

# Project and Restoration Plan

- Stated the initial purpose and proposed management of the Bryant Creek Tract
- Goals included:
  - Protection of surface and subsurface waters, springs and 1.7 miles along Bryant Creek
  - Preservation of 1,200 acres of mature woodlands/forests
  - Restoration of 1,000 acres of logged woodlands/forests on the south side
  - Restoration & preservation of the glade
  - Provide compatible recreational opportunities

Bryant Creek Project Profile October 2016

Natural Resource Restoration Project and Restoration Plan

Bryant Creek Tracts

Douglas County, Missouri



Missouri State Parks October 2016 Ken McCarty

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# Project and Restoration Plan

- Further defined goals with objectives
- Developed a Management and Monitoring Plan:
  - Various management strategies depending upon specific area
  - The use of prescribed fire for basic woodland management and direct regeneration of logged areas
  - Detailed long-term monitoring projects to document changes
  - Listed priority organismal surveys

Bryant Creek Project Profile

herbaceous species that persist in the fescue pasture. Scope and implementation is contingent upon plans for how and where visitor and operational amenities and facilities will be sited.

Public use will be determined through a park Conceptual Development planning process that will begin upon acquisition of the Tracts. Amenities and services may include trails, trail heads with parking and interpretation, day use facilities and a small camping area.

### State Park contribution

The Missouri State Parks Division will provide administrative, operational and law enforcement support, consistent with other units of the Missouri State Park System. Specifically for the natural resource purposes of this Bryant Creek Tracts Restoration and Project Plan, the Missouri State Parks will provide additional technical staff including Natural Resource Stewards and Interpreters to assist with planning and implementing the project objectives. Particularly to accomplish the prescribed burns, staff from nearby parks will be available to assist. State Park Natural Resource Stewards and Interpreters will also supplement the biological inventory and monitoring efforts. Regarding Objective 6, the Missouri State Parks will contribute staff to plan, operate and maintain the public use facilities and amenities.

Once the 5-year NRD funding window has lapsed, the Missouri State Parks will continue to provide staff and financial resources to manage and preserve the Tracts.

### Monitoring Plan with schedule and criteria

Phase 1: Initial Biological Inventory: Beginning with acquisition, a comprehensive floristic inventory will begin across the site. The Terrestrial Natural Communities (Nelson, 2005) will be mapped, and floristic monitoring plots will be established in representative locations for the major native natural communities and within all the Management Zones except Zone 5. The monitoring protocol will be structured to track vegetation cover; species composition and natural community structure in a Floristic Quality Assessment format. It will include photomonitoring stations and quantitative baseline reference data for ground layer, understory and canopy vegetation.

For the major faunal groups, and via contracts and Missouri State Park natural resourcestaff, initial biological inventories will create species lists, and maintain a Natural Resource Database to store the information along with source and location data. Priority will be placed on bird and important pollinating insect groups, with secondary emphasis on mammals, reptiles and amphibians. Breeding bird use will be monitored via point circle counts established in the major natural community twose and each Management Zone.

Inventory for major floral and faunal groups will include searches for species on Missouri's Species of Conservation Concern Checklist, and for highly restricted or conservative species associated with the Tract's natural communities.

25

Zone 3 Glade

units will be designated nber 31, 2016. Prescribed tinning by spring 2017. A

volve cedar tree removal, removal will be by contract ogical Stewardship Plan. It vailable. The glade will be

e 2 will involve protecting also tree layer; b) favor olland ecosystems, and c)

Fire management units will notice the most of the most of

Old field rehabilistation will be largely passive for <u>Management Zone 4</u>, but supplemented by occasional prescribed burns to favor shortleaf pine, fire-tolerant oaks and the native

at pine, tire-tolerant oaks a

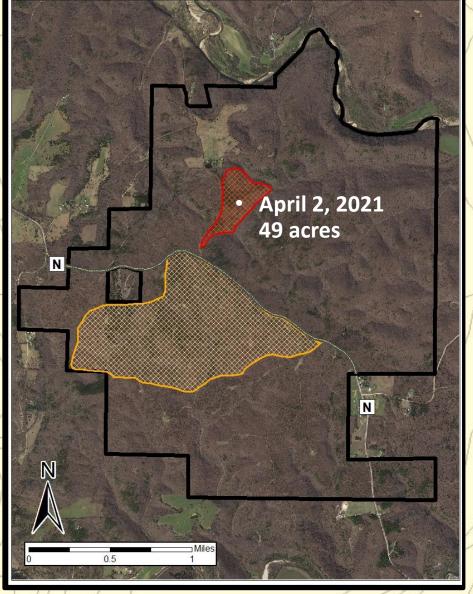
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Timber Harvest History

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### Landscape Management-Prescribed Burns





## Stream Monitoring/ Aquatic Surveys

Baseline water quality assessments

Stream Chemistry

Macroinvertebrate Surveys







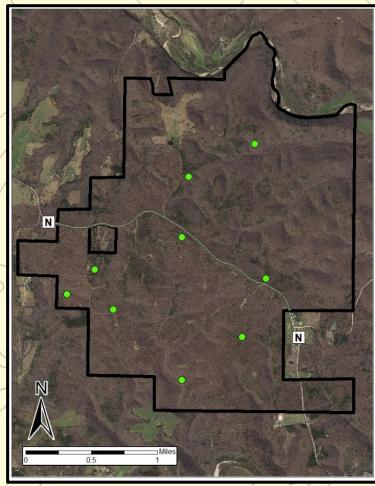


## Long-Term Vegetation Monitoring

- To track changes of vegetation (ground flora & canopy) based on management actions.
- Initial data (baseline) collected in August 2019







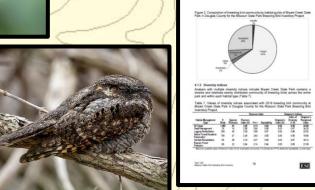
### **Breeding Bird Survey**

- 162 Point Count Locations
- Documented 67 bird species











### Floristic Survey (2020)

- 940 species
- 11 species of conservation concern



DOUGLAS COUNTY, MISSOURI





Figure 6. Left, dupe ladie's tresses (Springrapher



resulted in the estaloging of 940 vascular plant taxa for the 2,927-acre Bryant Natural community descriptions, numerous images and graphs, and analysis of and to explain why the park possesses Misoouri's highest number of taxa is floristic studies of comparable acreage.

Paul W. Nelson, Consulting Botanist 24 Tower Ridge Lane Bonnots Mill, Missouri 65016

## Bryophyte Survey (2019)









1 Hornwort spp.













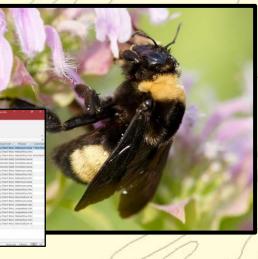
## Pollinators: Bees (2019/2020)











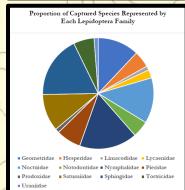
Pollinators: Moths & Butterflies (2019/2020)



• 132 species documented





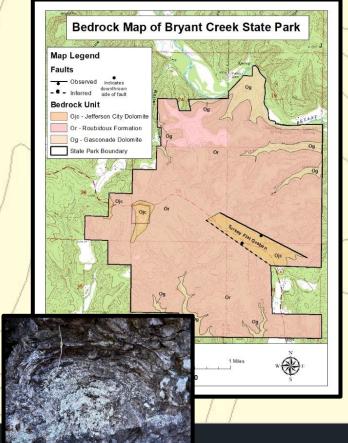






Geologic Features Survey & Mapping

(2020)















## **Lichen Survey** (2021/2022)

















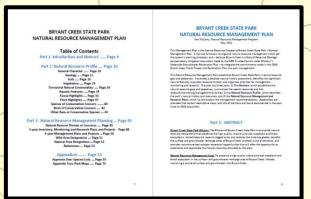
Natural Resource Management Plan

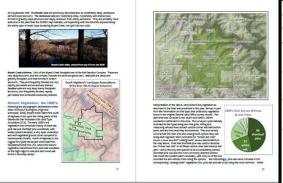
A component of our general management plan

 Provides the natural resource profile of the park

 States research and management Goals and Objectives

Completed 2021



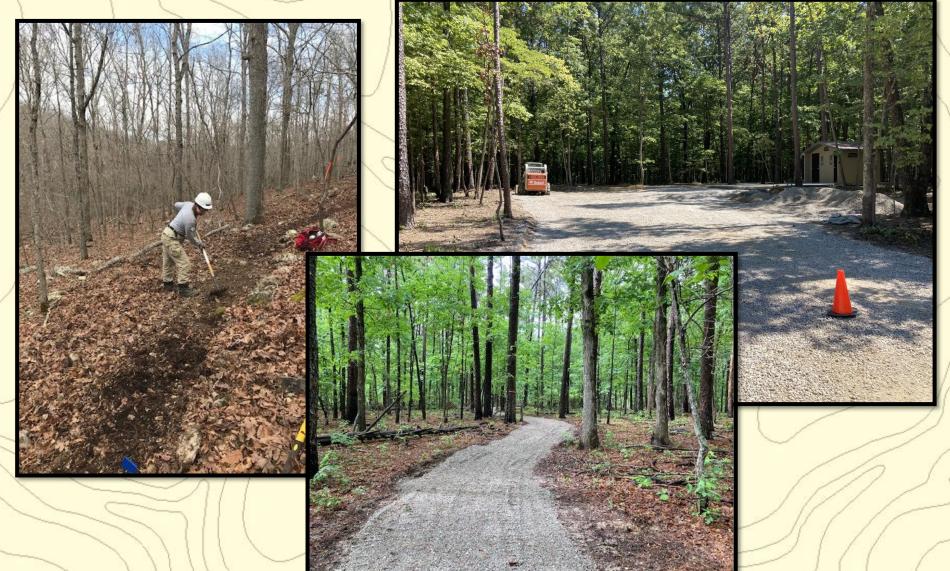


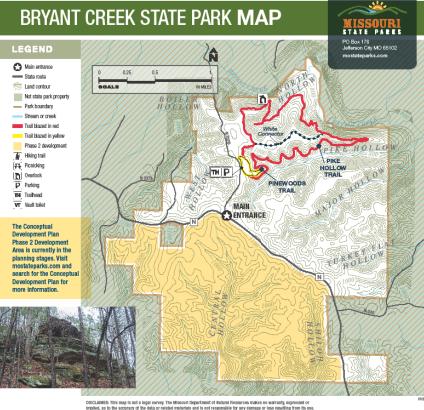


Bryant Creek State Park

Natural Resource Management Plan







Bryant Creek State Park

2, 3, 7, 8, 10

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onnector Trail (	)	White	Connector trails are availa trails, are numbered and i hike. See map for more in	will modify your

1 1 1

\* YOU MAY EXPERIENCE: ① Slippery conditions and/or downed vegetation ② Natural surface: dirt, muxt, grawl, loose rocks, slippery surface, etc. ② Rocks, note and/or downed vegetation on trail. ② Low-harping vegetation ② Physically challenging on blockscles ② Wood or stens et spe ③ Slose prodes and inclines over 10% ② Betifs or dop-offs next to trail. ② Betigses and/or shructural consings. ② Waterstream crossings without bridges ② Occasional water over trail. ② Read/blowyer consing. ② Emergency response sipre. ② Natrove passages ③ Related or protruding obstacles ② Electric fence crossings: ② Bloom. ② Repitly changing weather conditions: ② Motorized boat traffic. ③ Unsupected weres ③ Changing water levels ② Surface or submarged objects.

### PIKE HOLLOW TRAIL

Pike Hollow Trails 4.50

Co

4.50-mile loop TRAIL RATING: Rugged ESTIMATED HIKING TIME: 4 hours, 30 minutes

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A distinctive analysis : sum, 3,0 minus;

Long ledges of Roubblexas analysis estacked two or three layers still follow the ina and outs of every hill and hollow in the pair. The outcropes from integlogies, weather-wors happen. On we telay, we steer can be seen dripping from mastels of mostes, lichests and ferra. Many species of plants —some uncommon over even rate—cling to these moist sendations walls. Beate of green plants come allev in paper gains and add patterns of green to the summer woods. The plant life along the trull harbor force insects and cocalonal analenations of groen; In de whiters, kieles sometimes over entire ledge expanses, and to waterfalls grow adamanders or fregge. In the whiters, kieles sometimes over entire ledge expanses, and to waterfalls grow where water seeps from the rock.

whete water seeps from the root state Park is heavily forested, deeply carved and sharply incised. It exhibits these major geologic layers. Rugged and diverse river hills lead from the Gaineville Plain to Beyanet Cruck track, 600 feet in devention below. The deep realied of the includespe and compleze geology a what lead to the remarkable abundance and variety in the park's plant and animal life.

Bryant Creek SP preserves more vascular plant species than any area of Missouri. Within the 3,000 acre of the past, nearly one their of Missouri total income flore grow, a textle of 940 kinds of plants and willdfollowers. The trail whole contain textensive grower of shorted plan — Missouris ody nature pint tree. At least 60 kinds of mouses, liverworst and horrowers exite in the past. More species of lichen have been discovered at Bryant Creek Stear Park than in all but one other Missoudi Stear Park.

Bears live in these woods, sometimes using the small cavities at their base for shelter. The park is also home to bats, eastern woodrats, bobcats and other animals. Nearly 70 kinds of forest, woodland and shrubland birds are known to nest in the park, and many more pass through during spring and fall

### PINEWOODS TRAIL

0.60 miles loop TRAL RATING: Easy

Pinewoods Trail leisurely leads visitors through the narrow ridge-top covered in native pine, just to the edge of the rugged drop off to the sandstone geography below. This O0-mile trail is a great way to see Missouri's only native pine





### **BRYANT CREEK STATE PARK**

### **Bryant Creek**

By following the Pike Hollow trail to this overlook, you are following a longstanding tradition of travel and exploration established by the American Indian tribes and first European settlers who lived in this vicinity. Long before there were logging roads and highways, tribes such as the Osage and early 19th century frontiersmen, used pre-existing game trails, rivers and streams to navigate the wild and rugged Ozark landscape. Hunters and trappers were among the first Europeans to explore the region, attracted by the isolation of the area along with its abundant game and numerous navigable rivers and streams. It was one such hunter and trapper, settling near the creek around 1830 in what would later become Douglas County, who lent his name to Bryant Creek.

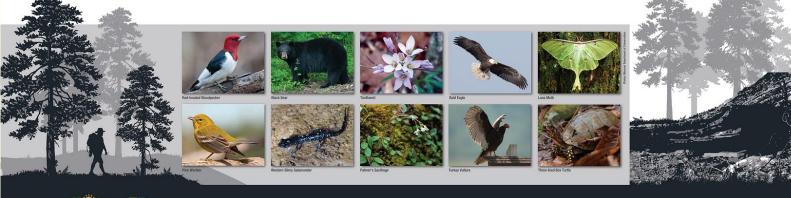
A wave of immigrants followed the early frontiersmen, mostly arriving from western Tennessee and Kentucky as well as the Appalachian region of the eastern United States. Drawn by the promise of cheap land and the fact that the area was sparsely populated, the incoming homesteaders took advantage of the forested landscape and rivers to establish logging operations and sawmills. Instilled with a fierce independence and a ruggedness of spirit that matched the landscape, these early pioneers exhibited incredible fortitude as they wrested a living from the sometimes hard countryside. Several descendants from the original families who settled the area still remain, carrying on the family traditions passed down from generation to generation.

Because the challenging terrain made large-scale agricultural cultivation difficult, much of the landscape diversity and native flora and fauna the early homesteaders would have encountered still survives. With 940 kinds of plants, Bryant Creek State Park preserves more wildflowers, shrubs, trees and other vascular plant species than any area of Missouri yet studied, encompassing within these 3,000 acres nearly one-third of Missouri's total known flora. The hills and bluffs through which the trail winds contain extensive groves of shortleaf pine - Missouri's only native pine tree. There are at least 60 kinds of mosses, liverworts and hornworts documented, and more species of lichen have been discovered at Bryant Creek than in all but one other Missouri State Park. The small cavities and overhangs of the sandstone ledges provides shelter for many animals such as black bears, bats, eastern woodrats and bobcats. People of various times and cultures have also used them throughout history. Nearly 70 kinds of forest, woodland and shrubland birds are known to nest here, and many more pass through during spring and fall migrations.



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For general questions, please contact the following: moparks@dnr.mo.gov or call 1-800-334-6946

For questions or comments concerning natural resources of Bryant Creek, please contact:

- Ken McCarty, Program Director- <u>Ken.mccarty@dnr.mo.gov</u>
- Christopher Crabtree, Regional MSP Ecologist- <u>Christopher.crabtree@dnr.mo.gov</u>
- Carl Bonnell, Park Manager- <u>Carl Bonnell@dnr.mo.gov</u>





Missouri State Parks – a division of the Missouri Department of Natural Resources