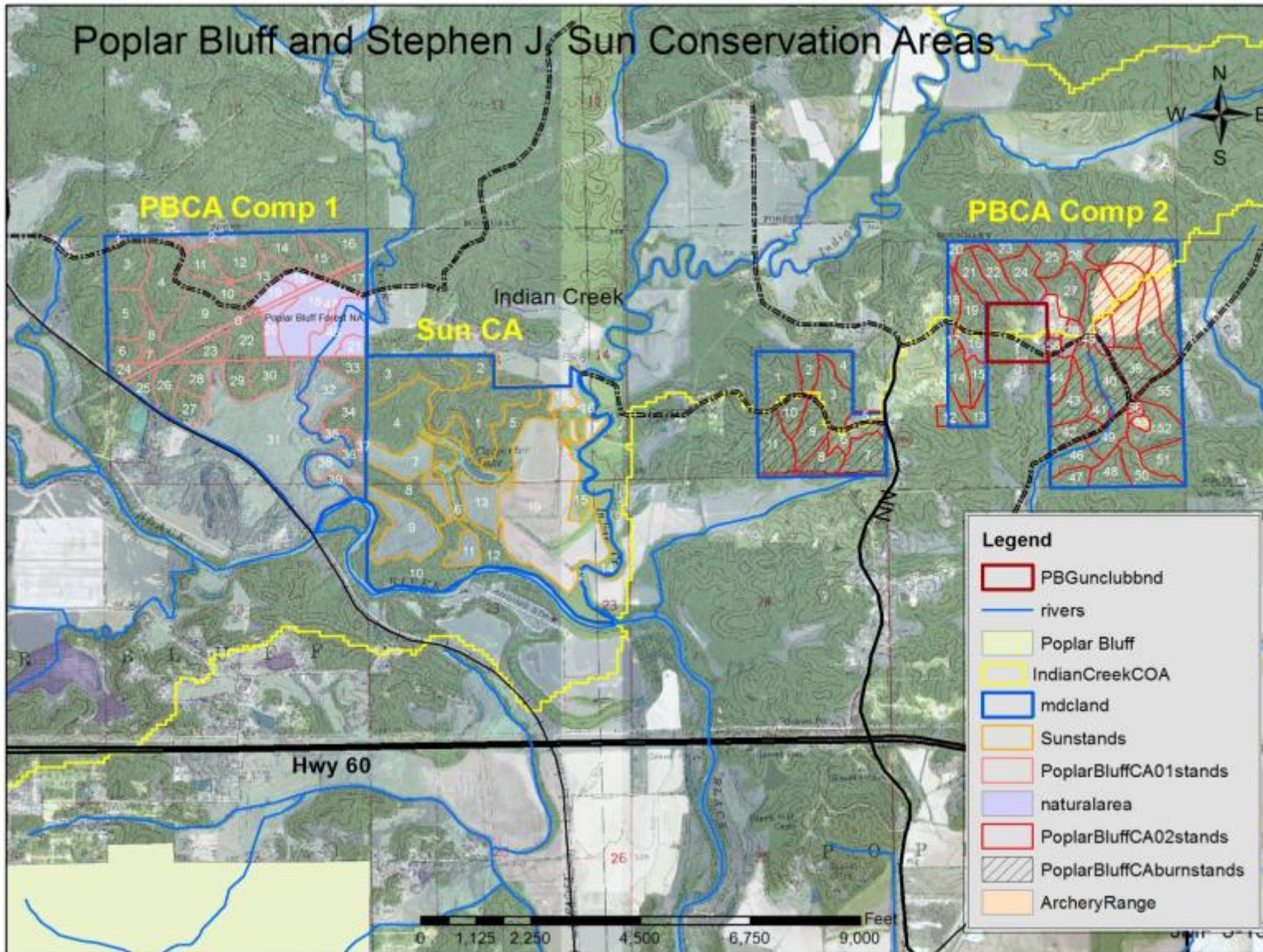
Poplar Bluff Current Land and Water Types:

Land Type	Acres	% of Area
Upland Forest	892	79
Bottomland Forest	212	19
Roads and Powerline	26	2
Water (slough, pond, old creek channel)	3	<1
Total	1,133	100

Stephen J. Sun Current Land and Water Types:

Land Type	Acres	% of Area
Bottomland Forest	166	34
Row Crops	132	27
1991 Tree Plantings	90	19
Upland Forest	87	18
Water (slough, Carpenter Lake)	10	2
Total	485	100

Appendix 3. Forestry Compartments at Poplar Bluff and Stephen J. Sun Conservation Areas



Appendix 4. Desired Forest Conditions Table



Desired Forest Conditions

within Bottomland Hardwood Forests in the Mississippi Alluvial Valley

Forest Resource Conservation Working Group, Lower Mississippi Valley Joint Venture

Priority Wildlife Species

Our objective is to provide forest habitat capable of supporting sustainable populations of all native species within the Mississippi Alluvial Valley. However, forest loss, fragmentation, and hydrological change has markedly altered habitat conditions within bottomland forests. Of particular concern are species such as Ivory-billed Woodpecker, Louisiana black bear, and several forest interior songbird species that have been negatively impacted by these forest changes. Thus, we advocate forest conditions that are conducive to the viability of a suite of priority wildlife species.

Forest Restoration

Extensive forest restoration (e.g., Wetland Reserve Program) has provided progress toward landscape objectives. However, we recognize the previous restoration methods may not readily provide "Desired Forest Conditions." We recommend planting multiple species combining shade-intolerant, early successional species, shade-tolerant and/or hard-mast producing trees. Plantings, and natural colonization, should result in an average of >300 trees/acre within 3 years – preferably within a matrix of high stem density patches and canopy gaps with sparse stem density.



WILDLIFE FORESTRY

Forest-dependent (silvicolous) wildlife are responsive to Landscape Quality and Site Quality. We define **Desired Forest Conditions** as forests meeting both Desired Landscape and Stand Conditions. Traditional forest management has focused on maximizing timber volume (lumber or pulp) through silvicultural methods that promote optimal growth and vigorous health of desired tree species. Often traditional silviculture is not optimal for silvicolous wildlife. Indeed, quality habitat for priority wildlife likely requires a sacrifice in timber production and retention of less healthy trees. Even so, **commercially viable, wildlife-oriented silviculture using variable retention harvests can be used in conjunction with forest restoration and natural processes to achieve Desired Forest Conditions** within bottomland hardwood forests.

Landscape Condition

To address landscape scale habitat needs of priority wildlife species, we advocate local **landscapes (>10,000 acres) should be extensively forested** in a matrix of large blocks of contiguous forest and closely associated smaller forest fragments. Where possible forest corridors should link forest landscapes. **Some area should be passively managed** (i.e., set aside as "unmanaged" controls). However, to ensure development of "Desired Stand Conditions" **most forests should be actively managed using wildlife forestry silviculture methods**. Regeneration harvests of areas >7 acres (i.e., clear-cuts) should be restricted to <10% of the landscape and management should ensure some early successional (i.e., shrub-scrub) habitat is available.

Stand Condition

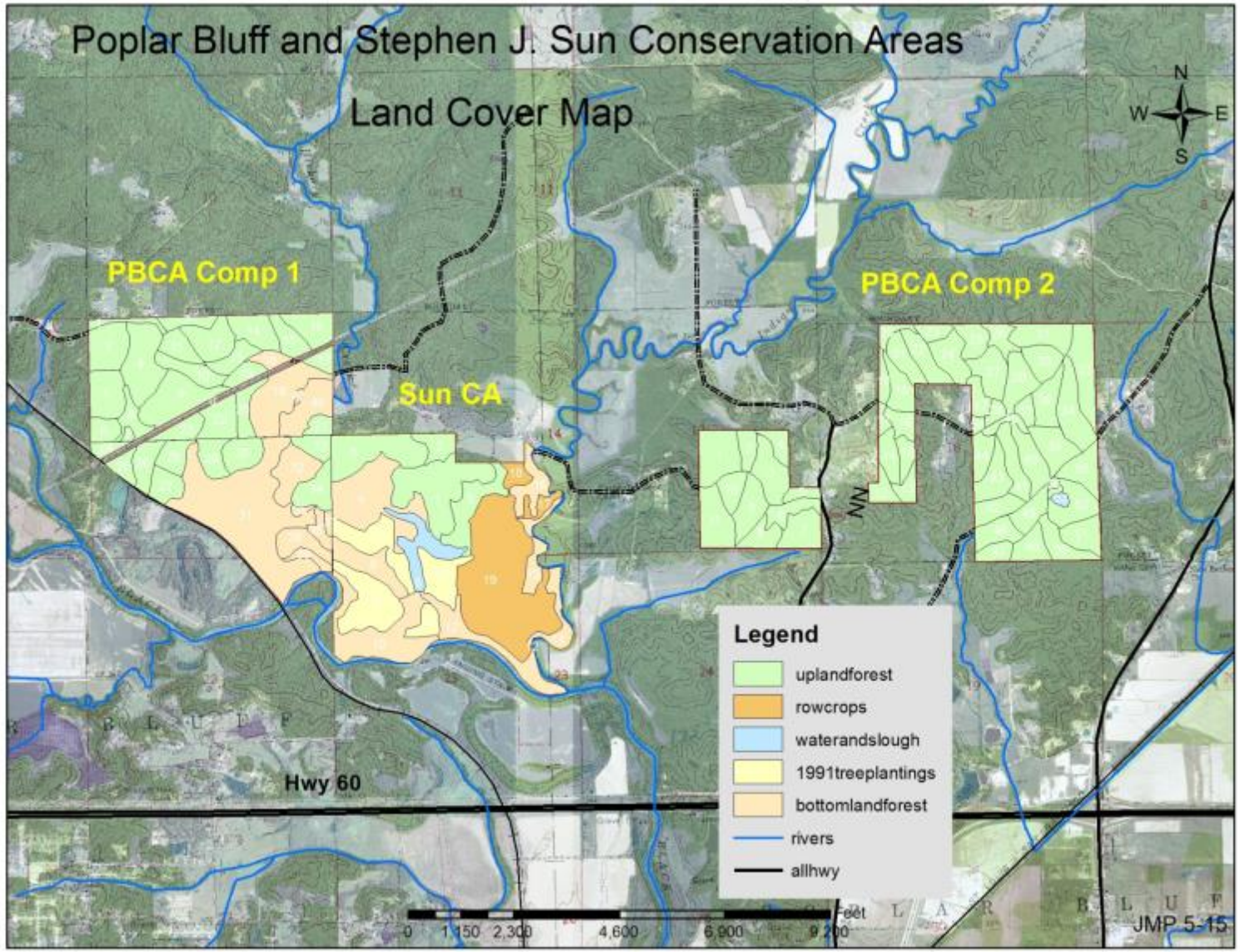
Size, structure, and composition of forests are important parameters for predicting suitability for silvicolous wildlife. Many **priority wildlife species favor structurally diverse and species rich forests which harbor large trees and frequent gaps in the canopy**. These conditions provide suitable habitat for foraging and cover within all dimensions of the forest and provide a desirable blend of regeneration, maturity, and senescence of forest trees. The distribution and abundance of suitable forest habitat is largely dependent on disturbance. Historically, disturbances resulted from flood, fire, tornadoes, etc. Under current conditions, many of these disturbances are spatially and temporally restricted which, in combination with unsustainable forest management practices, have resulted in homogeneous, closed canopy forests with little structural diversity or understory vegetation. **We advocate the use of wildlife forestry silvicultural practices to introduce disturbance to these forests and thereby stimulate development of "Desired Stand Conditions"**

Desired Landscape Condition		
Habitat Type	% of Area	Description
Forest Cover	70 – 100%	Forest (habitat with >25% tree crown coverage) in a matrix of large patches and closely associated forest fragments, of which 35 - 50% should meet "Desired Stand Conditions" at any point in time.
Actively Managed	70 – 95%	Forests that are managed via prescribed silvicultural treatments to meet desired stand conditions.
↳ Regenerating Forest	<10%	A subset of actively managed forests which targets regeneration of shade-intolerant trees on areas >7 acres via removal of >80% of forest canopy (e.g., clear-cuts). Areas are considered regenerating until canopy trees achieve 1/3 of their anticipated site-specific height.
↳ Shrub-Scrub	0 – 5%	Thamnic, semi-permanent or ephemeral woody vegetation – often represented by early seral (successional) forests that result from active forest management.
Passively Managed	5 – 30%	Areas that are representative of different forest types within which little or no anthropogenic silviculture occurs (e.g., wilderness, set-aside, or natural areas).

Desired Stand Condition		
Primary Factors ¹	Desired Structure	Conditions that may warrant management
Canopy cover	60 – 70%	≥80%
Mid-story cover	25 – 40%	<20% or >50%
Basal area	60 – 70 ft ² / acre (≥ 20% older age class)	<30ft ² / acre (≥ 40% older age class)
Tree stocking	60 – 70%	<50% or >90%
Secondary ²		
Dominant trees ³	≥0.5/ac	≥0.25/ac
Under-story cover	25 – 40%	<20% or >60%
Regeneration ⁴	30-40% of area	<20% of area
Woody debris (>10 inch diameter)	≥200 ft ³ / acre	<100ft ³ / acre
Small cavities (<10 inch diameter)	>4 visible holes / acre or >4 snags <4 inch dbh	<2 visible holes / acre or <2 snags <4 inch dbh
Large cavities (>10 inch diameter)	≥1 visible hole / 10 acres or ≥2 stems/ac ≥6 inch dbh	<1 visible hole / 10 acres or <1 stem/ac ≥6 inch dbh
Dead, dying, or stressed trees	>6 stems / acre (≥10 inch dbh)	<4 stems / acre (≥10 inch dbh)

¹ Stand conditions management actions directly impact. Management should strive for tree species and forest structure diversity. Areas lacking canopy cover (group selection cuts) should be <20% of stand area.
² Stand conditions usually indirectly impacted by management actions. Proliferation of vines, cane, and Spanish moss should be encouraged where possible.
³ Trees with >25% of crown above general forest canopy (i.e., emergent trees) that should receive greater emphasis on more diverse sites (e.g., riparian).
⁴ Advanced regeneration of shade-intolerant tree species in sufficient numbers (ca. 500/acre) to ensure their succession to the forest canopy.

Appendix 5. Land Cover Map



Appendix 6. Poplar Bluff & Stephen J. Sun Conservation Areas Management Plan Public Comments

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

I oppose banning atvs unless you also ban bicycles. The land is for the use of all not a selected group. Let everybody walk. Trails have to be maintained for atvs or bicycles. This is like restricting use of Current River to canoes. This is like