Southeast Conservation Blueprint Summary

for Missouri

Created 11/20/2025

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The Southeast Conservation Blueprint 2025



Southeast Conservation Blueprint Summary for Missouri			
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About the Southeast Blueprint

The Southeast Conservation Blueprint is the primary product of the <u>Southeast Conservation Adaptation Strategy</u> (SECAS). It is a living, spatial plan to achieve the SECAS vision of a connected network of lands and waters across the Southeast and Caribbean. The Blueprint is regularly updated to incorporate new data, partner input, and information about on-the-ground conditions.

The Blueprint identifies priority areas based on a suite of natural and cultural resource indicators representing terrestrial, freshwater, and marine ecosystems. A connectivity analysis identifies corridors that link coastal and inland areas and span climate gradients.

For more information:

- Visit the <u>Blueprint webpage</u>
- Review the <u>Blueprint 2025 Development Process</u>
- View and download the Blueprint data and make maps on the Blueprint page of the SECAS Atlas

We're here to help!

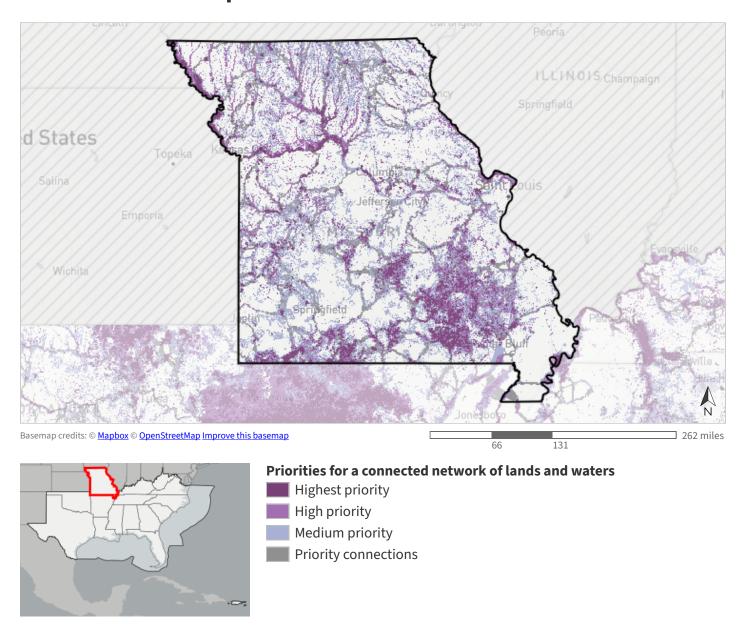
- Do you have a question about the Blueprint?
- Would you like help using the Blueprint to support a proposal or inform a decision?
- Do you have a suggestion on how to improve the Blueprint? The Blueprint and its inputs are regularly revised based on input from people like you.
- Do you have feedback on how to improve the Blueprint Explorer interface?

If you need help or have questions, <u>contact Southeast Blueprint staff</u> by reaching out to a member of the user support team.

We're here to support you. We really mean it. It's what we do!

This report was generated by the Southeast Conservation Blueprint Explorer, which was developed by <u>Astute Spruce, LLC</u> in partnership with the U.S. Fish and Wildlife Service under the <u>Southeast Conservation Adaptation Strategy</u>.

Southeast Blueprint Priorities



Priority Categories

For a connected network of lands and waters

In total, Blueprint priorities and priority connections cover roughly 50% of the Southeast Blueprint geography.

Highest priority

Areas where conservation action would make the biggest impact, based on a suite of natural and cultural resource indicators. This class covers roughly 10% of the Southeast Blueprint geography.

High priority

Areas where conservation action would make a big impact, based on a suite of natural and cultural resource indicators. This class covers roughly 15% of the Southeast Blueprint geography.

Medium priority

Areas where conservation action would make an above-average impact, based on a suite of natural and cultural resource indicators. This class covers roughly 20% of the Southeast Blueprint geography.

Priority connections

Connections between priority areas that cover the shortest distance possible while routing through as much Blueprint priority as possible. This class covers roughly 5% of the Southeast Blueprint geography.

Table 1: Extent of each Blueprint priority category within Missouri.

Priority Category	Acres	Percent of Area
Highest priority	3,661,181	8.2%
High priority	5,088,286	11.4%
Medium priority	9,416,288	21.1%
Priority connections	3,241,581	7.3%
Lower priority	23,200,613	52.0%
Total a	rea 44,607,949	100%

Hubs and Corridors

The Blueprint uses a least-cost path connectivity analysis to identify corridors that link hubs across the shortest distance possible, while also routing through as much Blueprint priority as possible.

In the continental Southeast, hubs are large patches (~5,000+ acres) of highest priority Blueprint areas and/or protected lands.

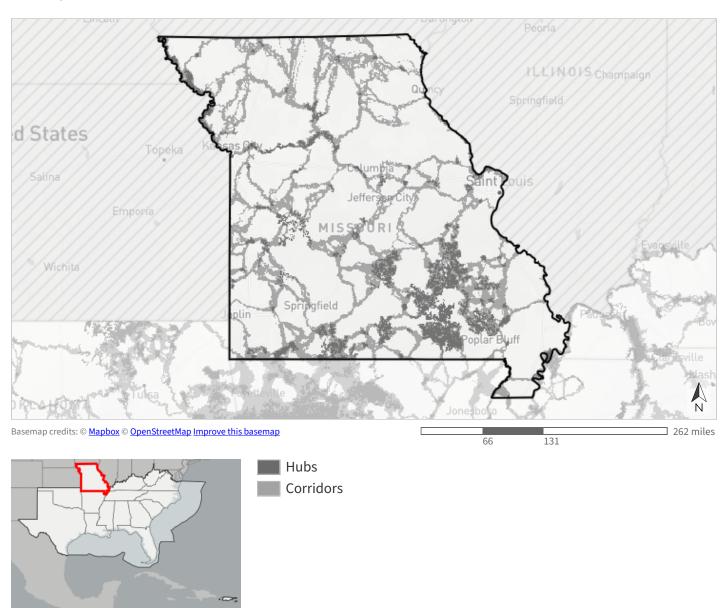


Table 2: Extent of hubs and corridors within Missouri.

Туре	Acres	Percent of Area
Hubs	3,216,626	7.2%
Corridors	9,503,714	21.3%
Not a hub or corridor	31,887,608	71.5%
Total area	44,607,949	100%

Indicator Summary

Table 3: Terrestrial indicators.

Indicator	Present
Fire frequency	✓
Grassland & savanna extent	✓
Grassland & savanna restoration	✓
<u>Greenways & trails</u>	✓
Imperiled amphibians & reptiles	✓
Imperiled mammals	✓
Intact habitat cores	✓
Landscape condition	✓
Mississippi Alluvial Valley forest birds - protection	✓
Mississippi Alluvial Valley forest birds - reforestation	✓
Potential access to parks	✓
Resilient terrestrial sites	✓
River cane restoration	✓
<u>Urban park size</u>	✓
West Coastal Plain & Ouachitas forested wetland birds	-
West Coastal Plain & Ouachitas open pine birds	-
West Gulf Coast mottled duck nesting	-

Table 4: Freshwater indicators.

Indicator	Present
<u>Floodplain inundation</u>	✓
Gulf migratory fish connectivity	-
Imperiled aquatic species	✓
Lakes & reservoirs	✓
Natural landcover in floodplains	✓
Network complexity	✓
Permeable surface	✓



This indicator uses remote sensing to estimate the number of times an area has been burned from 2013 to 2021. Many Southeastern ecosystems rely on regular, low-intensity fires to maintain habitat, encourage native plant growth, and reduce wildfire risk. This indicator combines burned area layers from U.S. Geological Survey Landsat data and the inter-agency Monitoring Trends in Burn Severity program. Landsat-based fire predictions within the range of longleaf pine are also available through Southeast FireMap.

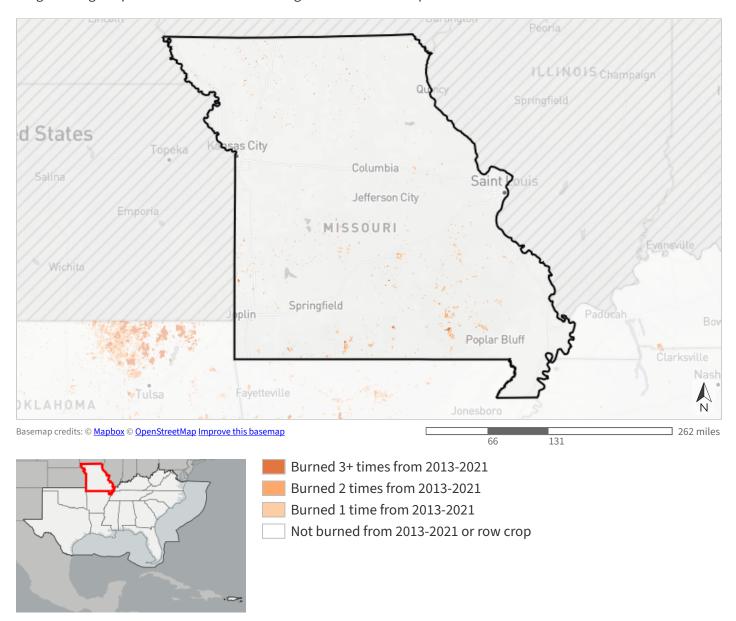


Table 5: Indicator values for fire frequency within Missouri. Good condition thresholds reflect the range of indicator values that occur in healthy, functioning ecosystems.

	Indicator Values	Acres	Percent of Area	
↑ High	Burned 3+ times from 2013-2021	19,035	<0.1%	
	Burned 2 times from 2013-2021	83,754	0.2%	↑ In good condition
↓ Low	Burned 1 time from 2013-2021	559,411	1.3%	↓ Not in good condition
	Not burned from 2013-2021 or row	43,945,749	98.5%	
	crop	43,343,143	30.370	
	Total area	44,607,949	100%	

Terrestrial

Grassland & savanna extent

This indicator represents grasslands and savannas in the southeastern United States, which support important plants, reptiles, amphibians, mammals, birds, and pollinators. It considers known grassland and savanna locations, predicted locations within protected areas, and surrounding pollinator buffers. It also incorporates other potential grassland and savanna locations within natural and altered landscapes, and restoration opportunities within historic locations based on past fire intervals and historic ecosystem predictions. This indicator combines data from multiple sources, including the Southeastern Grasslands Institute, the National Land Cover Database, LANDFIRE, Oklahoma and Texas ecological systems maps, and more.

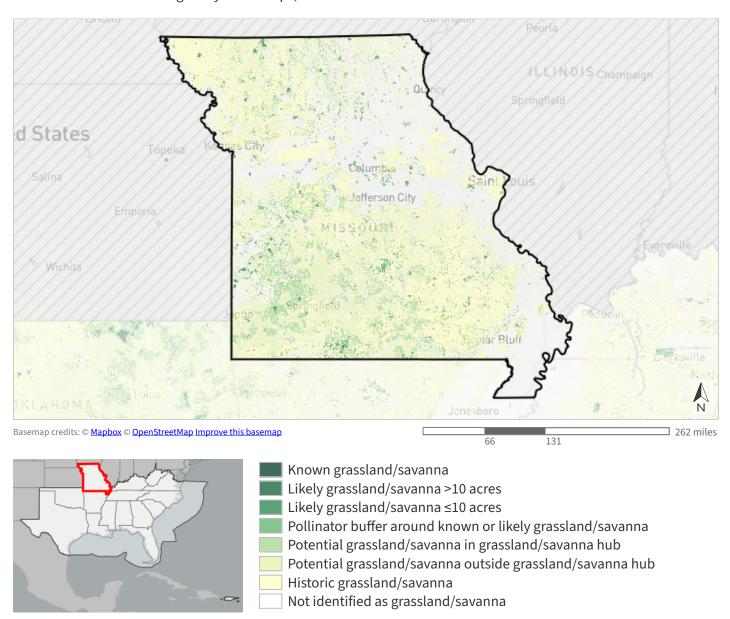


Table 6: Indicator values for grassland & savanna extent within Missouri. Good condition thresholds reflect the range of indicator values that occur in healthy, functioning ecosystems.

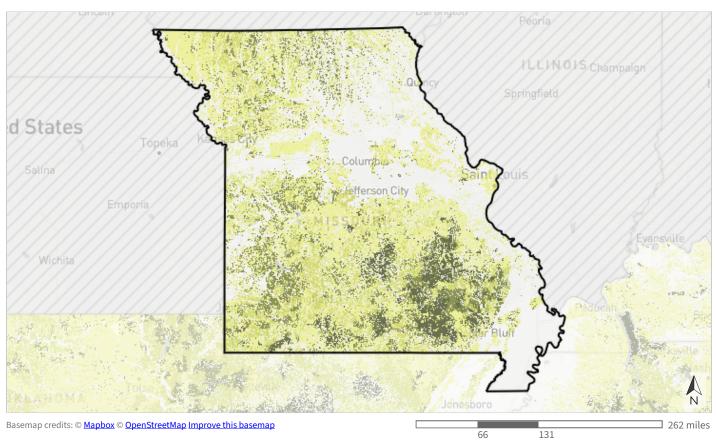
	Indicator Values	Acres	Percent of Area	
↑ High	Known grassland/savanna	3,877	<0.1%	
	Likely grassland/savanna >10 acres	193,673	0.4%	
	Likely grassland/savanna ≤10 acres	58,292	0.1%	↑ In good condition
	Pollinator buffer around known or likely grassland/savanna	840,568	1.9%	↓ Not in good condition
	Potential grassland/savanna in grassland/savanna hub	4,443,463	10.0%	
	Potential grassland/savanna outside grassland/savanna hub	4,524,110	10.1%	
	Historic grassland/savanna	15,227,494	34.1%	
↓ Low	Not identified as grassland/savanna	19,316,471	43.3%	
	Total area	44,607,949	100%	



Terrestrial

Grassland & savanna restoration

This indicator represents potential restoration opportunities for grasslands and savannas within their historic range in the southeastern United States. Grasslands support important plants, reptiles, amphibians, mammals, birds, and pollinators, but have significantly declined from their current extent. It considers proximity to clusters of existing grasslands and savannas, protected areas with management potential, landcover classes with good restoration potential, priority areas for restoration of longleaf and shortleaf pine, and historic grassland and savanna locations. This indicator combines data from multiple sources, including the Southeast Blueprint grassland and savanna extent indicator, the Longleaf Suitability Analysis, shortleaf pine suitability, landcover from the National Land Cover Database and LANDFIRE, and more.





Restoration priority

- Highest (in a grassland/savanna hub, in a protected area with management potential, in a historic patch >10 acres)
- Very high (in a grassland/savanna hub, unprotected landcover with good restoration potential, in a historic patch >10 acres)
- High (outside a grassland/savanna hub, in a protected area with management potential, in a historic patch >10 acres)
- Medium (outside a grassland/savanna hub, unprotected landcover with good restoration potential, in a historic patch >10 acres)
- Low (other historic grassland/savanna)
- Very low (already known or likely grassland/savanna)
 - Lowest (not identified as historic grassland/savanna)

Table 7: Indicator values for grassland & savanna restoration within Missouri. A good condition threshold is not yet defined for this indicator.

	Indicator Values: Restoration priority	Acres	Percent of Area
↑ High	Highest (in a grassland/savanna hub, in a protected area with management potential, in a historic patch >10 acres)	1,573,975	3.5%
	Very high (in a grassland/savanna hub, unprotected landcover with good restoration potential, in a historic patch >10 acres)	4,170,252	9.3%
	High (outside a grassland/savanna hub, in a protected area with management potential, in a historic patch >10 acres)	95,130	0.2%
	Medium (outside a grassland/savanna hub, unprotected landcover with good restoration potential, in a historic patch >10 acres)	3,815,642	8.6%
	Low (other historic grassland/savanna)	14,991,489	33.6%
	Very low (already known or likely grassland/savanna)	255,842	0.6%
↓ Low	Lowest (not identified as historic grassland/savanna)	19,705,620	44.2%
	Total area	44,607,949	100%

Terrestrial Greenways & trails

This cultural resource indicator measures both the natural condition and connected length of greenways and trails to characterize the quality of the recreational experience. Natural condition is based on the amount of impervious surface surrounding the path. Connected length captures how far a person can go without leaving a dedicated path, based on common distances for walking, running, and biking. This indicator originates from OpenStreetMap data and the National Land Cover Database.

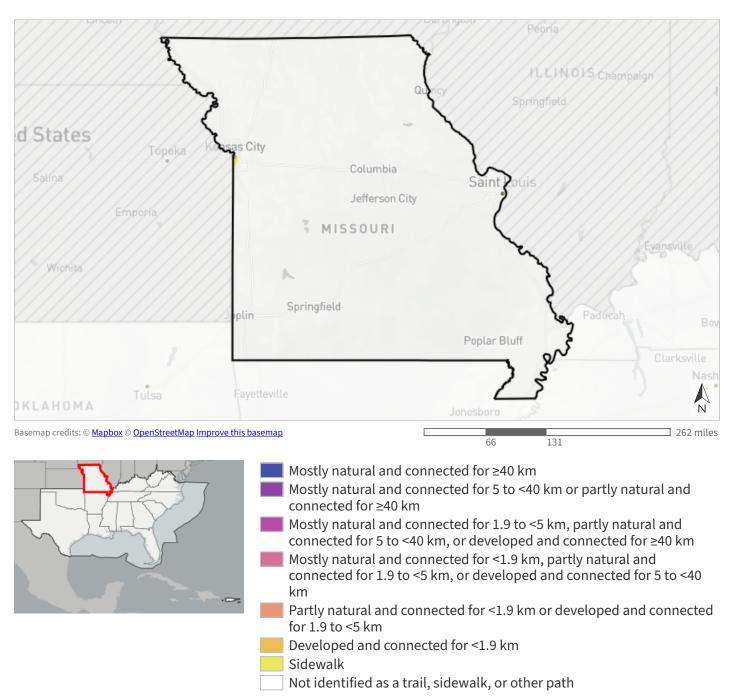


Table 8: Indicator values for greenways & trails within Missouri. Good condition thresholds reflect the range of indicator values that occur in healthy, functioning ecosystems.

	Indicator Values	Acres	Percent of Area	
↑ High	Mostly natural and connected for ≥40 km	11,809	<0.1%	
	Mostly natural and connected for 5 to <40 km or partly natural and connected for ≥40 km	16,578	<0.1%	
	Mostly natural and connected for 1.9 to <5 km, partly natural and connected for 5 to <40 km, or developed and connected for ≥40 km	13,728	<0.1%	
	Mostly natural and connected for <1.9 km, partly natural and connected for 1.9 to <5 km, or developed and connected for 5 to <40 km	9,112	<0.1%	↑ In good condition
	Partly natural and connected for <1.9 km or developed and connected for 1.9 to <5 km	4,617	<0.1%	↓ Not in good condition
	Developed and connected for <1.9 km	6,406	<0.1%	
	Sidewalk	36,851	<0.1%	
↓ Low	Not identified as a trail, sidewalk, or other path	44,508,849	99.8%	
	Total area	44,607,949	100%	

Terrestrial

Imperiled amphibians & reptiles

This indicator identifies potential habitat to support amphibian and reptile Regional Species of Greatest Conservation Need (RSGCN). Using a rarity-weighted richness approach, it prioritizes places important for species that are restricted to smaller ranges, such as narrow endemics, which are therefore more vulnerable to habitat loss or change. RSGCN are regional priority species derived from the list of SGCN identified in Southeast State Wildlife Action Plans as most in need of need of conservation action. RSGCN were chosen based on consistent criteria, such as level of conservation concern, regional stewardship responsibility, and ecological significance. This indicator uses models from the U.S. Geological Survey Gap Analysis Project that are based on known species ranges, specieshabitat relationships, and landcover.

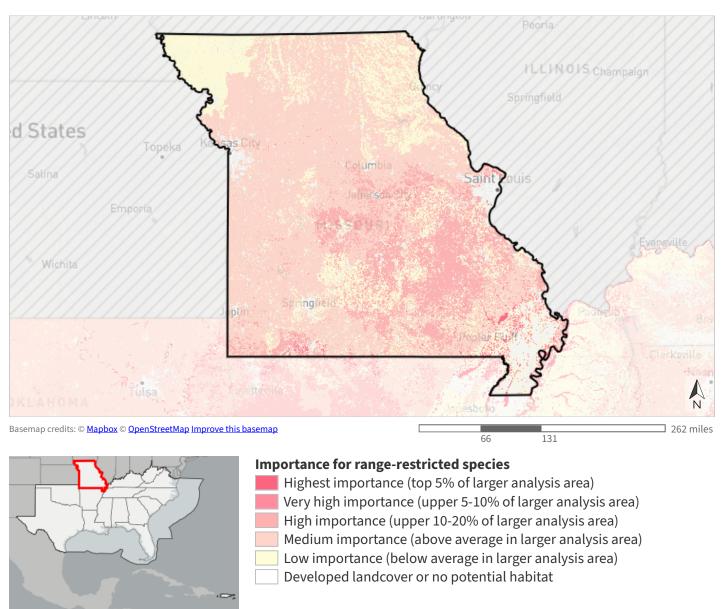
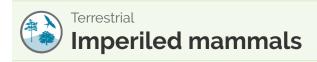


Table 9: Indicator values for imperiled amphibians & reptiles within Missouri. A good condition threshold is not yet defined for this indicator.

	Indicator Values: Importance for range-restricted species	Acres	Percent of Area
↑ High	Highest importance (top 5% of larger analysis area)	669,124	1.5%
	Very high importance (upper 5-10% of larger analysis area)	826,410	1.9%
	High importance (upper 10-20% of larger analysis area)	6,351,453	14.2%
	Medium importance (above average in larger analysis area)	20,501,357	46.0%
	Low importance (below average in larger analysis area)	10,337,104	23.2%
↓ Low	Developed landcover or no potential habitat	5,922,501	13.3%
	Total area	44,607,949	100%



This indicator identifies potential habitat to support mammal Regional Species of Greatest Conservation Need (RSGCN). Using a rarity-weighted richness approach, it prioritizes places important for species that are restricted to smaller ranges, such as narrow endemics, which are therefore more vulnerable to habitat loss or change. RSGCN are regional priority species derived from the list of SGCN identified in Southeast State Wildlife Action Plans as most in need of need of conservation action. RSGCN were chosen based on consistent criteria, such as level of conservation concern, regional stewardship responsibility, and ecological significance. This indicator uses models from the U.S. Geological Survey Gap Analysis Project that are based on known species ranges, species-habitat relationships, and LANDFIRE landcover.

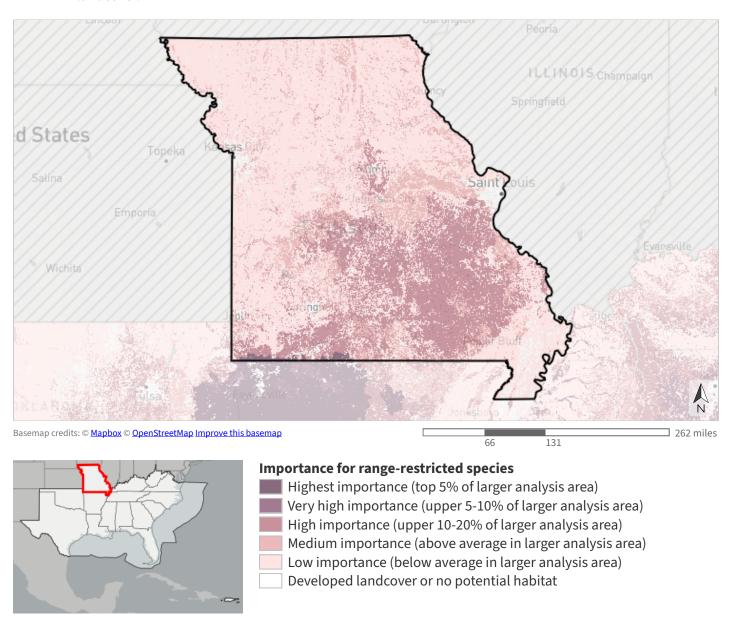
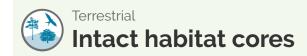


Table 10: Indicator values for imperiled mammals within Missouri. A good condition threshold is not yet defined for this indicator.

	Indicator Values: Importance for range-restricted species	Acres	Percent of Area
↑ High	Highest importance (top 5% of larger analysis area)	171,751	0.4%
	Very high importance (upper 5-10% of larger analysis area)	922,075	2.1%
	High importance (upper 10-20% of larger analysis area)	9,188,953	20.6%
	Medium importance (above average in larger analysis area)	7,164,408	16.1%
	Low importance (below average in larger analysis area)	22,896,138	51.3%
↓ Low	Developed landcover or no potential habitat	4,264,624	9.6%
	Total area	44,607,949	100%



This indicator represents the size of large, unfragmented patches of natural habitat. It identifies minimally disturbed natural areas at least 100 acres in size and greater than 200 meters wide. Large areas of intact natural habitat are important for many wildlife species, including reptiles and amphibians, birds, and large mammals. This indicator originates from Esri's green infrastructure data.

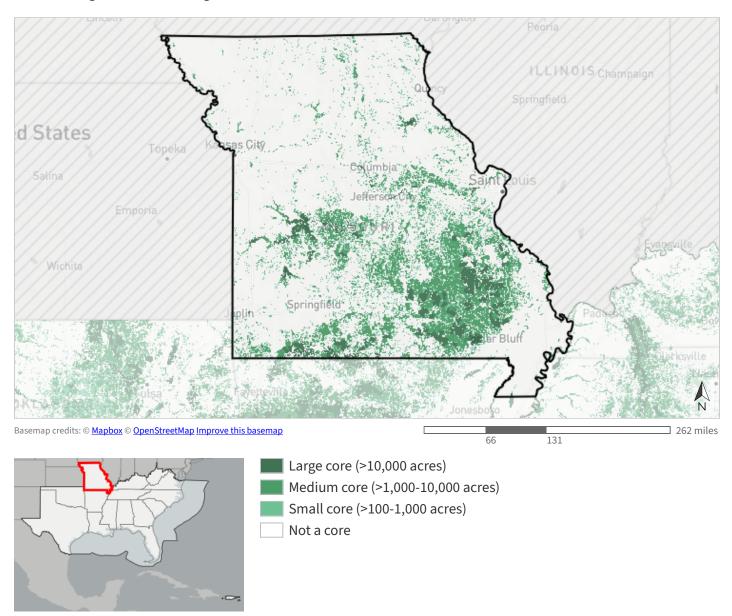


Table 11: Indicator values for intact habitat cores within Missouri. Good condition thresholds reflect the range of indicator values that occur in healthy, functioning ecosystems.

	Indicator Values	Acres	Percent of Area	
↑ High	Large core (>10,000 acres)	1,810,413	4.1%	
	Medium core (>1,000-10,000 acres)	5,014,751	11.2%	
↓ Low	Small core (>100-1,000 acres)	3,062,310	6.9%	↑ In good condition
	Not a core	34,720,475	77.8%	→ Not in good condition
	Total area	44,607,949	100%	

Terrestrial Landscape condition

This indicator represents natural areas with limited human alteration while also considering the naturalness of the surrounding landscape. Examples of human alteration include urban development and intense agricultural use. The degree of naturalness across the landscape is a key ecological condition for sustaining species and ecosystem services that are sensitive to habitat fragmentation at multiple scales. This indicator combines data from multiple sources, including the National Land Cover Database; various data on grasslands, mines, quarries, and reservoirs; ideas from the Florida Critical Lands and Waters Identification Project's approach for evaluating land use intensity; and more.

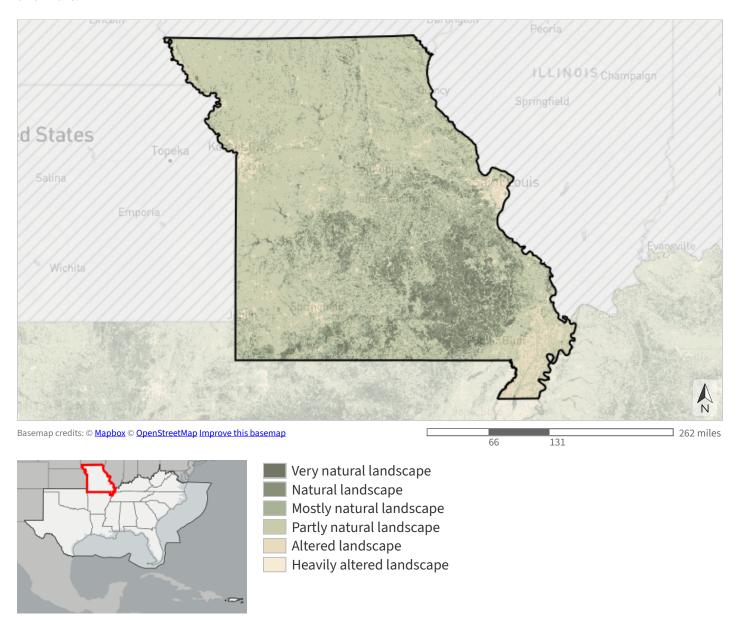


Table 12: Indicator values for landscape condition within Missouri. Good condition thresholds reflect the range of indicator values that occur in healthy, functioning ecosystems.

	Indicator Values	Acres	Percent of Area	
↑ High	Very natural landscape	1,169,981	2.6%	
	Natural landscape	5,369,009	12.0%	
	Mostly natural landscape	10,912,967	24.5%	↑ In good condition
	Partly natural landscape	24,287,833	54.4%	→ Not in good condition
	Altered landscape	2,611,513	5.9%	
↓ Low	Heavily altered landscape	256,647	0.6%	
	Total area	44,607,949	100%	

Terrestrial Missis

Mississippi Alluvial Valley forest birds - protection

This indicator prioritizes areas for new land protection within the Mississippi Alluvial Valley (MAV) based on benefits to forest breeding birds that need large interior cores of bottomland hardwood habitat (Swainson's warbler, cerulean warbler, swallow-tailed kite). The model considers core size, the amount of existing protected land within a forest patch, proximity to reforestation priorities, and risk of conversion to agriculture based on flooding frequency. The highest scores go to drier, unprotected forest patches with cores at least 2,000 ha (~5,000 ac) in size that are adjacent to complementary reforestation priority areas also identified by the Lower Mississippi Valley Joint Venture (LMVJV). This indicator originates from the LMVJV MAV forest breeding bird protection priorities.



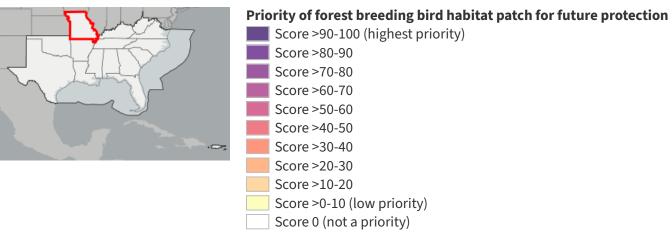


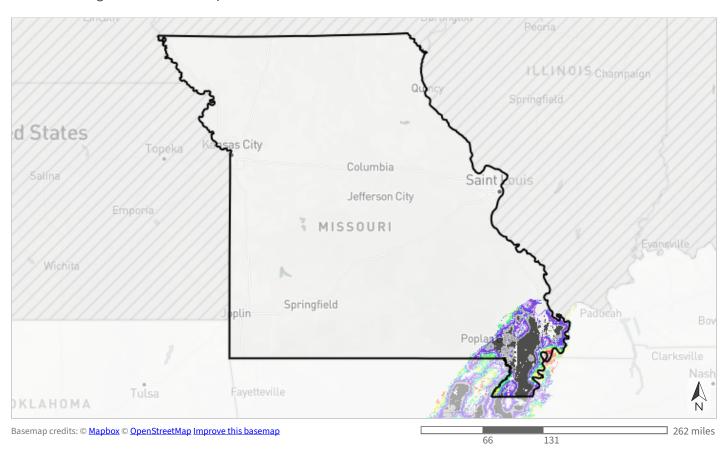
Table 13: Indicator values for Mississippi Alluvial Valley forest birds - protection within Missouri. A good condition threshold is not yet defined for this indicator.

	Indicator Values: Priority of forest breeding bird habitat patch for future protection	Acres	Percent of Area
↑ High	Score >90-100 (highest priority)	0	0%
	Score >80-90	0	0%
	Score >70-80	0	0%
	Score >60-70	285	<0.1%
	Score >50-60	9,560	<0.1%
	Score >40-50	2,315	<0.1%
	Score >30-40	1,611	<0.1%
	Score >20-30	1,231	<0.1%
	Score >10-20	3,758	<0.1%
	Score >0-10 (low priority)	2,493	<0.1%
↓ Low	Score 0 (not a priority)	2,505,624	5.6%
	Area not evaluated for this indicator	42,081,072	94.3%
	Total area	44,607,949	100%

Terrestrial Missis

Mississippi Alluvial Valley forest birds - reforestation

This indicator prioritizes areas for reforestation within the Mississippi Alluvial Valley (MAV) based on benefits to three species of forest breeding birds that need large interior cores of bottomland hardwood habitat (Swainson's warbler, cerulean warbler, swallow-tailed kite). The model considers the core size, number of cores, and percent of local forest cover that would result from reforestation, as well as risk of conversion to agriculture based on flooding frequency. The highest scores go to drier areas where reforestation would create new forest patches containing interior cores at least 2,000 ha (~5,000 ac) in size. It originates from the Lower Mississippi Valley Joint Venture MAV forest breeding bird reforestation priorities.





Likelihood that reforestation will contribute to forest breeding bird habitat needs

Most likely (≥90th percentile)

Most likely (80th to <90th percentile)

More likely (70th to <80th percentile)

Less likely (60th to <70th percentile)

Least likely (50th to <60th percentile)

Least likely (40th to <50th percentile)

Least likely (30th to <40th percentile)

Least likely (20th to <30th percentile)

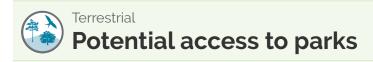
Least likely (10th to <20th percentile)

Least likely (<10th percentile)

Not a priority for reforestation

Table 14: Indicator values for Mississippi Alluvial Valley forest birds - reforestation within Missouri. A good condition threshold is not yet defined for this indicator.

	Indicator Values: Likelihood that reforestation will contribute to forest breeding bird habitat needs	Acres	Percent of Area
↑ High	Most likely (≥90th percentile)	18,175	<0.1%
	Most likely (80th to <90th percentile)	32,837	<0.1%
	More likely (70th to <80th percentile)	59,590	0.1%
	Less likely (60th to <70th percentile)	76,094	0.2%
	Least likely (50th to <60th percentile)	99,660	0.2%
	Least likely (40th to <50th percentile)	159,657	0.4%
	Least likely (30th to <40th percentile)	204,979	0.5%
	Least likely (20th to <30th percentile)	244,769	0.5%
	Least likely (10th to <20th percentile)	408,592	0.9%
	Least likely (<10th percentile)	730,951	1.6%
↓ Low	Not a priority for reforestation	491,746	1.1%
	Area not evaluated for this indicator	42,080,898	94.3%
	Total area	44,607,949	100%



This cultural resource indicator prioritizes places to create new parks that would fill gaps in access to open space within socially vulnerable communities in urban areas. It identifies areas where residents currently lack access to parks within a 10-minute walk (accounting for walkable road networks and access barriers like highways and fences), then prioritizes based on park need using demographic and environmental metrics. Parks help improve public health, foster a conservation ethic by providing opportunities for people to connect with nature, and support critical ecosystem services. This indicator originates from the Trust for Public Land's ParkServe park priority areas and the Center for Disease Control's Social Vulnerability Index.

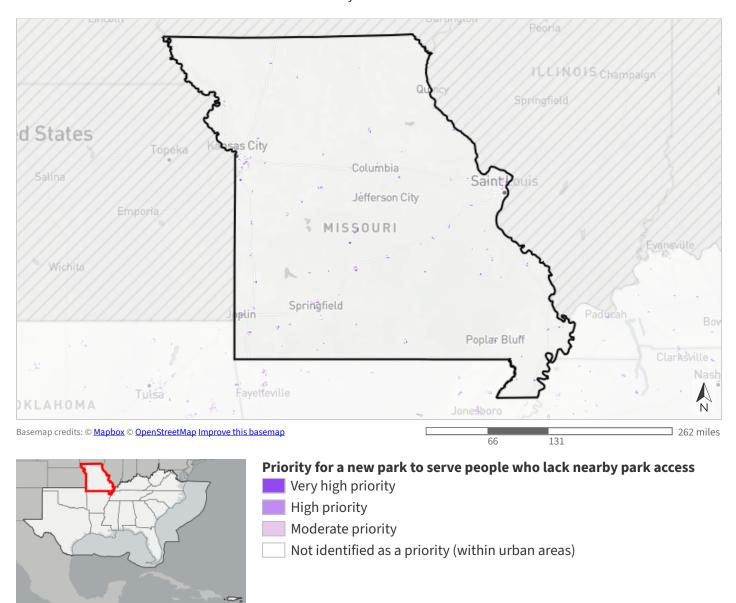


Table 15: Indicator values for potential access to parks within Missouri. A good condition threshold is not yet defined for this indicator.

	Indicator Values: Priority for a new park to serve people who lack nearby park access	Acres	Percent of Area
↑ High	Very high priority	43,612	<0.1%
	High priority	56,517	0.1%
↓ Low	Moderate priority	68,028	0.2%
	Not identified as a priority (within urban areas)	44,439,792	99.6%
	Total area	44,607,949	100%

Terrestrial Resilient terrestrial sites

This indicator depicts an area's capacity to maintain species diversity and ecosystem function in the face of climate change. It measures two factors that influence resilience. The first, landscape diversity, reflects the number of microhabitats and climatic gradients created by topography, elevation, and hydrology. The second, local connectedness, reflects the degree of habitat fragmentation and strength of barriers to species movement. Highly resilient sites contain many different habitat niches that support biodiversity, and allow species to move freely through the landscape to find suitable microclimates as the climate changes. This indicator originates from The Nature Conservancy's Resilient Land data.

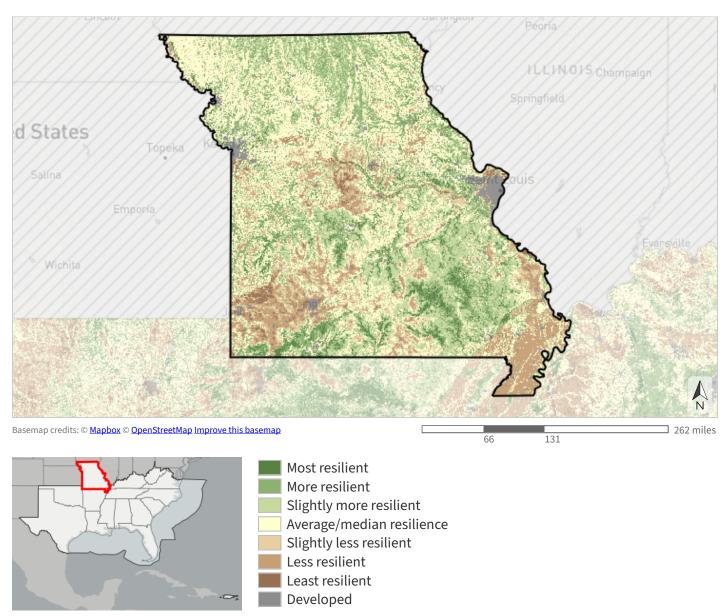


Table 16: Indicator values for resilient terrestrial sites within Missouri. A good condition threshold is not yet defined for this indicator.

	Indicator Values	Acres	Percent of Area
↑ High	Most resilient	1,485,787	3.3%
	More resilient	7,323,741	16.4%
	Slightly more resilient	9,595,361	21.5%
	Average/median resilience	13,328,232	29.9%
	Slightly less resilient	4,701,271	10.5%
	Less resilient	4,937,829	11.1%
	Least resilient	517,714	1.2%
↓ Low	Developed	2,020,624	4.5%
	Area not evaluated for this indicator	697,390	1.6%
	Total area	44,607,949	100%

River cane restoration

This indicator represents priority places for river cane restoration and co-stewardship near the lands of federally recognized Tribes. River cane is a bamboo species native to the Southeast. Historically, it was abundant and widespread, forming dense patches called canebrakes that could stretch for miles within the floodplain. Today, it has been reduced to less than 2% of its former extent. River cane not only provides significant habitat value and ecosystem services, but many Southeastern Native American Tribes consider it a cultural keystone species important to the continuity of traditional lifeways. This indicator combines data from multiple sources, including Natural Resources Conservation Service soils data, the Environmental Protection Agency's estimated floodplain, lands of federally recognized Tribes lands from the U.S. Census Bureau, and more.

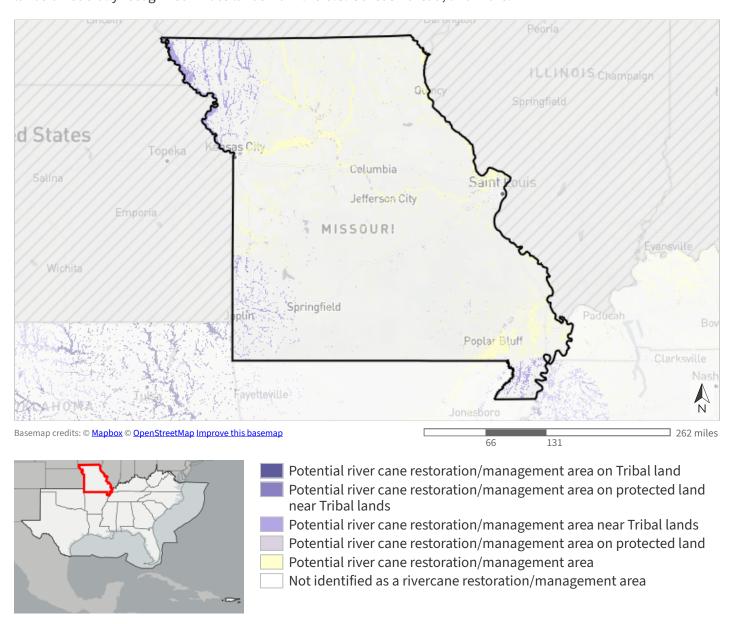


Table 17: Indicator values for river cane restoration within Missouri. A good condition threshold is not yet defined for this indicator.

	Indicator Values	Acres	Percent of Area
↑ High	Potential river cane restoration/management area on Tribal land	0	0%
	Potential river cane restoration/management area on protected land near Tribal lands	51,906	0.1%
	Potential river cane restoration/management area near Tribal lands	1,305,386	2.9%
	Potential river cane restoration/management area on protected land	469,397	1.1%
	Potential river cane restoration/management area	5,651,219	12.7%
↓ Low	Not identified as a rivercane restoration/management area	37,130,040	83.2%
	Area not evaluated for this indicator	0.67	<0.1%
	Total area	44,607,949	100%



This cultural resource indicator measures the size of parks larger than 5 acres in the urban environment. Protected natural areas in urban environments provide urban residents a nearby place to connect with nature, and offer refugia for some species. This indicator complements the equitable access to potential parks indicator by capturing the value of existing parks. It originates from the Protected Areas Database of the United States, U.S. Census Bureau urban areas, and the National Land Cover Database.

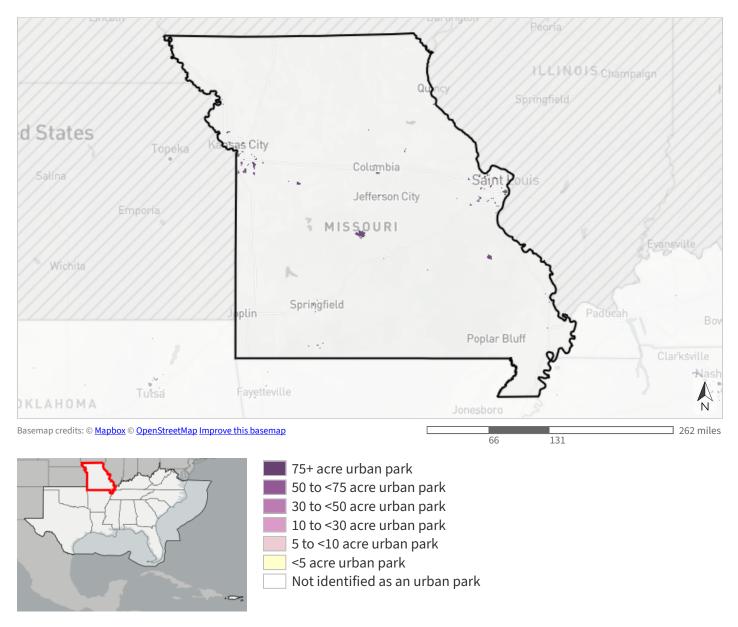


Table 18: Indicator values for urban park size within Missouri. A good condition threshold is not yet defined for this indicator.

	Indicator Values	Acres	Percent of Area
↑ High	75+ acre urban park	114,984	0.3%
	50 to <75 acre urban park	5,319	<0.1%
	30 to <50 acre urban park	7,056	<0.1%
	10 to <30 acre urban park	10,618	<0.1%
	5 to <10 acre urban park	3,891	<0.1%
	<5 acre urban park	4,239	<0.1%
↓ Low	Not identified as an urban park	44,461,842	99.7%
	Total area	44,607,949	100%

Freshwater Floodplain inundation

This indicator uses the frequency of inundation to measure the hydrologic function of the floodplain. In a natural floodplain, water can move freely from mainstem rivers and lakes onto different parts of the floodplain. This cycle of frequent, but not persistent, flooding supports many aquatic species and habitats, like fish, waterfowl and swamp forests. It also provides essential ecosystem services such as nutrient retention and downstream flood control. When parts of the floodplain stay constantly wet or dry, this may signal negative impacts from structures like dikes, dams, and levees, which disconnect waterbodies from their adjacent floodplains. This indicator is based on Sentinel-2 satellite imagery and methods developed by Yvonne Allen of the U.S. Fish and Wildlife Service.



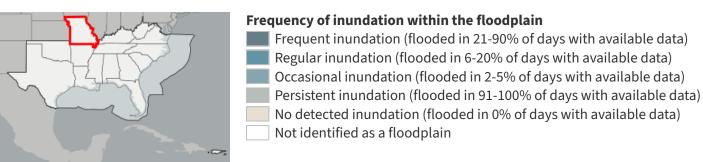


Table 19: Indicator values for floodplain inundation within Missouri. Good condition thresholds reflect the range of indicator values that occur in healthy, functioning ecosystems.

	Indicator Values: Frequency of inundation within the floodplain	Acres	Percent of Area	
↑ High	Frequent inundation (flooded in 21-90% of days with available data)	237,956	0.5%	
	Regular inundation (flooded in 6-20% of days with available data)	416,769	0.9%	↑ In good condition
	Occasional inundation (flooded in 2-5% of days with available data)	606,576	1.4%	↓ Not in good condition
	Persistent inundation (flooded in 91-100% of days with available data)	342,872	0.8%	
	No detected inundation (flooded in 0% of days with available data)	4,960,582	11.1%	
↓ Low	Not identified as a floodplain	38,043,193	85.3%	
	Total area	44,607,949	100%	

Freshwater Imperiled aquatic species

This indicator measures the number of aquatic animal Regional Species of Greatest Conservation Need (RSGCN) observed within each 12-digit HUC subwatershed, including fish, mussels, snails, crayfish, and amphibians. RSGCN are regional priority species derived from the list of SGCN identified in Southeast State Wildlife Action Plans as most in need of need of conservation action. RSGCN were chosen based on consistent criteria, such as level of conservation concern, regional stewardship responsibility, and ecological significance. This indicator originates from state Natural Heritage Program data collected by the Southeast Aquatic Resources Partnership and applies to the Environmental Protection Agency's estimated floodplain, which spatially defines areas estimated to be inundated by a 100-year flood (also known as the 1% annual chance flood).



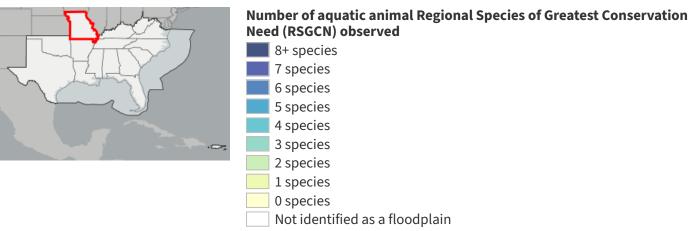


Table 20: Indicator values for imperiled aquatic species within Missouri. A good condition threshold is not yet defined for this indicator.

	Indicator Values: Number of aquatic animal Regional Species of Greatest Conservation Need (RSGCN) observed	Acres	Percent of Area
↑ High	8+ species	147,041	0.3%
	7 species	84,335	0.2%
	6 species	123,436	0.3%
	5 species	326,867	0.7%
	4 species	293,426	0.7%
	3 species	231,572	0.5%
	2 species	397,482	0.9%
	1 species	785,395	1.8%
	0 species	4,175,201	9.4%
↓ Low	Not identified as a floodplain	38,043,193	85.3%
	Area not evaluated for this indicator	0.67	<0.1%
	Total area	44,607,949	100%



This indicator assesses the condition of lakes and reservoirs based on the amount of natural landcover within the upstream watershed. Higher scores go to lakes and reservoirs with less surrounding urban and agricultural development (including intensive forest management for timber production), which negatively impact drinking water quality and quantity and fish habitat. This indicator uses waterbody and watershed data from the LAGOS-LOCUS dataset, as well as landcover from the National Land Cover Database and LANDFIRE.

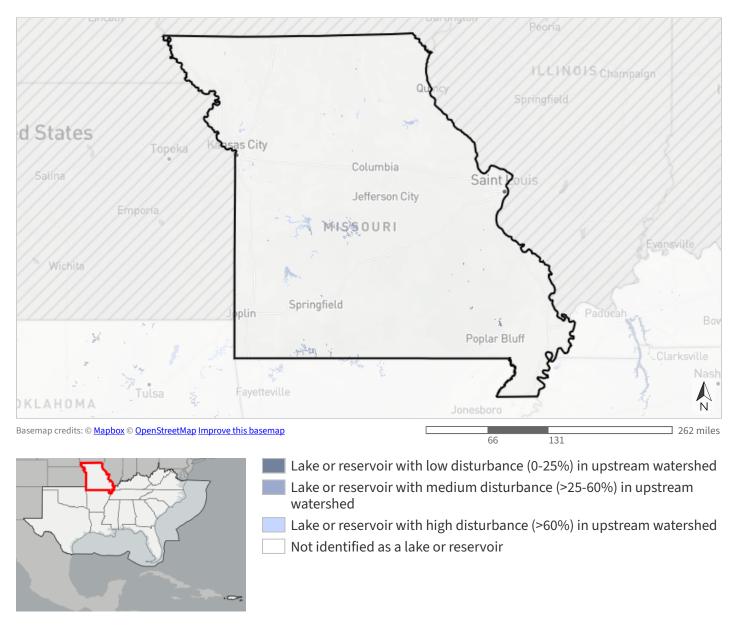
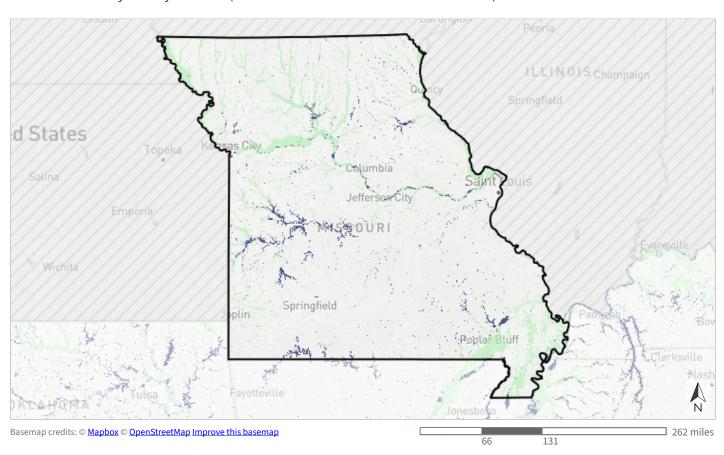


Table 21: Indicator values for lakes & reservoirs within Missouri. Good condition thresholds reflect the range of indicator values that occur in healthy, functioning ecosystems.

	Indicator Values	Acres	Percent of Area	
↑ High	Lake or reservoir with low disturbance (0-25%) in upstream watershed	31,014	<0.1%	↑ In good condition
	Lake or reservoir with medium disturbance (>25-60%) in upstream watershed	133,752	0.3%	→ Not in good condition
	Lake or reservoir with high disturbance (>60%) in upstream watershed	177,250	0.4%	
↓ Low	Not identified as a lake or reservoir	44,265,933	99.2%	
	Total area	44,607,949	100%	

Freshwater Natural landcover in floodplains

This indicator measures the amount of natural landcover in the estimated floodplain of rivers and streams within each catchment. It assesses the stream channel and its surrounding riparian buffer, measuring the percent of unaltered habitat like forests, wetlands, or open water (rather than agriculture or development). Intact vegetated buffers within the floodplain of rivers and streams provide aquatic habitat, improve water quality, reduce erosion and flooding, recharge groundwater, and more. This indicator originates from the National Land Cover Database and applies to the Environmental Protection Agency's estimated floodplain, which spatially defines areas estimated to be inundated by a 100-year flood (also known as the 1% annual chance flood).



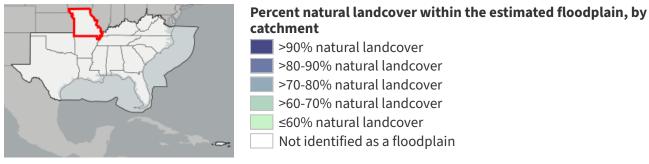


Table 22: Indicator values for natural landcover in floodplains within Missouri. Good condition thresholds reflect the range of indicator values that occur in healthy, functioning ecosystems.

	Indicator Values: Percent natural landcover within the estimated floodplain, by catchment	Acres	Percent of Area	
↑ High	>90% natural landcover	761,878	1.7%	
	>80-90% natural landcover	319,979	0.7%	↑ In good condition
	>70-80% natural landcover	329,922	0.7%	→ Not in good condition
	>60-70% natural landcover	400,527	0.9%	
	≤60% natural landcover	4,752,449	10.7%	
↓ Low	Not identified as a floodplain	38,043,193	85.3%	
	Area not evaluated for this indicator	0.67	<0.1%	
	Total area	44,607,949	100%	



This indicator depicts the number of connected stream size classes in a river network between dams or waterfalls. River networks with a variety of connected stream classes help retain aquatic biodiversity in a changing climate by allowing species to access climate refugia and move between habitats. This indicator originates from the Southeast Aquatic Resources Partnership and applies to the Environmental Protection Agency's estimated floodplain, which spatially defines areas estimated to be inundated by a 100-year flood (also known as the 1% annual chance flood).

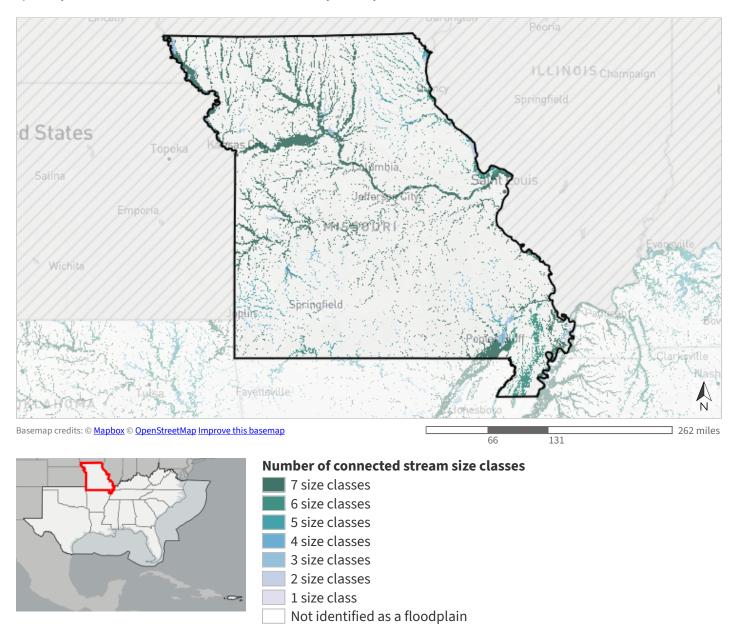
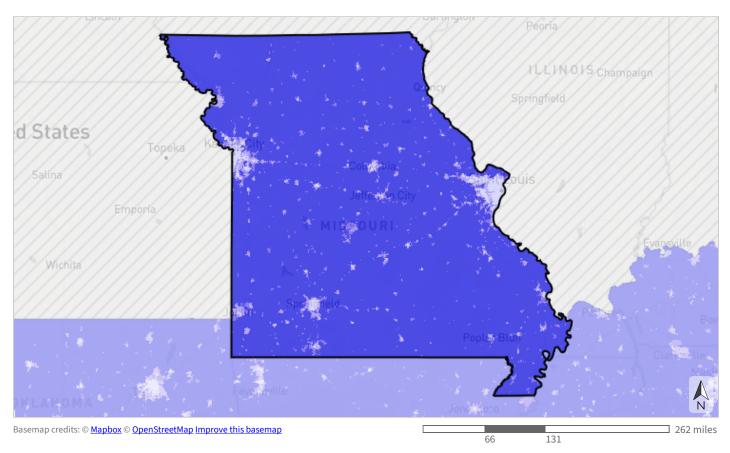


Table 23: Indicator values for network complexity within Missouri. Good condition thresholds reflect the range of indicator values that occur in healthy, functioning ecosystems.

	Indicator Values: Number of connected stream size classes	Acres	Percent of Area	
↑ High	7 size classes	4,193,527	9.4%	
	6 size classes	900,671	2.0%	
	5 size classes	576,256	1.3%	
	4 size classes	183,534	0.4%	↑ In good condition
	3 size classes	300,942	0.7%	→ Not in good condition
	2 size classes	218,355	0.5%	
	1 size class	190,188	0.4%	
↓ Low	Not identified as a floodplain	38,044,454	85.3%	
	Area not evaluated for this indicator	22	<0.1%	
	Total area	44,607,949	100%	



This indicator measures the average percent of non-impervious cover within each catchment. High levels of impervious surface degrade water quality and alter freshwater flow, impacting both aquatic species communities and ecosystem services for people, like the availability of clean drinking water. This indicator originates from the National Land Cover Database.





Percent of catchment permeable

- >95% permeable (likely high water quality and supporting most sensitive aquatic species)
- >90-95% permeable (likely declining water quality and supporting most aquatic species)
- >70-90% permeable (likely degraded water quality and not supporting many aquatic species)
- ≤70% permeable (likely degraded instream flow, water quality, and aquatic species communities)

Table 24: Indicator values for permeable surface within Missouri. Good condition thresholds reflect the range of indicator values that occur in healthy, functioning ecosystems.

	Indicator Values: Percent of catchment permeable	Acres	Percent of Area	
↑ High	>95% permeable (likely high water quality and supporting most sensitive aquatic species)	41,770,250	93.6%	↑ In good condition
	>90-95% permeable (likely declining water quality and supporting most aquatic species)	1,156,508	2.6%	→ Not in good condition
	>70-90% permeable (likely degraded water quality and not supporting many aquatic species)	1,079,886	2.4%	
↓ Low	≤70% permeable (likely degraded instream flow, water quality, and aquatic species communities)	601,304	1.3%	
	Area not evaluated for this indicator	0.67	<0.1%	
	Total area	44,607,949	100%	

More Information

Priority Amphibian and Reptile Conservation Areas

Priority Amphibian and Reptile Conservation Areas (PARCAs) are an expert-driven, nonregulatory designation that includes places capable of supporting viable amphibian and reptile populations, places occupied by rare or imperiled species, and places rich in biodiversity or species unique to that geographic area. Reptiles and amphibians are a critical part of the Southeast region's rich biodiversity and many populations are declining in the face of threats like habitat loss, invasive species, and climate change. The PARCA dataset is maintained by the Amphibian and Reptile Conservancy and does not yet include Virginia or Kentucky.

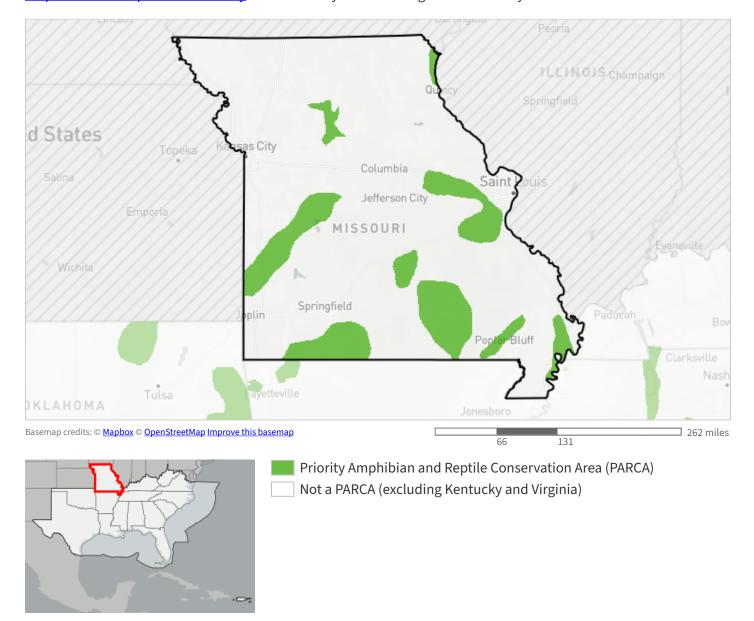


Table 25: Extent of Priority Amphibian and Reptile Conservation Areas within Missouri.

Priority Amphibian and Reptile Conservation Areas status	Acres	Percent of Area
Priority Amphibian and Reptile Conservation Area (PARCA)	6,812,946	15.3%
Not a PARCA (excluding Kentucky and Virginia)	37,795,003	84.7%
Total area	44,607,949	100%

Priority Amphibian and Reptile Conservation Areas at this location: Big Piney

Maintaining hellbender habitat is becoming increasingly important, especially for the endangered Missouri populations. Major threats to this species are habitat loss and degraded water quality. Protecting the streams and rivers of the Big Piney PARCA will help shield this amazing species from extinction. The landscape for this PARCA consists of moderately dissected hills, steep slopes, and narrow valleys with karst features. Predominant vegetative species are mostly white oak forests and white-black oak forests with some small sandstone and limestone glades. Numerous caves, losing streams, and calcareous wetlands are common throughout this region.

Current River Hills

The Current River Hills PARCA contains the Roger Pryor Pioneer Backcountry. This stretch of land is about 62,000 acres and is the largest contiguous piece of land in the state of Missouri. Comprising mostly hills, narrow ridges, streams, and caves, this area is a diverse wonderland and one of the least developed areas in the state. Pine and oak forests dominate the land and some of the trees have been aged at 300-400 years old. The high-quality streams found in the valleys are home to the endemic and endangered Ozark hellbender. This area is a popular recreation destination and important for timber harvests.

Devil's Eyebrow

This rugged PARCA is steep and rich in biodiversity. Not only is it a safe haven for many amphibians and reptiles threatened by encroaching development, but it supports one of the highest concentrations of rare plant species in Arkansas. This PARCA also contains the state's largest state park, Hobbs State Park Conservation Area. Most of the land is underlain with cherty limestone that includes caves and many spring-fed streams. This area is also known for its glades, but most of the forest and prairies have been converted to agriculture and residential areas. Fire suppression in the glades have allowed for unwanted woody vegetation to invade and suffocate the rich understory. Restoring the natural fire regime to the area, coupled with woody vegetation removal, will help return the diverse plant communities to this unique landscape and keep it open for pollinators and the dwindling numbers of eastern collared lizards.

Lower Grand

The Lower Grand PARCA is found within the Missouri Alluvial Plain and Loess Flat and Till Plains ecoregions. The Missouri Alluvial Plain is part of the big, wide, flat alluvial plain that spreads across the five neighboring states and is bordered by bluffs covered with deep loess. This area has rich soil resulting from periodic flooding. In the Loess Flats and Till Plains, the glaciated landscape includes low hills, smooth plains, and perennial streams with wetlands. The bulk of the historic vegetation in the Lower Grand has been replaced by croplands. This area is important for the state listed western massasauga and corridors are needed to reconnect populations isolated by fragmentation.

Missouri Black River

The Missouri Black River PARCA consists of a wide, flat alluvial plain with rich soil created by glacial outwash deposits from the Mississippi and Ohio Rivers. It is also characterized by sand dune fields, moderately dissected hills, streams, and wetlands. Historically, the land was covered with bald cypress and tupelo swamp forests, along with mixed deciduous bottomland forest. Natural grasslands and oak woodlands were also found within this region. However, row crop agriculture dominates the land today

and many streams have been channelized and wetlands drained. Restoring and maintaining riparian habitat and wetlands is crucial to protecting healthy ecosystems.

Missouri River Hills

Daniel Boone's last homestead and the place where he spent his final years is found within the Missouri River Hills PARCA. Landcover throughout this region is varied, with row crops, improved pasture, woodland, savannas, and oak and mesic mixed hardwood forests. Bluffs, valleys, low hills, and perennial streams are characteristic of this PARCA. Maintaining wetlands and fishless ponds are important to preserving the high amphibian richness and abundance of this area.

Northeast Sandhills

The Northeast Sandhills PARCA is situated along the western side of the Mississippi River. The area is a combination of hills, valleys, blufflands, and drained bottomlands. Historically, much of this region was covered in prairies and marshes, but conversion to agriculture has severely altered and fragmented the land. This drastic change to the natural habitat has caused an increase in mesopredators and a decrease in land quality, which has caused devastating results to imperiled turtles, such as the Blanding's turtle.

Osage Plains

The unglaciated Osage Plains can be distinguished by a flat to gently rolling topography with tallgrass prairies, savannas, and wetlands. Perennial streams can be found intermittently throughout the land, but the area can become very arid in the summer. Much of the area has been converted to agriculture and could benefit from habitat restoration with invasive plant removal and sustainable grazing practices. Soil compaction can also be an issue and more research is needed to understand the impacts on native species, like the crayfish burrow-loving crawfish frog that is dependent on healthy prairie ecosystems.

Sand Prairie Bottoms

The Sand Prairie Bottoms PARCA is situated along the Mississippi Alluvial Valley and encompasses the meander belt of the Mississippi River. Point bars, oxbows, natural levees, and abandoned channels are all components of this ecosystem. This area was once extremely diverse, but due to draining of wetlands, channelizing of streams, and clearing of bottomland forests for agriculture, much of the land has been severely altered and tarnished.

Southwest Glades

With a step-like landscape of level-crested buttes, lower benches, and bottomlands, the Southwest Glades PARCA is a rugged expanse inhabited by woodlands and rocky glades. Cliffs, sinkholes, and caves are prevalent, with some of the largest caves in Missouri found in this area. The White River runs through this PARCA and is dissected into three reservoirs: Table Rock Lake, Bull Shoals Lake, and Lake Taneycomo. Many glades have been degraded by fire suppression, overgrazing, and the spread of undesirable woody vegetation. These desert-like communities are sensitive to disturbances and their thin soils are susceptible to erosion, which can destroy essential habitat for reptiles and other animals.

Names and descriptions of public Priority Amphibian and Reptile Areas were provided by the Amphibian and Reptile Conservancy on August 30, 2024 and edited slightly for clarity and consistency.

Protected Areas

Protected areas include a variety of public lands owned or managed by federal, state, and local agencies and nonprofit organizations, as well as some private conservation lands and conservation easements. Protected areas are derived from the <u>Protected Areas Database of the United States</u> (PAD-US v4.1) and include Fee, Designation, Easement, Marine, and Proclamation (Dept. of Defense lands only) boundaries.

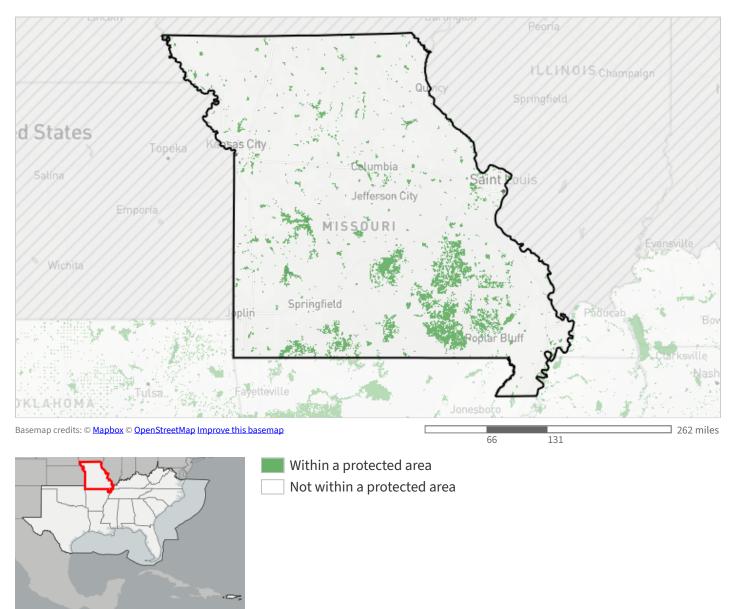


Table 26: Extent of protected areas within Missouri.

Protected area status	Acres	Percent of Area
Not within a protected area	41,227,960	92.4%
Within a protected area	3,379,989	7.6%
Total area	44,607,949	100%

Protected areas at this location:

- Mark Twain National Forest (USDA Forest Service; 1,509,043 acres)
- Harry Truman Recreation Area (165,657 acres)
- Fort Leonard Wood (61,706 acres)
- Stockton Recreation Area (59,715 acres)
- Truman Reservoir Management Lands (57,349 acres)
- Table Rock Recreation Area (56,719 acres)
- Ozark National Scenic Riverways (National Park Service; 53,180 acres)
- Harry S. Truman Lake (48,800 acres)
- Table Rock Lake (39,876 acres)
- Angeline Conservation Area (38,994 acres)
- Rocky Creek Conservation Area (37,652 acres)
- Bull Shoals Recreation Area (37,463 acres)
- Sunklands Conservation Area (32,407 acres)
- Current River Conservation Area (29,734 acres)
- Stockton Lake (26,032 acres)
- Mingo National Wildlife Refuge (US Fish and Wildlife Service; 21,666 acres)
- Lake Of The Ozarks State Park (21,094 acres)
- Smithville Recreation Area (19,839 acres)
- Mark Twain Lake (19,446 acres)
- Wetlands Reserve Program (WRP), Chariton, MO (19,266 acres)
- Clearwater Recreation Area (18,713 acres)
- Peck Ranch Conservation Area (18,525 acres)
- Pomme De Terre Recreation Area (18,363 acres)
- Clearwater Lake (17,063 acres)
- Stockton Reservoir (16,881 acres)
- ... and 3,322 more protected areas ...

Note: areas are listed based on name, ownership, and boundary information in the Protected Areas Database of the United States, which may include overlapping and duplicate areas.

Sea-level Rise

Sea-level rise unlikely to be a threat (inland counties).

Urban Growth

The FUTURES urban growth model predicts the likelihood that an area will urbanize at every decade from 2020 to 2100. Developed areas from the 2021 National Landcover Database serve as the baseline for current urban areas. The model simulates landscape change based on trends in population growth, local development suitability factors, and an urban patch-growing algorithm. It considers environmental drivers like distance to floodplain, slope, and available infrastructure, and even socio-economic status. The probability of urbanization for each area reflects how many times it urbanized out of 50 model runs.

To explore maps for additional time periods, click here.

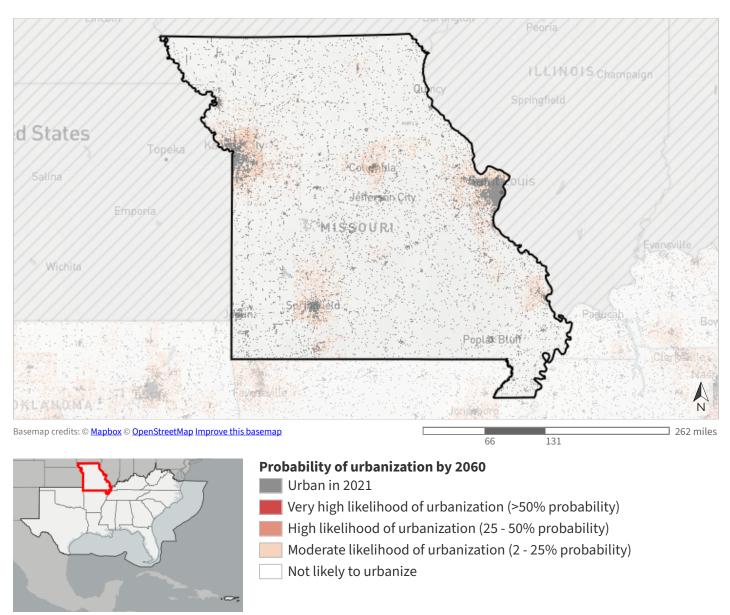


Table 27: Extent of projected urbanization by decade within Missouri. Values from <u>FUTURES model</u> <u>projections for the contiguous United States</u> developed by the <u>Center for Geospatial Analytics</u>, NC State University. 2060 corresponds to the <u>SECAS goal</u>: a 10% or greater improvement in the health, function, and connectivity of Southeastern ecosystems by 2060.

Decade	Acres	Percent of Area
Urban in 2021	3,177,187	7.1%
2030 projected extent	3,235,373	7.3%
2040 projected extent	3,255,403	7.3%
2050 projected extent	3,271,584	7.3%
2060 projected extent	3,287,935	7.4%
2070 projected extent	3,301,667	7.4%
2080 projected extent	3,312,213	7.4%
2090 projected extent	3,317,357	7.4%
2100 projected extent	3,319,057	7.4%
Not projected to urbanize by 2100	41,288,892	92.6%
Total area	44,607,949	100%

7.1% of this area is already urban in 2021, and an additional 5.8% has at least a moderate probability of urbanizing by 2060.

By 2060, the size of the urban footprint is projected to increase **3.5%** over 2021 levels.

Wildfire Likelihood

Wildfire likelihood data originate from the Wildfire Risk to Communities project developed by the U.S. Forest Service. This layer depicts the probability of wildfire burning in a specific location in any given year. Annual burn probabilities in the United States range from 0-14%, but do not exceed 8% in the Southeast. Wildfire likelihood is based on fire behavior modeling across thousands of simulations of possible fire seasons. In each simulation, factors contributing to the probability of a fire occurring (such as weather, topography, and ignitions) vary based on patterns derived from observations in recent decades. Wildfire likelihood is not predictive and does not reflect any forecasted future weather or fire danger conditions. It also does not say anything about the intensity of fire if it occurs. To explore additional wildfire risk information, please see the Wildfire Risk to Communities website.

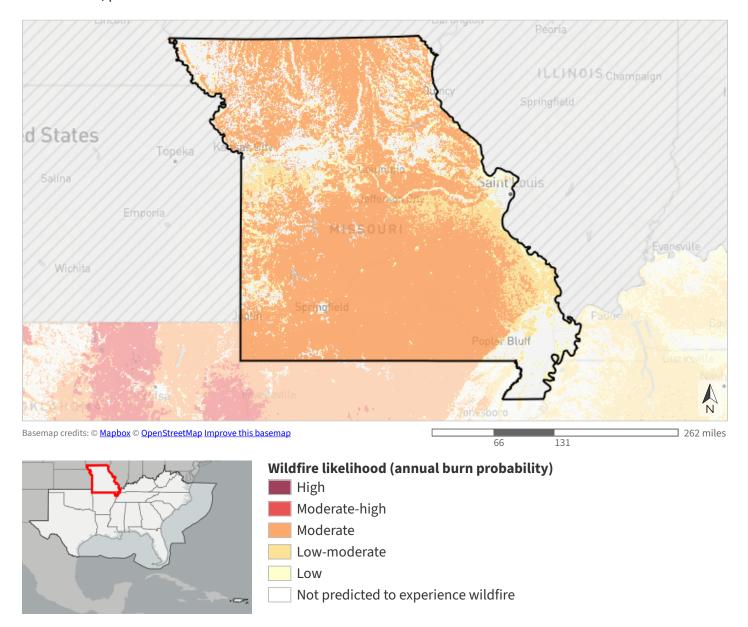


Table 28: Area in each wildfire probability category within Missouri. Values from the <u>Wildire Risk To Communities</u> project developed by the USDA Forest Service.

Wildfire likelihood (annual burn probability)	Acres	Percent of Area
Not predicted to experience wildfire (0% probability)	7,580,828	17.0%
Low (>0 - 0.01% probability)	3,414,249	7.7%
Low-moderate (>0.01 - 0.02154% probability)	1,569,416	3.5%
Low-moderate (>0.02154 - 0.04642% probability)	4,173,295	9.4%
Moderate (>0.04642 - 0.1% probability)	14,573,778	32.7%
Moderate (>0.1 - 0.21544% probability)	12,138,728	27.2%
Moderate (>0.21544 - 0.46416% probability)	1,157,387	2.6%
Moderate-high (>0.46416 - 1% probability)	147	<0.1%
Moderate-high (>1 - 2.15443% probability)	0	0%
High (>2.15443 - 4.64159% probability)	0	0%
High (>4.64159% probability)	0	0%
No wildfire risk data available	121	<0.1%
Total area	44,607,949	100%