Southeast Conservation Blueprint Summary

for Arkansas

Created 11/20/2024

Table of Contents

About the Southeast Blueprint	3
Southeast Blueprint Priorities	4
Hubs and Corridors	6
Indicator Summary	8
More Information	46
Credits	53

The Southeast Conservation Blueprint 2024



Southeast Conservation Blueprint Summary for Arkansas				
[[THIS PAGE INTENTIONALLY LEFT BLANK]			

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 2024 Development Process</u>
- View and download the Blueprint data and make maps on the Blueprint page of the SECAS Atlas

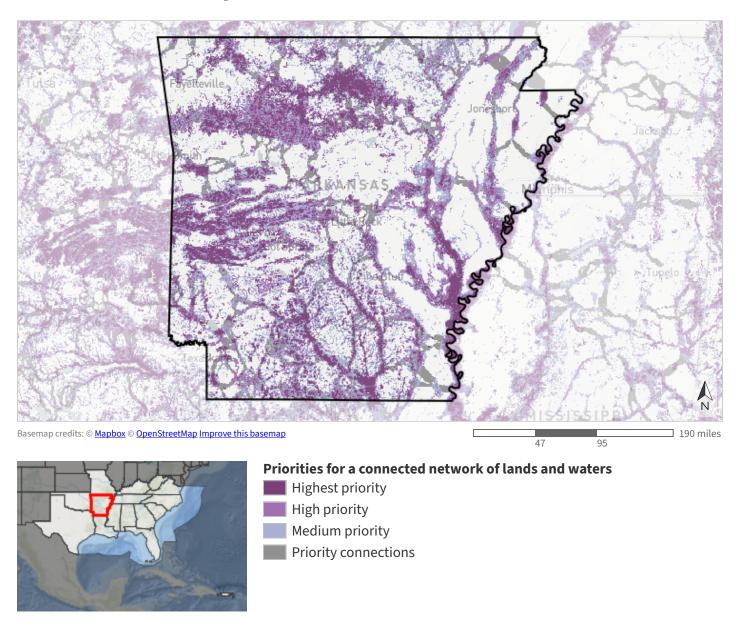
We're here to help!

- 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!

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 Arkansas.

Priority Category	Acres	Percent of Area
Highest priority	4,076,925	12.0%
High priority	5,102,253	15.0%
Medium priority	6,100,988	17.9%
Priority connections	2,273,351	6.7%
Lower priority	16,493,244	48.4%
Total area	34,046,760	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.

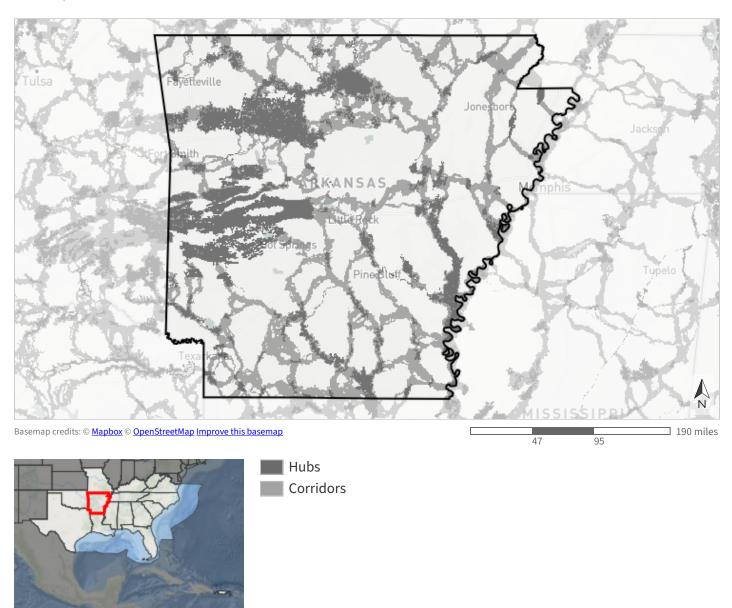


Table 2: Extent of hubs and corridors within Arkansas.

Туре	Acres	Percent of Area
Hubs	4,934,878	14.5%
Corridors	7,485,608	22.0%
Not a hub or corridor	21,626,274	63.5%
Total area	34,046,760	100%

Indicator Summary

Table 3: Terrestrial indicators.

Indicator	Present
Amphibian & reptile areas	✓
Equitable access to potential parks	✓
Fire frequency	✓
<u>Grasslands and savannas</u>	✓
<u>Greenways & trails</u>	✓
Intact habitat cores	✓
<u>Landscape condition</u>	✓
Mississippi Alluvial Valley forest birds - protection	✓
Mississippi Alluvial Valley forest birds - reforestation	✓
Resilient terrestrial sites	✓
<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
Gulf migratory fish connectivity	-
Imperiled aquatic species	✓
Natural landcover in floodplains	√
Network complexity	✓
Permeable surface	✓

Terrestrial Amphibian & reptile areas

This indicator represents Priority Amphibian and Reptile Conservation Areas (PARCAs) across the Southeast. PARCA is 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 (i.e., endemism). 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.

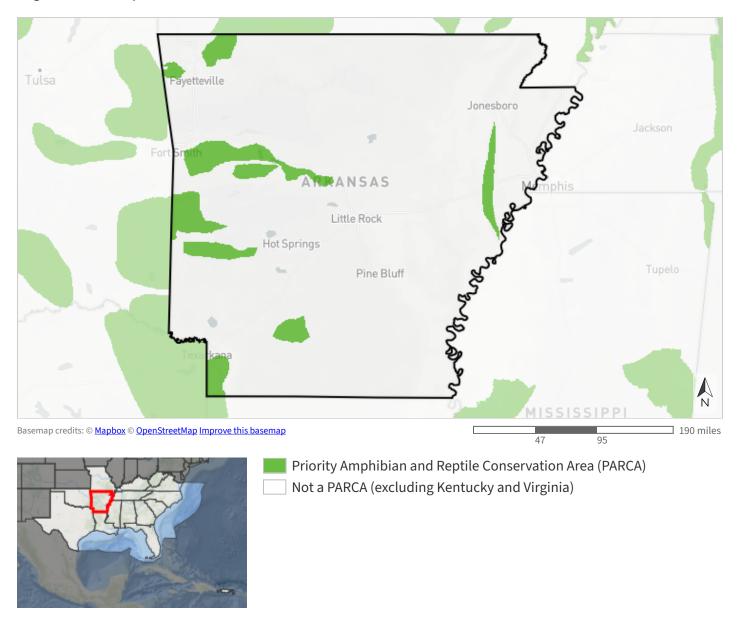


Table 5: Indicator values for amphibian & reptile areas within Arkansas. A good condition threshold is not yet defined for this indicator.

	Indicator Values	Acres	Percent of Area
↑ High	Priority Amphibian and Reptile Conservation Area (PARCA)	2,367,949	7.0%
↓ Low	Not a PARCA (excluding Kentucky and Virginia)	31,678,811	93.0%
	Total area	34,046,760	100%

Priority Amphibian and Reptile Conservation Areas:

Arkansas River Valley

The Arkansas River Valley PARCA is situated between the Ozark Highlands and the Ouachita Mountains. The diverse landscape of the Arkansas River Valley is made up of four unique ecoregions: Scattered High Ridges and Mountains, Arkansas River Floodplain, Arkansas Valley Hills, and Arkansas Valley Plains. Not only is this area important for wildlife, but it's also used by humans for a wide range of agricultural practices. Much of the valley's plains and floodplain forests have been converted to pastureland, hayland, and cropland. Maintaining the health of the valley's aquatic ecosystems, uplands, and floodplain forests will protect the abundant herpetofauna found in the area, including the threatened alligator snapping turtle.

Caddo Mountains

Ouachita National Forest is the oldest and largest national forest in the southern United States, and located in the southeastern portion of this forest is the Caddo Mountains PARCA. This PARCA is part of the Central Mountain Range ecoregion, which is considered the most diverse section of the Ouachitas. This unique mountain range is characterized by ridges that generally align east-west and are underlain by sandstone and novaculite. Perennial springs are common in the Central Mountains and support the various flora species, which are mostly dominated by oak and pine trees. This area is also known for its hot springs, unique crystal formations, and waterfalls.

Caddoan

The Caddoan PARCA in northeast Texas represents a variety of habitats; the eastern portion is generally forested with shortleaf pine, oaks and hickories, transitioning into post oak savanna and prairie in the western portions. Historically, the prairies contained a diverse microtopography of "mima" mounds and depressions. Much of this has been lost as they were converted to agriculture, but some examples on conservation and managed private lands remain. River floodplains contain some of the best bottomland hardwood forest habitat in the state of Texas. Species such as the pygmy rattlesnake, crawfish frog, and the Gulf Coast waterdog call this PARCA home, and they're threatened by fire suppression, forest conversion and clearing, prairie succession, mining, and invasive species.

Crowley's Ridge

This PARCA is located in eastern Arkansas and includes Crowley's Ridge and Village Creek State Park. Crowley's Ridge is a rare geologic formation made up of a disjunct series of loess-capped hills that rise

above the flat Mississippi Alluvial Plain. The ridge is enveloped in a lush mixed forest composed of oak, hickory, and uncommon hardwoods such as sugar maple and American beech. This PARCA also includes a portion of the Northern Backswamps ecoregion. Backswamps are key areas for capturing excess nutrients from local waters, storing water during heavy rain events, and providing important habitat for wildlife.

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.

Illinois River Woodland and Prairie

The Illinois River Woodland and Prairie PARCA covers a portion of Ozark National Forest and contains more than 30 amphibian species. This region is characterized by low plateaus with extensive plains that are underlain with chert and limestone. Caves and sinkholes are common in the area, along with perennial spring-fed streams. The lower elevation and widespread plains have made this area prone to development and agriculture.

Lower Little River

This important area for reptile and amphibian diversity has an intricate system of large streams, oxbow lakes, and backswamps. Covering hilly dissected uplands, floodplains, and low terraces are various species of oak, pine and cypress trees. This PARCA includes Little River National Wildlife Refuge, which is home to 11 state Champion Trees (largest of their respective species in the state) and offers refuge to several at-risk turtle species.

Mount Magazine

Sitting at 2,753 ft is Mount Magazine, the highest point in Arkansas. Magazine Mountain does not have a peak, but rather a large plateau covered in diverse habitat and rich soil surrounded by abrupt sandstone cliffs. This PARCA is covered by savannas, open woodlands, and forests dominated or co-dominated by upland oaks, hickory and shortleaf pine. Although this area is rich in reptiles and amphibians, it is also known for its rare and abundant butterfly species.

Ouachita Mountains East

This mountain range consists of folded ridges, rolling hills, and broad valleys formed by the erosion of Paleozoic sandstone and shale. Their east-to-west-oriented ridges make them an unusual landmark in North America, but even more impressive is the diversity of salamanders that reside within the forests. Some of the salamanders are found nowhere else and include the Rich Mountain salamander and the Fourche Mountain salamander.

Ouachita Mountains West

Open hills and low mountains (300-400 ft) with valleys filled with fissured cliffs characterize this region. The major habitat types are native mixed shortleaf pine-deciduous forests with diverse bottomland forests along streams (willow, white, and Shumard oaks, as well as black hickory, sweet gum, green ash, and maples) filled with cool, clear, spring-fed water. Large areas have experienced habitat loss with commercial silviculture planted with loblolly pine, while grasslands have been largely converted to exotic species for grazing. This area hosts the highest species richness in the state, where many species from the western and eastern states converge, and is the western extent of the range for several threatened species such as the alligator snapping turtle. Conservation efforts here will focus on preserving fishless ponds for amphibian breeding, restoring pine ecosystems with a native fire regime, and protecting stream headwater habitats.

Ozarks

The Ozark Mountains are known for their many distinctive geological landscapes, including the impressive karst region. This unique region is characterized by an underground wilderness made up of soluble limestone and dolomite. Karst features include caves, clear streams, and sinkholes, and their formation occurs slowly over time. This makes them very susceptible to pollution and vandalism. This subterranean ecosystem provides significant habitat to many species and some of these species are found nowhere else in the world, such as the grotto salamander. Other important habitats of the Ozarks are gravel-bottom streams and accompanying riparian forests, which are essential to many amphibians and reptiles. Restoring these stream and riparian habitats is a conservation goal for this PARCA, along with protecting vulnerable caves and their delicate ecosystems.

Poison Springs

This important area for reptiles and amphibians is part of the West Gulf Coastal Plain. Sandhill barrens, widespread forests of loblolly-shortleaf pine, grasslands, and a variety of oaks (including the rare Arkansas oak) are found within this PARCA. However, most of the forests within this region have been replaced by commercial pine. Fire is also important to the area and many of the plant species are dependent on a routine fire regime to stay healthy.

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.

Stink Finger

The Stink Finger PARCA primarily consisted of shortleaf pine-oak-hickory woodland until post-settlement, when the majority of this community type was removed, and it has since been converted to loblolly pine plantation. Some natural stands of shortleaf pine-oak-hickory woodland still exist in this ecoregion. The major habitat types found within this PARCA consist of batture forests, hardwood slope forests, mixed

hardwood-loblolly pine forests, shortleaf pine-oak-hickory woodlands, xeric sandhill woodlands, hardwood flatwoods, calcareous forests, calcareous prairies, saline prairies, and sandbars. The Shreveport Airport contains the last known population of southern crawfish frogs in the state. Threats to this PARCA include urbanization, vehicle mortality, invasive species, and habitat conversion. Major priorities for this PARCA include restoring native habitat types, controlling invasive species, and creating habitat for the southern crawfish frog.

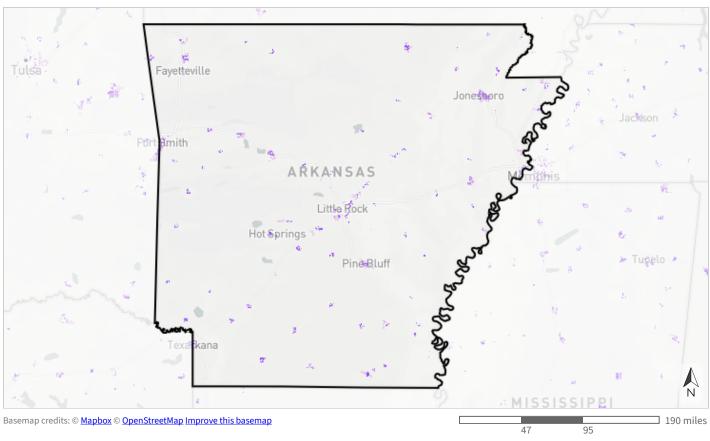
Sulfur River

The Sulfur River PARCA is composed of rolling plains that are broken by nearly flat fluvial terraces, bottomlands, sandy low hills, and low cuestas. One of the biggest bottomland hardwood habitats persisting along the Red River Valley is found within this PARCA and is home to a thriving alligator population. Recreational activities are abundant in this region, but maintaining the water quality and protecting important wetlands will help defend the abundant wildlife.

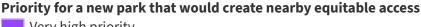
Terrestrial **Equit**

Equitable access to potential parks

This cultural resource indicator prioritizes places to create new parks that would fill gaps in equitable 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.







Very high priority

High priority

Moderate priority

Not identified as a priority (within urban areas)

Table 6: Indicator values for equitable access to potential parks within Arkansas. A good condition threshold is not yet defined for this indicator.

	Indicator Values: Priority for a new park that would create nearby equitable access	Acres	Percent of Area
↑ High	Very high priority	84,264	0.2%
	High priority	113,756	0.3%
	Moderate priority	115,982	0.3%
↓ Low	Not identified as a priority (within urban areas)	33,732,758	99.1%
	Total area	34,046,760	100%



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.

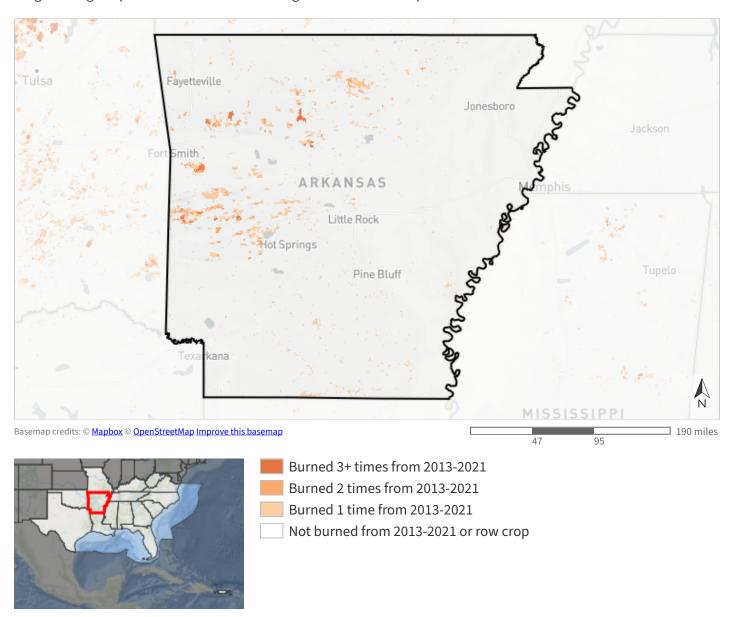


Table 7: Indicator values for fire frequency within Arkansas. Good condition thresholds reflect the range of indicator values that occur in healthy, functioning ecosystems.

	Indicator Values	Acres	Percent of Area	
↑ High	Burned 3+ times from 2013-2021	54,570	0.2%	
	Burned 2 times from 2013-2021	156,068	0.5%	↑ In good condition
	Burned 1 time from 2013-2021	850,511	2.5%	→ Not in good condition
↓ Low	Not burned from 2013-2021 or row crop	32,985,610	96.9%	
	Total area	34,046,760	100%	

Terrestrial

Grasslands and savannas

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, likely locations managed for biodiversity, 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 biophysical settings, Oklahoma and Texas ecological systems maps, and more.

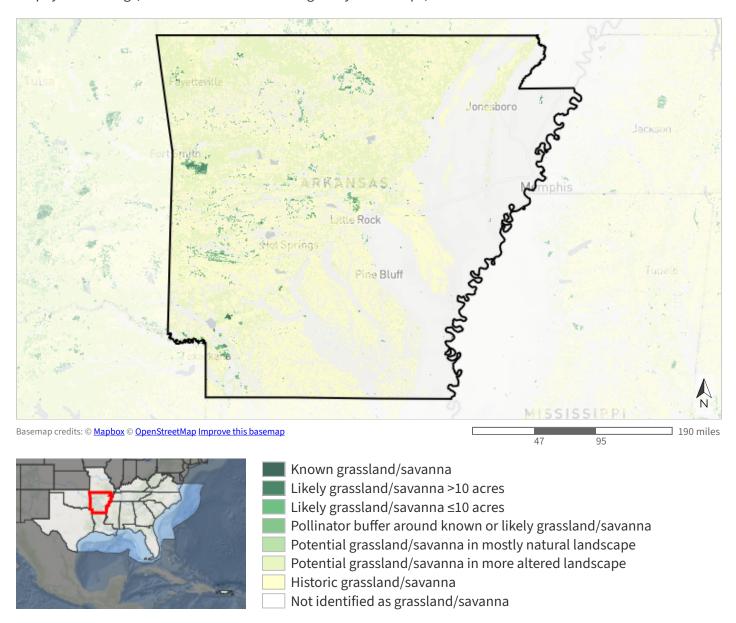


Table 8: Indicator values for grasslands and savannas within Arkansas. Good condition thresholds reflect the range of indicator values that occur in healthy, functioning ecosystems.

	Indicator Values	Acres	Percent of Area	
↑ High	Known grassland/savanna	7,720	<0.1%	
	Likely grassland/savanna >10 acres	93,037	0.3%	
	Likely grassland/savanna ≤10 acres	39,422	0.1%	↑ In good condition
	Pollinator buffer around known or likely grassland/savanna	427,443	1.3%	↓ Not in good condition
	Potential grassland/savanna in mostly natural landscape	340,872	1.0%	
	Potential grassland/savanna in more altered landscape	5,403,317	15.9%	
	Historic grassland/savanna	11,783,882	34.6%	
↓ Low	Not identified as grassland/savanna	15,951,066	46.9%	
	Total area	34,046,760	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.

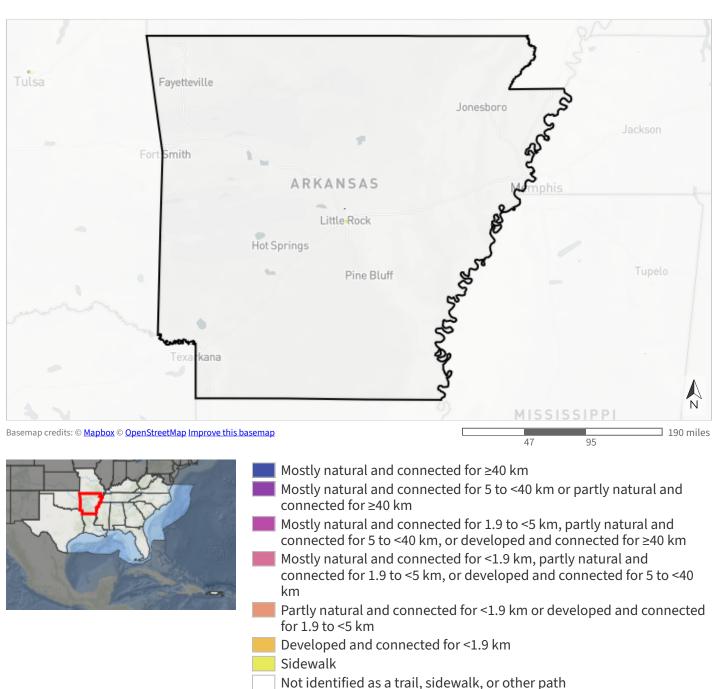
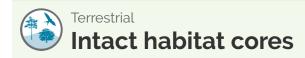


Table 9: Indicator values for greenways & trails within Arkansas. Good condition thresholds reflect the range of indicator values that occur in healthy, functioning ecosystems.

	Indicator Values	Acres	Percent of Area	
↑ High	Mostly natural and connected for ≥40 km	7,212	<0.1%	
	Mostly natural and connected for 5 to <40 km or partly natural and connected for ≥40 km	8,735	<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	6,069	<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	3,548	<0.1%	↑ In good condition
	Partly natural and connected for <1.9 km or developed and connected for 1.9 to <5 km	2,149	<0.1%	↓ Not in good condition
	Developed and connected for <1.9 km	2,390	<0.1%	
	Sidewalk	10,989	<0.1%	
↓ Low	Not identified as a trail, sidewalk, or other path	34,005,668	99.9%	
	Total area	34,046,760	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.

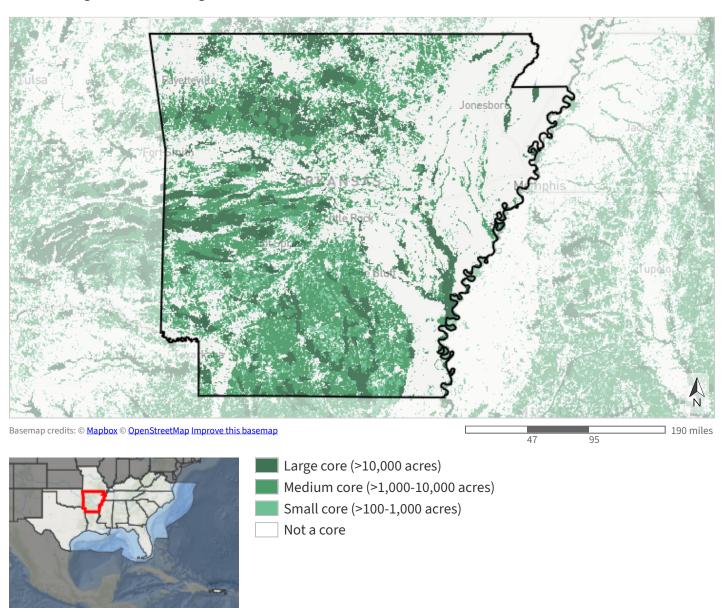


Table 10: Indicator values for intact habitat cores within Arkansas. Good condition thresholds reflect the range of indicator values that occur in healthy, functioning ecosystems.

	Indicator Values	Acres	Percent of Area	
↑ High	Large core (>10,000 acres)	4,127,784	12.1%	
	Medium core (>1,000-10,000 acres)	8,204,917	24.1%	
	Small core (>100-1,000 acres)	3,340,534	9.8%	↑ In good condition
↓ Low	Not a core	18,373,525	54.0%	→ Not in good condition
	Total area	34,046,760	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 uses the National Land Cover Dataset, various data on grasslands, mines, and quarries, and ideas from the Florida Critical Lands and Waters Identification Project's approach for evaluating landscape integrity.

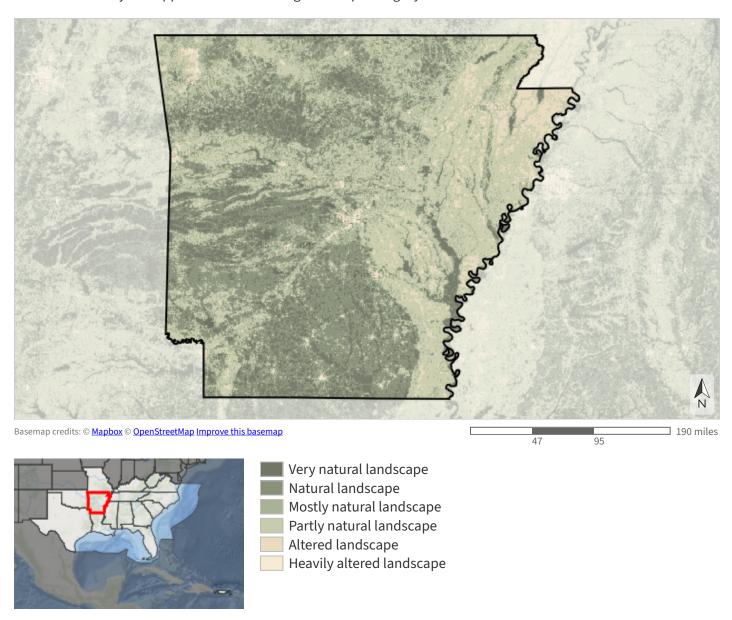


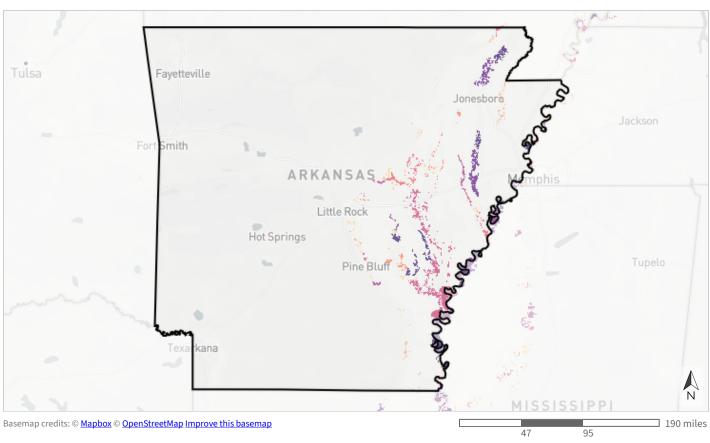
Table 11: Indicator values for landscape condition within Arkansas. Good condition thresholds reflect the range of indicator values that occur in healthy, functioning ecosystems.

	Indicator Values	Acres	Percent of Area	
↑ High	Very natural landscape	3,547,578	10.4%	
	Natural landscape	9,781,556	28.7%	
	Mostly natural landscape	7,602,632	22.3%	↑ In good condition
	Partly natural landscape	10,967,133	32.2%	→ Not in good condition
	Altered landscape	2,035,128	6.0%	
↓ Low	Heavily altered landscape	112,733	0.3%	
	Total area	34,046,760	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.



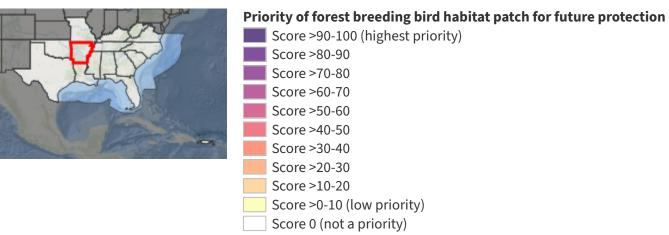


Table 12: Indicator values for Mississippi Alluvial Valley forest birds - protection within Arkansas. A good condition threshold is not yet defined for this indicator.

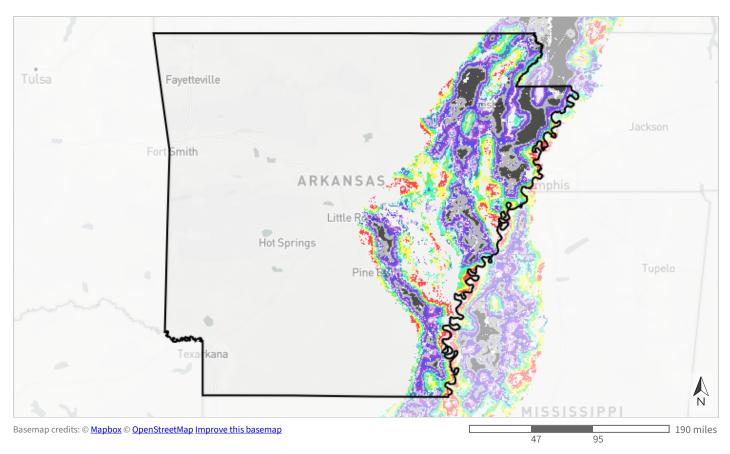
	Indicator Values: Priority of forest breeding bird habitat patch for future protection	Acres	Percent of Area
↑ High	Score >90-100 (highest priority)	123,983	0.4%
	Score >80-90	107,617	0.3%
	Score >70-80	26,396	<0.1%
	Score >60-70	23,911	<0.1%
	Score >50-60	233,975	0.7%
	Score >40-50	62,130	0.2%
	Score >30-40	36,397	0.1%
	Score >20-30	27,224	<0.1%
	Score >10-20	64,028	0.2%
	Score >0-10 (low priority)	7,311	<0.1%
↓ Low	Score 0 (not a priority)	8,924,075	26.2%
	Area not evaluated for this indicator	24,409,714	71.7%
	Total area	34,046,760	100%



Terrestrial

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 (Sour to Noth 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 13: Indicator values for Mississippi Alluvial Valley forest birds - reforestation within Arkansas. 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)	402,348	1.2%
	Most likely (80th to <90th percentile)	525,061	1.5%
	More likely (70th to <80th percentile)	543,185	1.6%
	Less likely (60th to <70th percentile)	633,973	1.9%
	Least likely (50th to <60th percentile)	643,829	1.9%
	Least likely (40th to <50th percentile)	674,179	2.0%
	Least likely (30th to <40th percentile)	708,501	2.1%
	Least likely (20th to <30th percentile)	719,444	2.1%
	Least likely (10th to <20th percentile)	919,661	2.7%
	Least likely (<10th percentile)	698,957	2.1%
↓ Low	Not a priority for reforestation	3,168,299	9.3%
	Area not evaluated for this indicator	24,409,323	71.7%
	Total area	34,046,760	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.

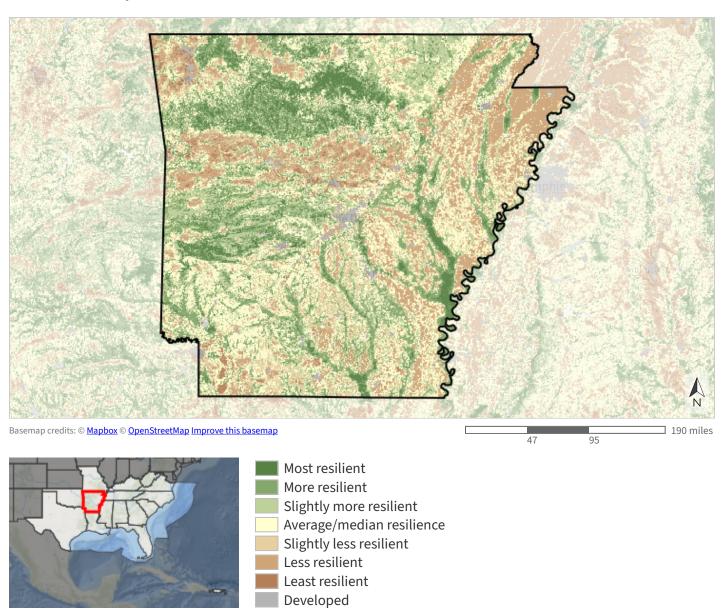


Table 14: Indicator values for resilient terrestrial sites within Arkansas. A good condition threshold is not yet defined for this indicator.

	Indicator Values	Acres	Percent of Area
↑ High	Most resilient	1,900,201	5.6%
	More resilient	5,820,514	17.1%
	Slightly more resilient	6,151,081	18.1%
	Average/median resilience	8,535,528	25.1%
	Slightly less resilient	4,710,011	13.8%
	Less resilient	4,882,238	14.3%
	Least resilient	316,558	0.9%
↓ Low	Developed	845,247	2.5%
	Area not evaluated for this indicator	885,382	2.6%
	Total area	34,046,760	100%

Terrestrial Urban park size

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, Census urban areas, and the National Land Cover Database.

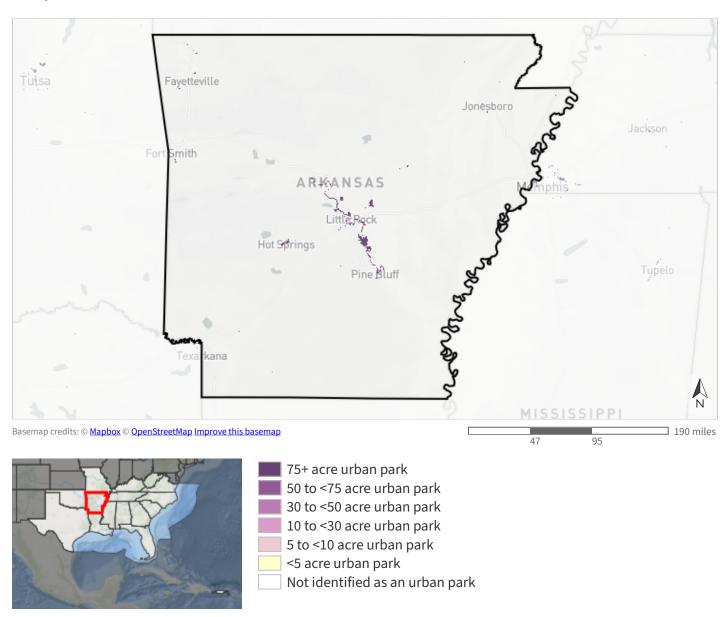


Table 15: Indicator values for urban park size within Arkansas. A good condition threshold is not yet defined for this indicator.

	Indicator Values	Acres	Percent of Area
↑ High	75+ acre urban park	81,509	0.2%
	50 to <75 acre urban park	1,472	<0.1%
	30 to <50 acre urban park	1,833	<0.1%
	10 to <30 acre urban park	3,143	<0.1%
	5 to <10 acre urban park	1,121	<0.1%
	<5 acre urban park	1,043	<0.1%
↓ Low	Not identified as an urban park	33,956,639	99.7%
	Total area	34,046,760	100%

Terrestrial West

West Coastal Plain & Ouachitas forested wetland birds

This indicator is an index of habitat suitability for five forested wetland bird species (Acadian flycatcher, Kentucky warbler, yellow-throated warbler, prothonotary warbler, red-shouldered hawk) within bottomland hardwood forests and riparian areas in the West Gulf Coastal Plain/Ouachitas (WGCPO) Bird Conservation Region. It uses metrics like patch size, dispersal distance, and distance to water to assess the potential for habitat to support sustainable populations of these birds. This indicator originates from the Lower Mississippi Valley Joint Venture's forested wetland decision support model for the WGCPO region.





Habitat suitability for forested wetland bird umbrella species

- High habitat suitability (score >80)
- Medium-high habitat suitability (score >60-80)
- Medium habitat suitability (score >40-60)
- Medium-low habitat suitability (score >20-40)
- Low habitat suitability (score >0-20)
- Not suitable (score = 0)

Table 16: Indicator values for West Coastal Plain & Ouachitas forested wetland birds within Arkansas. A good condition threshold is not yet defined for this indicator.

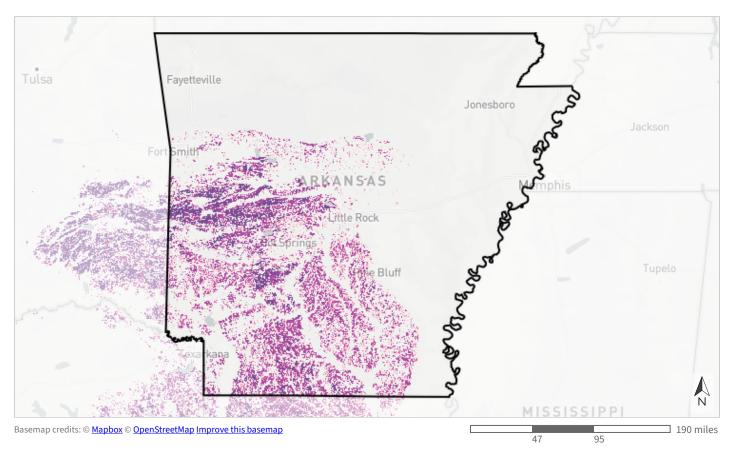
	Indicator Values: Habitat suitability for forested wetland bird umbrella species	Acres	Percent of Area
↑ High	High habitat suitability (score >80)	434,926	1.3%
	Medium-high habitat suitability (score >60-80)	185,880	0.5%
	Medium habitat suitability (score >40-60)	174,337	0.5%
↓ Low	Medium-low habitat suitability (score >20-40)	225,997	0.7%
	Low habitat suitability (score >0-20)	223,536	0.7%
	Not suitable (score = 0)	14,900,629	43.8%
	Area not evaluated for this indicator	17,901,455	52.6%
	Total area	34,046,760	100%



Terrestrial

West Coastal Plain & Ouachitas open pine birds

This indicator identifies areas with pine trees that, if managed for open condition, could support a population of three umbrella bird species (brown-headed nuthatch, Bachman's sparrow, red-cockaded woodpecker). It evaluates potential habitat in the West Gulf Coastal Plain/Ouachitas (WGCPO) Bird Conservation Region based on each species' habitat needs and population dynamics, prioritizing opportunities to restore and manage habitat to benefit open pine birds. Final scores reflect both the selectiveness of the species and whether an area meets the habitat requirements through one large patch, or clusters of smaller patches in sufficiently close proximity for breeding pairs to disperse. This indicator updates the Lower Mississippi Valley Joint Venture's open pine decision support model for the WGCPO region.





Ability of pine patch to support a population of umbrella bird species if managed in open condition

- Large enough to support a population of all 3 species
- Large enough to support a population of 2 species
- Large enough to a population of 1 species
- Part of a cluster of nearby patches able to support a population of all 3 species
- Part of a cluster of nearby patches able to support a population of 2 species
- Part of a cluster of nearby patches able to support a population of 1
- Pine patch too small and isolated to support a population of any species or not an upland pine patch

Table 17: Indicator values for West Coastal Plain & Ouachitas open pine birds within Arkansas. A good condition threshold is not yet defined for this indicator.

	Indicator Values: Ability of pine patch to support a population of umbrella bird species if managed in open condition	Acres	Percent of Area
↑ High	Large enough to support a population of all 3 species	624,957	1.8%
	Large enough to support a population of 2 species	2,240,410	6.6%
	Large enough to a population of 1 species	748,822	2.2%
	Part of a cluster of nearby patches able to support a population of all 3 species	492,774	1.4%
	Part of a cluster of nearby patches able to support a population of 2 species	1,146,366	3.4%
	Part of a cluster of nearby patches able to support a population of 1 species	10,827	<0.1%
↓ Low	Pine patch too small and isolated to support a population of any species or not an upland pine patch	10,882,573	32.0%
	Area not evaluated for this indicator	17,900,032	52.6%
	Total area	34,046,760	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).



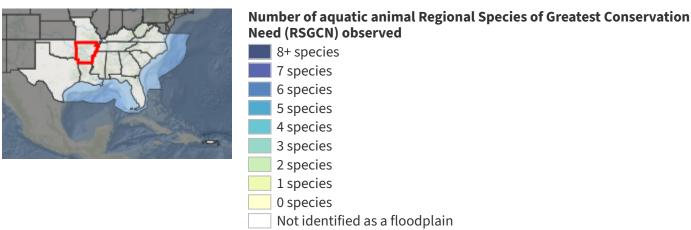


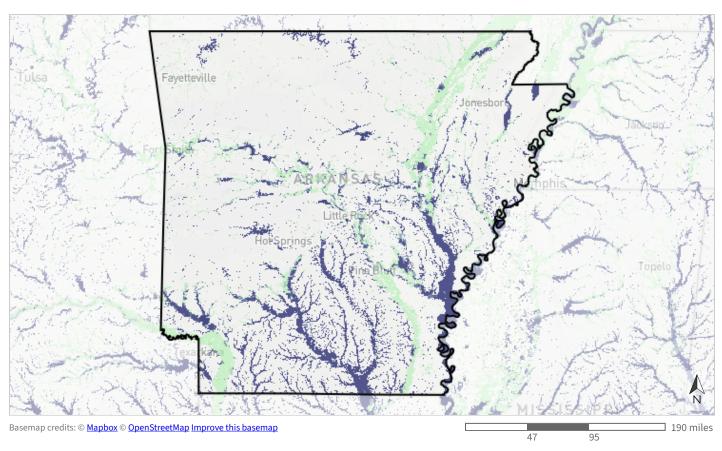
Table 18: Indicator values for imperiled aquatic species within Arkansas. A good condition threshold is not yet defined for this indicator.

	Indicator Values: Number of aquatic animal Regional Species of Greatest Conservation Need (RSGCN) observed	Acres	Percent of Area
↑ High	8+ species	461,463	1.4%
	7 species	96,493	0.3%
	6 species	126,889	0.4%
	5 species	106,945	0.3%
	4 species	163,788	0.5%
	3 species	292,781	0.9%
	2 species	544,388	1.6%
	1 species	1,150,672	3.4%
	0 species	3,825,990	11.2%
↓ Low	Not identified as a floodplain	27,277,352	80.1%
	Total area	34,046,760	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).



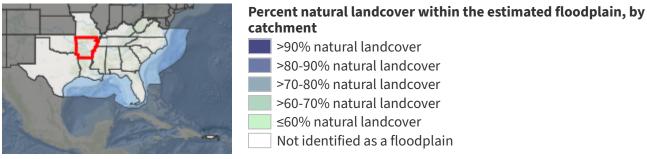


Table 19: Indicator values for natural landcover in floodplains within Arkansas. Good condition thresholds reflect the range of indicator values that occur in healthy, functioning ecosystems.

	Indicator Values: Percent natural landcover within the estimated floodplain, by catchment	Acres	Percent of Area	
↑ High	>90% natural landcover	2,954,907	8.7%	
	>80-90% natural landcover	592,650	1.7%	↑ In good condition
	>70-80% natural landcover	406,993	1.2%	→ Not in good condition
	>60-70% natural landcover	369,623	1.1%	
	≤60% natural landcover	2,445,236	7.2%	
↓ Low	Not identified as a floodplain	27,277,352	80.1%	
	Total area	34,046,760	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).

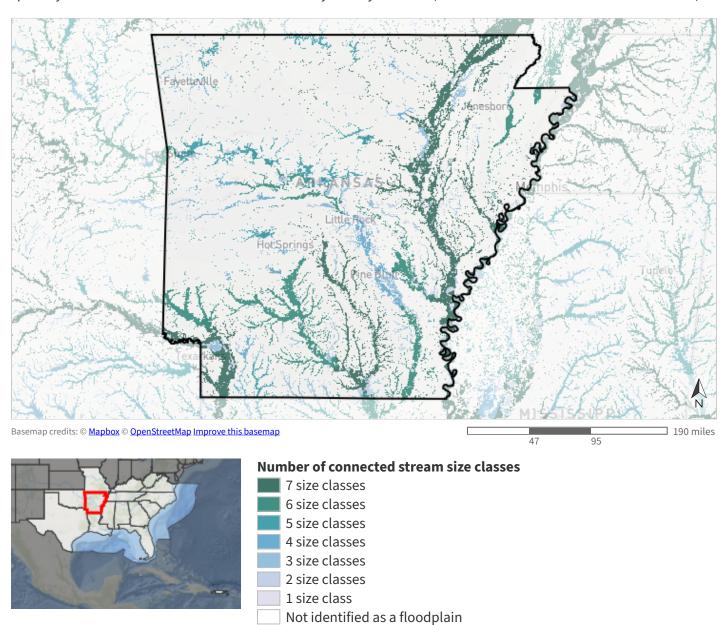
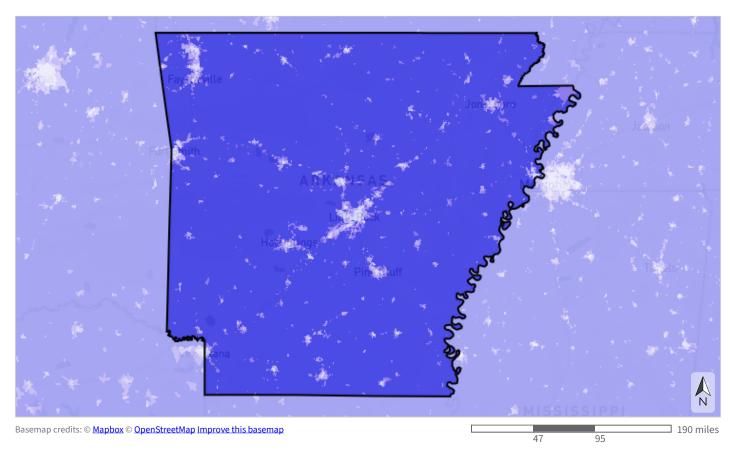


Table 20: Indicator values for network complexity within Arkansas. Good condition thresholds reflect the range of indicator values that occur in healthy, functioning ecosystems.

	Indicator Values: Number of connected stream size classes	Acres	Percent of Area	
↑ High	7 size classes	2,612,578	7.7%	
	6 size classes	1,595,896	4.7%	
	5 size classes	630,470	1.9%	
	4 size classes	502,177	1.5%	↑ In good condition
	3 size classes	548,964	1.6%	↓ Not in good condition
	2 size classes	454,715	1.3%	
	1 size class	423,368	1.2%	
↓ Low	Not identified as a floodplain	27,278,592	80.1%	
	Total area	34,046,760	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 21: Indicator values for permeable surface within Arkansas. 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)	32,173,490	94.5%	↑ In good condition
	>90-95% permeable (likely declining water quality and supporting most aquatic species)	887,524	2.6%	↓ Not in good condition
	>70-90% permeable (likely degraded water quality and not supporting many aquatic species)	744,170	2.2%	
↓ Low	≤70% permeable (likely degraded instream flow, water quality, and aquatic species communities)	241,576	0.7%	
	Total area	34,046,760	100%	

More Information

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.

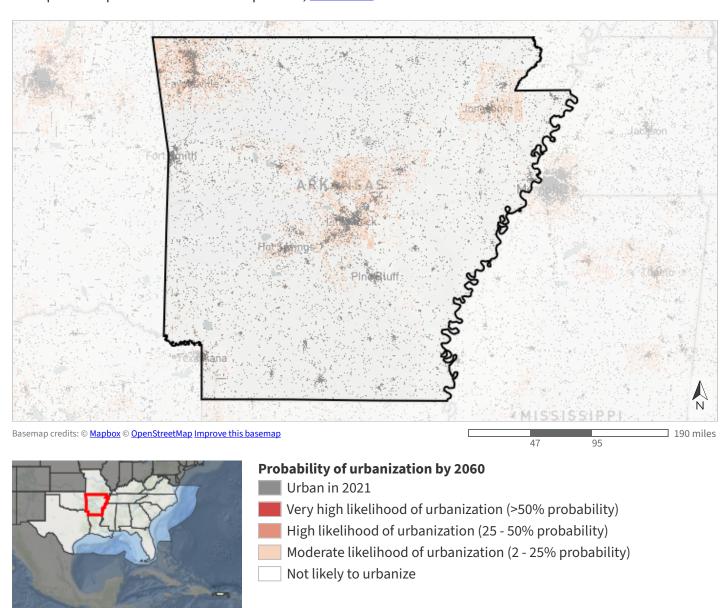


Table 22: Extent of projected urbanization by decade within Arkansas. Values from <u>FUTURES model</u> <u>projections for the contiguous United States</u> developed by the <u>Center for Geospatial Analytics</u>, NC State University. 2060 corresponds to the <u>SECAS goal</u>: a 10% or greater improvement in the health, function, and connectivity of Southeastern ecosystems by 2060.

Decade	Acres	Percent of Area
Urban in 2021	2,128,897	6.3%
2030 projected extent	2,169,183	6.4%
2040 projected extent	2,192,399	6.4%
2050 projected extent	2,211,703	6.5%
2060 projected extent	2,229,248	6.5%
2070 projected extent	2,244,180	6.6%
2080 projected extent	2,256,281	6.6%
2090 projected extent	2,263,733	6.6%
2100 projected extent	2,267,735	6.7%
Not projected to urbanize by 2100	31,779,025	93.3%
Total area	34,046,760	100%

6.3% of this area is already urban in 2021, and an additional 6.0% has at least a moderate probability of urbanizing by 2060.

By 2060, the size of the urban footprint is projected to increase 4.7% over 2021 levels.

Sea-level Rise

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

Conserved Areas Ownership

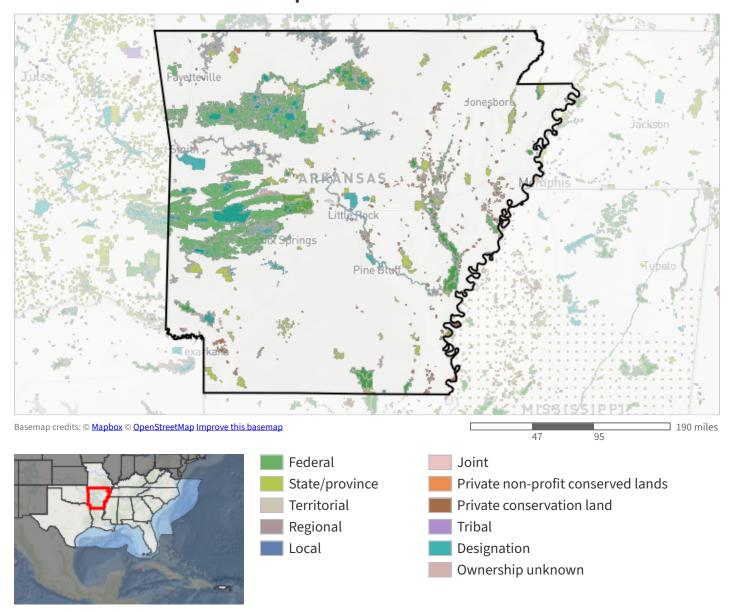


Table 23: Extent of ownership class within Arkansas. Protected areas are derived from the <u>Protected Areas</u> <u>Database of the United States</u> (PAD-US v4.0 and v3.0) and include Fee, Designation, Easement, Marine, and Proclamation (Dept. of Defense lands only) boundaries. Note: areas are based on the polygon boundary of this area compared to protected area polygons, rather than pixel-level analyses used elsewhere in this report. Also note: PAD-US includes protected areas that may overlap within a given area; this may cause the area within and between the following categories to be greater than the actual ground area.

Ownership	Acres	Percent of Area
Federal	3,464,373	10.2%
State/province	812,175	2.4%
Regional	12	<0.1%
Local	22,186	<0.1%
Private non-profit conserved lands	23,517	<0.1%
Private conservation land	338,515	1.0%
Designation	924,008	2.7%
Ownership unknown	443,593	1.3%

Protection Status

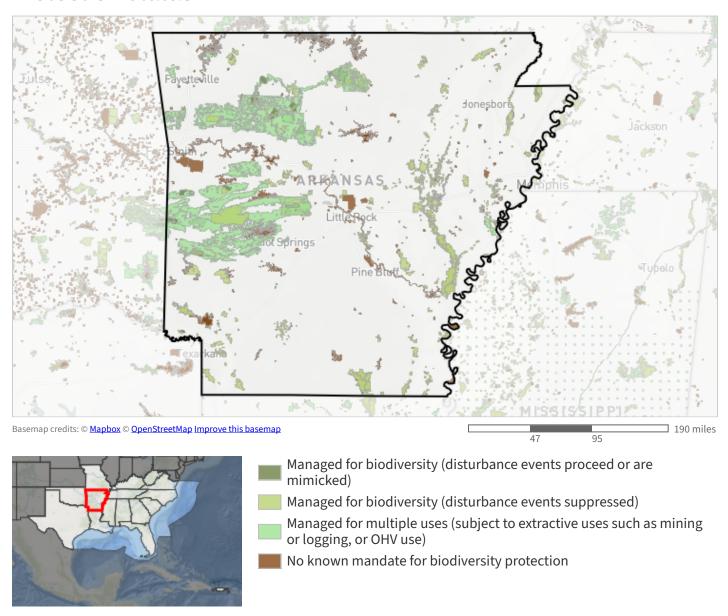


Table 24: Extent of land protection status within Arkansas. Protected areas are derived from the <u>Protected Areas Database of the United States</u> (PAD-US v4.0 and v3.0) and include Fee, Designation, Easement, Marine, and Proclamation (Dept. of Defense lands only) boundaries. Note: areas are based on the polygon boundary of this area compared to protected area polygons, rather than pixel-level analyses used elsewhere in this report. Also note: PAD-US includes protected areas that may overlap within a given area; this may cause the area within and between the following categories to be greater than the actual ground area.

Land Protection Status	Acres	Percent of Area
Managed for biodiversity (disturbance events proceed or are mimicked)	193,074	0.6%
Managed for biodiversity (disturbance events suppressed)	2,023,718	5.9%
Managed for multiple uses (subject to extractive uses such as mining or logging, or OHV use)	2,815,408	8.3%
No known mandate for biodiversity protection	996,178	2.9%

Protected Areas

- Ouachita National Forest (USDA FOREST SERVICE; 1,430,573 acres)
- Ozark-St. Francis National Forest (USDA FOREST SERVICE; 1,161,074 acres)
- Dale Bumpers White River National Wildlife Refuge (Fee; 156,927 acres)
- DALE BUMPERS WHITE RIVER NATIONAL WILDLIFE REFUGE (Fee; 156,769 acres)
- Ouachita (Unknown owner; 144,821 acres)
- Winona Wildlife Management Area (State Fish and Wildlife; 140,594 acres)
- Sylamore Wildlife Management Area (State Fish and Wildlife; 126,808 acres)
- BUFF (NPS; 89,039 acres)
- Felsenthal National Wildlife Refuge (Fee; 77,518 acres)
- Cache River National Wildlife Refuge (Fee; 74,523 acres)
- CACHE RIVER NATIONAL WILDLIFE REFUGE (Fee; 73,537 acres)
- FELSENTHAL NATIONAL WILDLIFE REFUGE (Fee; 69,170 acres)
- BULL SHOALS (Unknown; 67,252 acres)
- NG Fort Chaffee MTC (Unknown owner; 65,121 acres)
- DARDANELLE (Unknown; 57,103 acres)
- NORFORK (Unknown; 49,604 acres)
- GREERS FERRY (Unknown; 41,234 acres)
- Lake Ouachita (Unknown owner; 38,297 acres)
- BEAVER (Unknown; 38,135 acres)
- MILLWOOD (Unknown; 37,670 acres)
- Bull Shoals Lake (Unknown owner; 35,712 acres)
- Buffalo National River Wilderness (Unknown owner; 34,564 acres)
- NG Camp Joseph T Robinson (Unknown owner; 33,124 acres)
- Bayou Meto (State Fish and Wildlife; 32,023 acres)
- Lake Greeson Wildlife Management Area (State Department of Natural Resources; 31,625 acres)

Credits

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>.

Data credits

Land ownership and conservation status is derived from the <u>Protected Areas Database of the United States</u> (PAD-US v4.0 and v3.0).

Future urban growth estimates derived from <u>FUTURES model projections for the contiguous United States</u> developed by the <u>Center for Geospatial Analytics</u>, NC State University.

Sea level rise data are derived from the National Oceanic and Atmospheric Administration's <u>Sea Level Rise Inundation Depth Data</u> and the <u>2022 Sea Level Rise Technical Report</u>.

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