Southeast Conservation Blueprint Summary

for Oklahoma

Created 10/11/2024

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The Southeast Conservation Blueprint 2024

Southeast Conservation Adaptation Strategy

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About the Southeast Blueprint

The Southeast Conservation Blueprint is the primary product of the Southeast Conservation Adaptation Strategy (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 Blueprint webpage
- Review the Blueprint 2024 Development Process
- View and download the Blueprint data and make maps on the Blueprint page of the SECAS Atlas

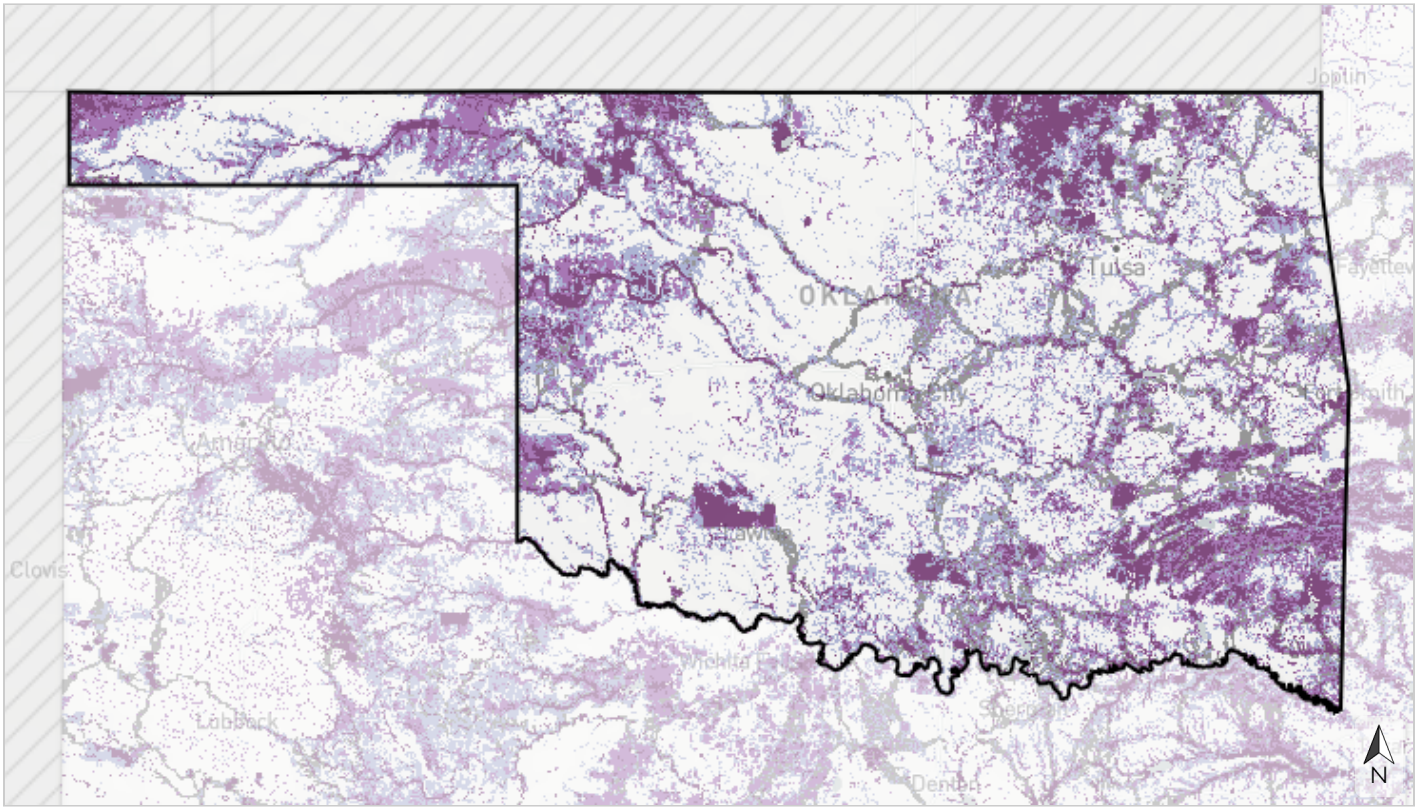
We're here to help!

- 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, contact Southeast Blueprint staff 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



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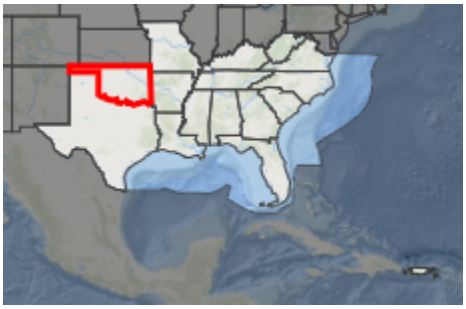


Priorities for a connected network of lands and waters

- Highest priority
- High priority
- Medium priority
- Priority connections

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.

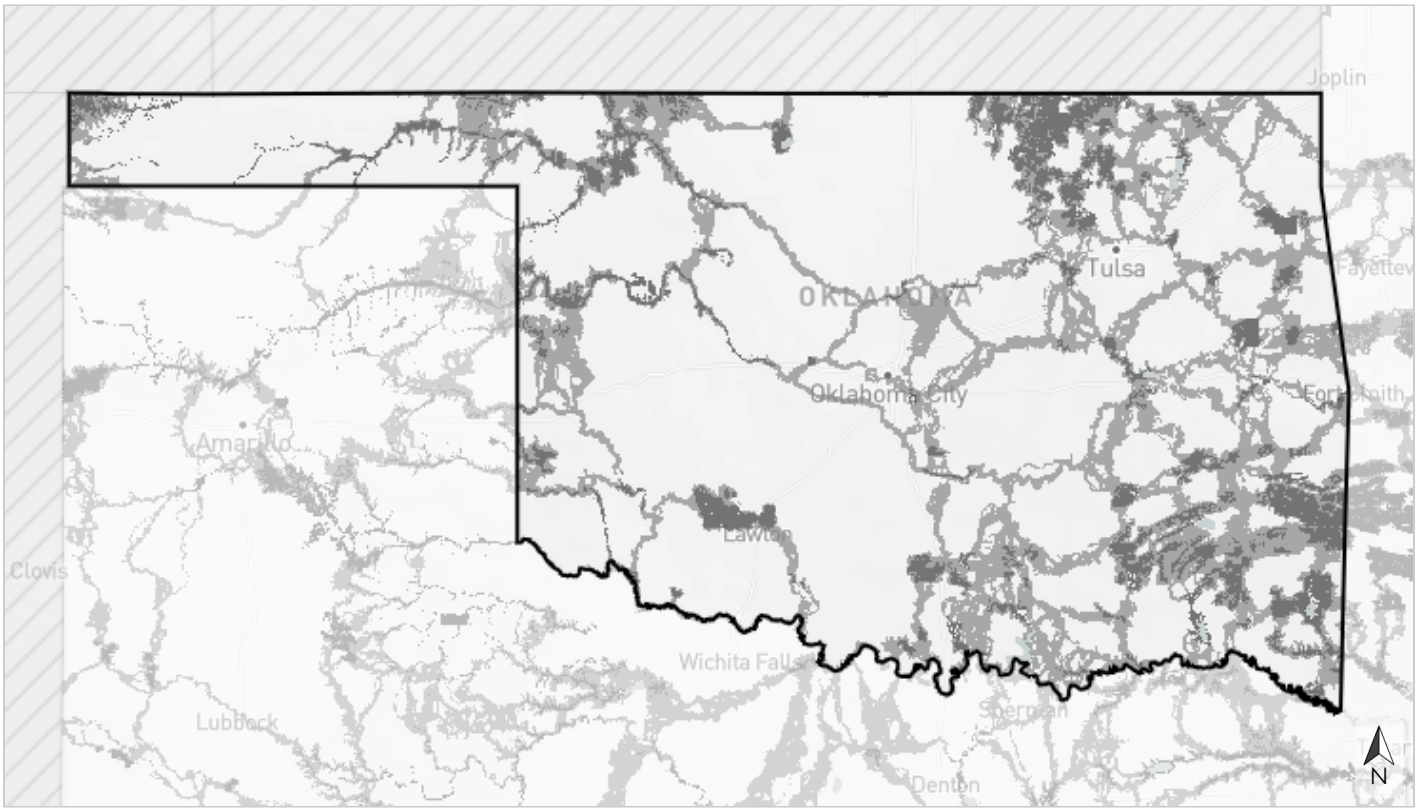
Table 1: Extent of each Blueprint priority category within Oklahoma.

Priority Category	Acres	Percent of Area
Highest priority	4,948,768	11.1%
High priority	5,519,456	12.3%
Medium priority	8,368,235	18.7%
Priority connections	2,636,969	5.9%
Lower priority	23,261,558	52.0%
Total area	**44,734,986**	**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.



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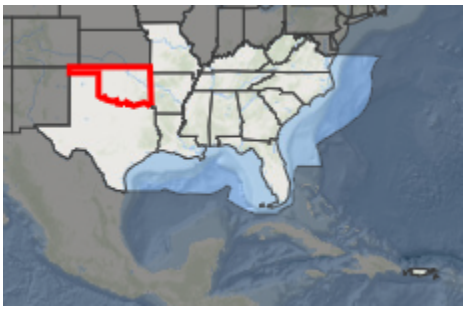


Hubs
Corridors

Table 2: Extent of hubs and corridors within Oklahoma.

Type	Acres	Percent of Area
Hubs	3,395,609	7.6%
Corridors	9,328,748	20.9%
Not a hub or corridor	32,010,630	71.6%
Total area	**44,734,986**	**100%**

Indicator Summary

Table 3: Terrestrial indicators.

Indicator	Present
Amphibian & reptile areas	✓
Equitable access to potential parks	✓
Fire frequency	✓
Grasslands and savannas	✓
Greenways & trails	✓
Intact habitat cores	✓
Landscape condition	✓
Mississippi Alluvial Valley forest birds - protection	-
Mississippi Alluvial Valley forest birds - reforestation	-
Playas	✓
Resilient terrestrial sites	✓
Urban park size	✓
West Coastal Plain & Ouachitas forested wetland birds	✓
West Coastal Plain & Ouachitas open pine birds	✓
West Gulf Coast mottled duck nesting	-

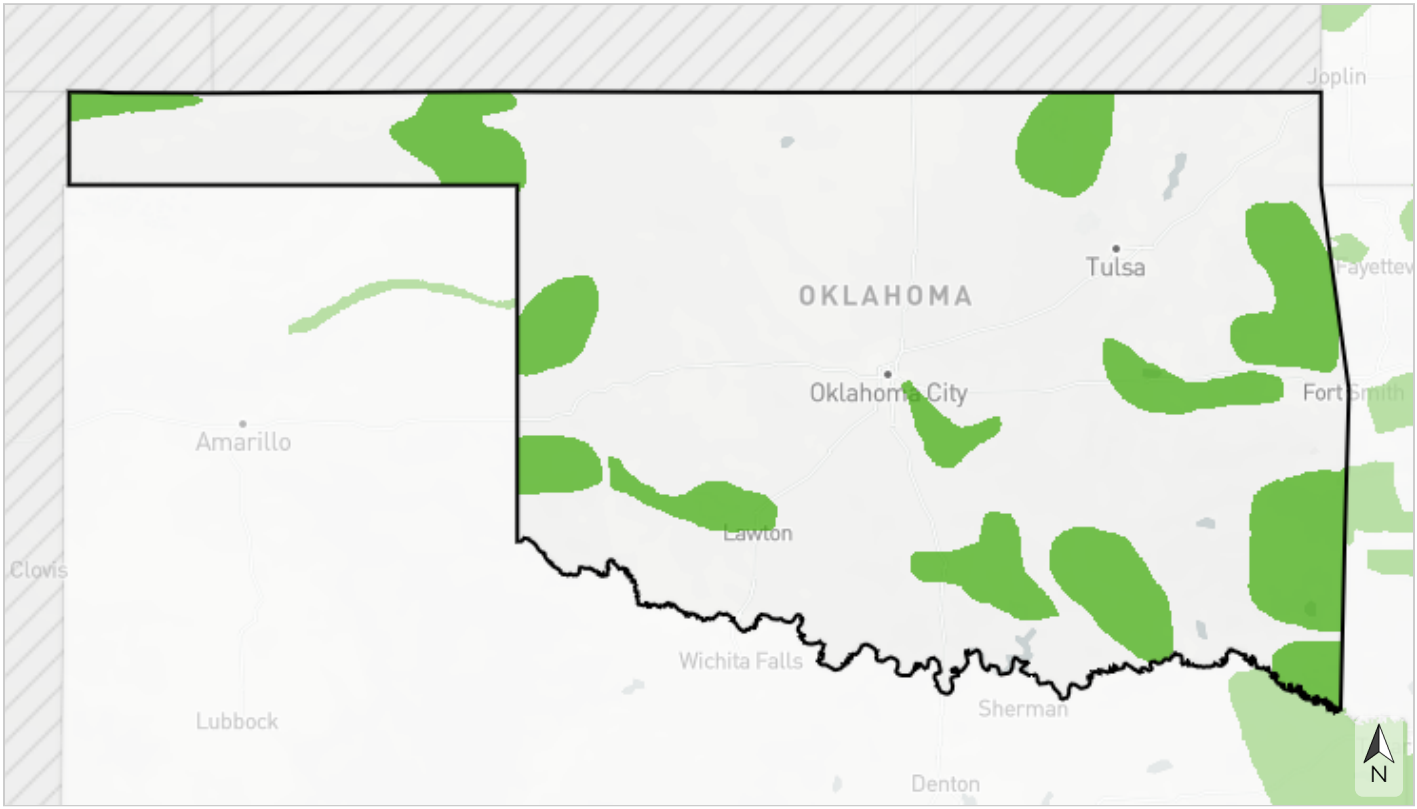
Table 4: Freshwater indicators.

Indicator	Present
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.



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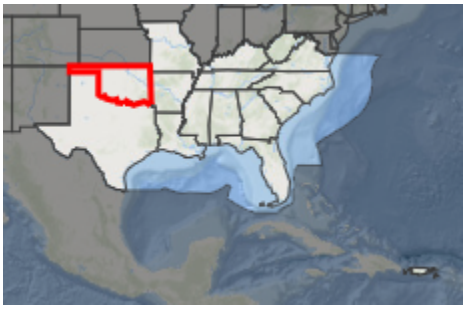


Priority Amphibian and Reptile Conservation Area (PARCA)

Not a PARCA (excluding Kentucky and Virginia)

Table 5: Indicator values for amphibian & reptile areas within Oklahoma. 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)	8,586,217	19.2%
↓ Low	Not a PARCA (excluding Kentucky and Virginia)	36,148,770	80.8%
	Total area	**44,734,986**	**100%**

Priority Amphibian and Reptile Conservation Areas:

Arbuckle

The Arbuckle Mountains are some of the oldest mountains in the United States and contain one of the last free-flowing rivers in Oklahoma. This outdoor paradise includes the Arbuckle Plains, which are covered with springs, caves, and unique flora and fauna. A variety of plant communities can be found here. Cross timber communities containing blackjack and post oak woodlands and prairies combine to form a patchy mosaic, all of which are shaped by fire. Limestone outcrops provide essential habitat for snakes and lizards, including the Texas horned lizard. Lastly, bottomland hardwood forests can be found along the streams and are dominated by elms, sugarberry, and green ash. However, excessive groundwater removal, damming of rivers, and fire suppression are just a few of the threats that need to be addressed to keep this PARCA beautiful.

Beaver Grasslands

This PARCA includes part of the Shortgrass Prairie Region, which is home to a diverse range of herbaceous species. Much shortgrass prairie has been converted to other land uses, such as crop fields, ranching, housing developments, and roads. Working together with partners and landowners to convert old crop fields back to shortgrass prairies using native plants and removing exotic invasive species like Russian thistle and old world bluestem is a necessary step to mending this fragmented ecosystem.

Black Mesa

This PARCA encompasses the Black Mesa area within the Shortgrass Prairie ecoregion and is dominated by shortgrass habitat. Grama grass species, muhly grass, prickly pear cactus, and yucca are common species in this habitat. Many springs and seeps can be found in this area and eastern cottonwood-willow woodlands are prominent in riparian areas. Many reptile and amphibian species found in this area are declining due to habitat loss and fragmentation.

Boggy Bottoms

The highest herpetofaunal diversity in the state of Oklahoma can be found in Boggy Bottoms, and more than 60 species were recently identified. Naturally occurring beaver-formed wetlands surrounded by intact hardwood forest represent biodiversity hotspots. Habitats in this ecoregion may contain more than 30 plant species per square meter (a density on par with tropical forests), making it one of the most biologically rich natural systems on Earth. Rivers and streams are essential to the forested bottoms that characterize this area. During spring floods, these rivers and streams deposit soil, seeds from upstream

forests, and sediments that become natural fertilizer for plants in the floodplain. These rich soils promote an abundance of floral diversity, which in turn helps to support a diverse vertebrate community.

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.

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 Arkansas River
The natural state of the lower Arkansas River was forever altered with the McClellan-Kerr Arkansas River Navigation System. Eighteen locks and dams modify the river, creating a major reservoir and access for commercial barge traffic. In addition, much of this area's tallgrass prairies and canebreak habitat have been converted to agricultural use for crops and livestock grazing, further fragmenting the land and altering ecosystems. Conservation efforts for this PARCA will include restoring native plant species and land connectivity.

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.

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.

Sandy Sanders
This unique PARCA is a rolling grassland located in a less populated area of Oklahoma and in one of the warmest and driest parts of the state. Most of the land in this region is privately owned ranchland, except for a 30,000-acre state Wildlife Management Area. Mixed-grass prairie and prairie shrublands with an overstory of honey mesquite are found throughout this region. Redberry juniper woodlands and gypsum canyonland habitats with rare plant species are found on hills and canyons peppered throughout the area. Fire suppression and poor range management have encouraged brush encroachment within the prairie, leading to habitat degradation. Rattlesnake roundups threaten local populations of rattlesnakes such as the western diamondback. These top predators play a major role in their ecosystems and already face many other threats, including habitat loss, road mortality, and poaching.

Shinnery Oaks
The Shinnery Oaks PARCA is a unique landscape comprised of eroded canyonlands, old sand dunes dominated by shinnery oak, mixed-grass prairies, and riparian woodlands along perennial and intermittent streams. Historically, these shrublands were once estimated to cover about 750,000 acres of Oklahoma, but now only 116,000 acres remain. The mixed-grass prairies in this area are formed by a diverse plant composition, but little bluestem and sideoats grama are the dominant grass species. Most of this important habitat has been converted to crops and ranchland, and heavy grazing coupled with fire suppression has led to an invasion of introduced grasses and forbs. Fragmentation caused by roads is another common issue in this area, and wildlife road mortalities can be detrimental to struggling species. Figuring out a solution to minimizing road fatalities, especially with hard-to-see reptiles and amphibians, will be an objective for this PARCA.

Tallgrass Prairie
This PARCA contains the Osage Hills and a portion of the largest remaining remnants of historic tallgrass prairie. It is dominated by native warm-season prairie plants that were once widespread across 14 states. However, much of this habitat has been greatly reduced by urban sprawl and conversion to agriculture. Dominant plant species found here are bluestem, switchgrass, rattlesnake master, and Oklahoma beardtongue. Historically, prairies were shaped by wildfires and bison, but fire suppression has allowed unwanted woody encroachment. Restoring a natural fire regime, using prescribed grazing, and invasive species removal are a few ways keep the tallgrass prairies healthy and the wildlife abundant.

Texas Canadian River
True to its name, the Canadian River PARCA contains the Canadian River from below the Lake Meredith Dam all the way to the Oklahoma border, as well as adjacent riparian zone and floodplain oxbow lakes. The riparian forests are dominated largely by cottonwoods and hackberries with some smaller tributaries containing mesquite-juniper brush. Beyond the riparian zone, there are large bands of mesquite shrub-grassland. Species such as the smooth softshell, Texas horned lizard, and plains hognose snake occupy this PARCA and are threatened by invasive plants and increased agricultural and urban water uses.

Thunderbird
Situated near Oklahoma City, the Thunderbird PARCA is a mosaic of open oak woodlands, grasslands, and riparian ecosystems. Periodic fire and drought help maintain the structure of the plant communities found within this PARCA. Dominant species include blackjack oak, post oak, sumac, hackberry, and bluestem grasses. Sandy bottom rivers like the Little River and Canadian River bisect this PARCA. Since this PARCA is surrounded by development, it is at risk of pesticide/herbicide runoff into sensitive wetlands, invasive species like fire ants, feral hogs and cats, road mortalities stemming from fragmented habitat, and tourism.

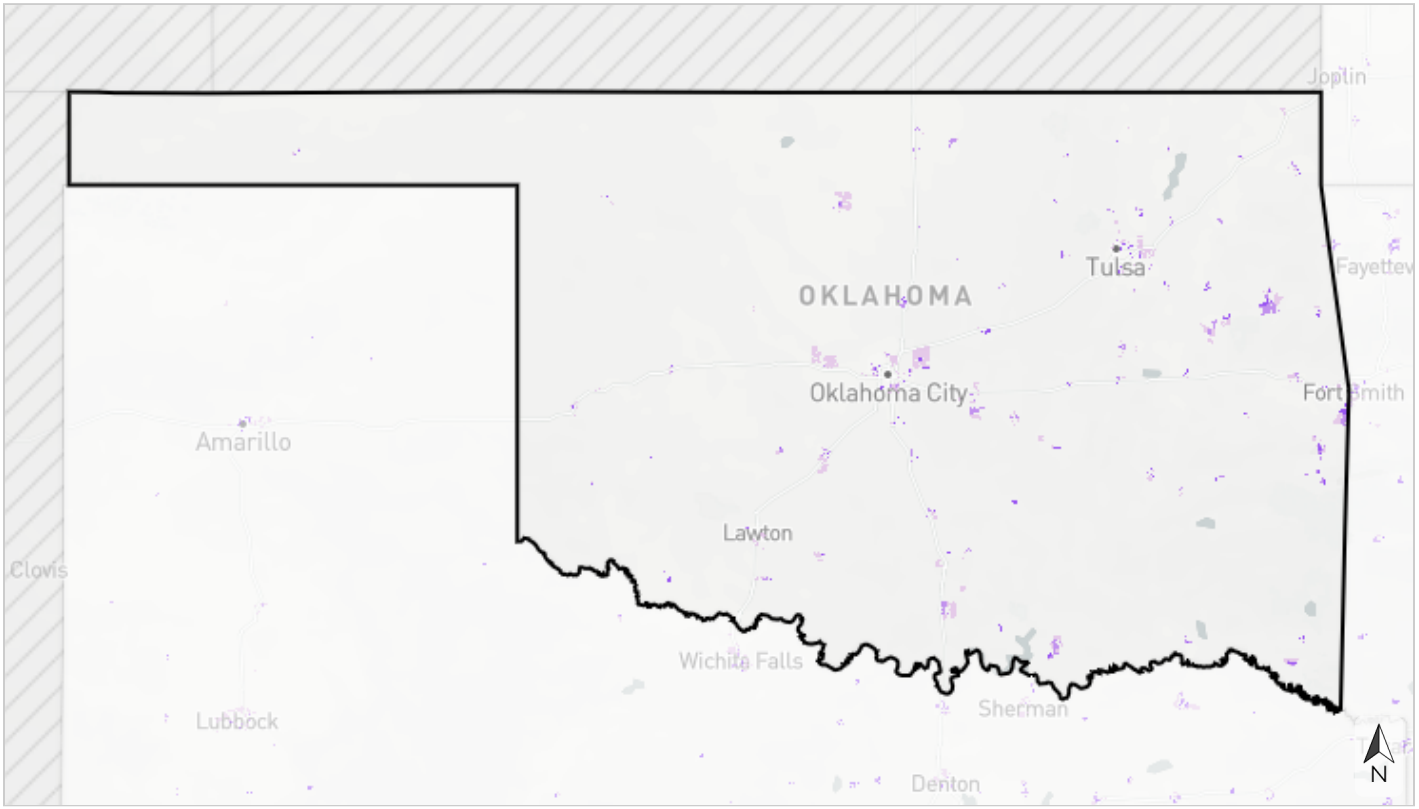
Wichita Mountains
This ancient granite mountain range is home to one of the earliest wildlife refuges found in the United States. Today, this refuge is known as Wichita Mountains National Wildlife Refuge. As the largest refuge in Oklahoma, it protects 60,000 acres of mixed-grass prairies, freshwater lakes and streams, and diverse mountain habitats. The Wichita Mountains were also the site for one of the last gold rushes, and evidence of this historical era can still be found throughout the land. Major habitats include cross timbers of blackjack and post oak, open scrubby xeric forests, and grasslands with short grasses, prickly pear, and barren rocky areas. This multipurpose area is managed for many different uses, such as tourism, wildlife protection, rangeland, farming, and energy development.

To learn more and explore the GIS data, view this indicator in the SECAS Atlas.

Terrestrial

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.



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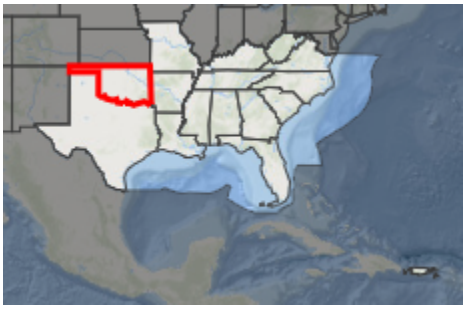


Priority for a new park that would create nearby equitable access

- 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 Oklahoma. A good condition threshold is not yet defined for this indicator.

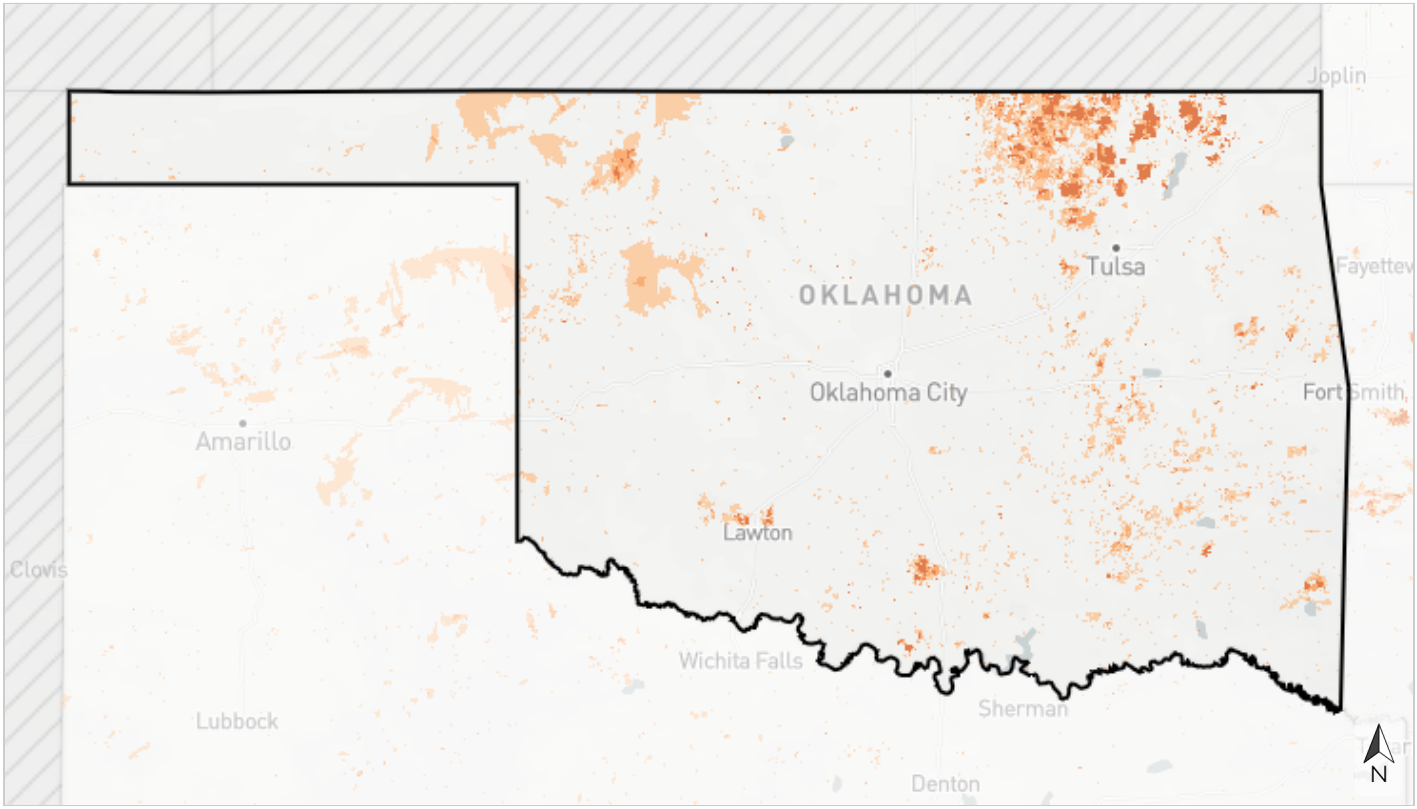
	Indicator Values: Priority for a new park that would create nearby equitable access	Acres	Percent of Area
↑ High	Very high priority	64,105	0.1%
	High priority	108,556	0.2%
	Moderate priority	221,501	0.5%
↓ Low	Not identified as a priority (within urban areas)	44,340,824	99.1%
	Total area	**44,734,986**	**100%**

To learn more and explore the GIS data, view this indicator in the SECAS Atlas.

Terrestrial

Fire frequency

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.



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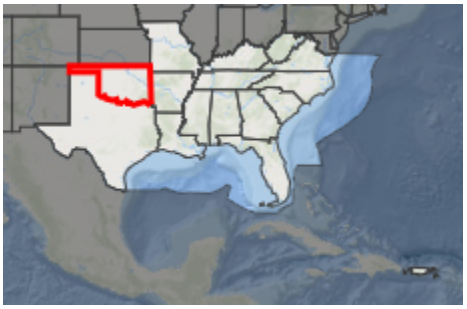


- Burned 3+ times from 2013-2021
- Burned 2 times from 2013-2021
- Burned 1 time from 2013-2021
- Not burned from 2013-2021 or row crop

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

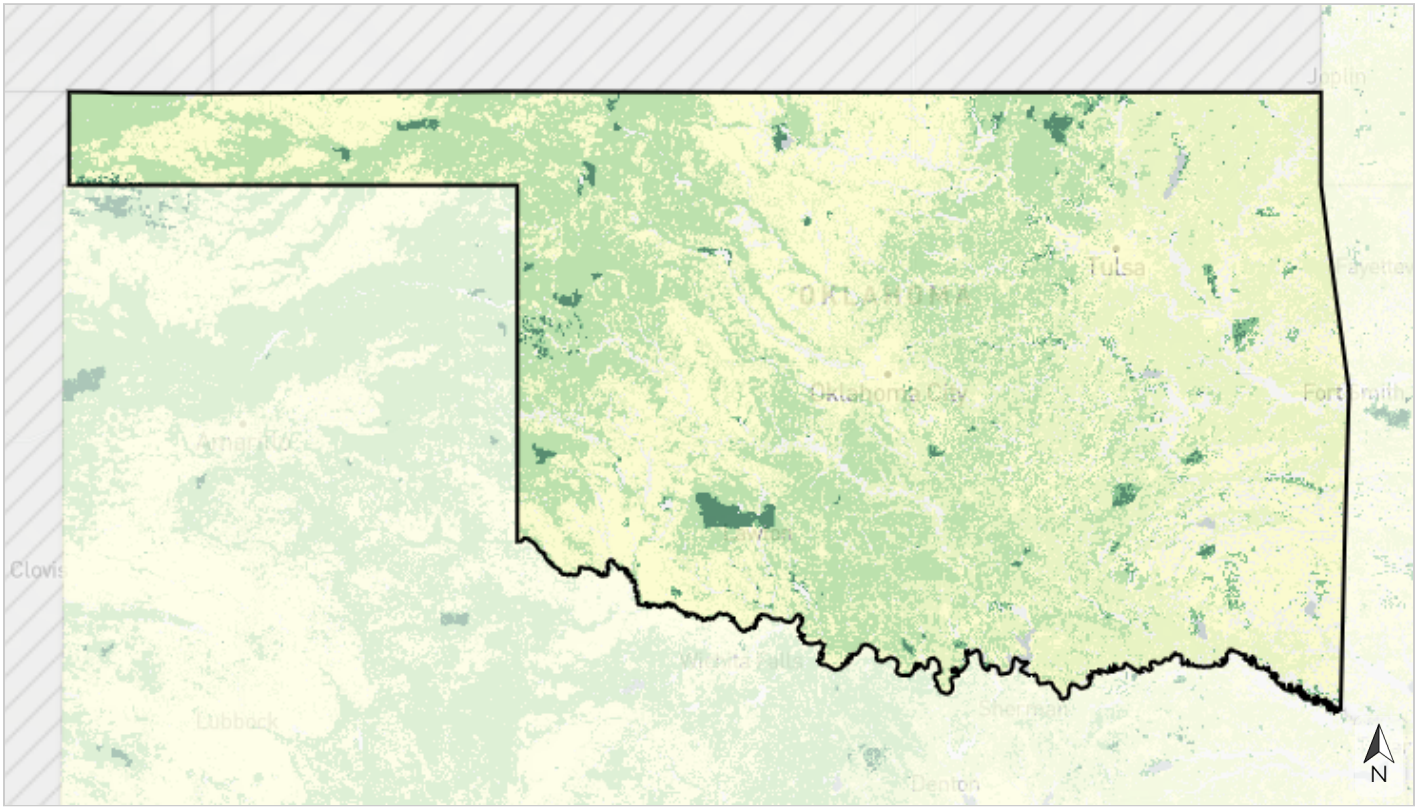
	Indicator Values	Acres	Percent of Area	
↑ High	Burned 3+ times from 2013-2021	400,009	0.9%	
	Burned 2 times from 2013-2021	627,152	1.4%	↑ In good condition
	Burned 1 time from 2013-2021	2,759,106	6.2%	↓ Not in good condition
↓ Low	Not burned from 2013-2021 or row crop	40,948,720	91.5%	
	Total area	**44,734,986**	**100%**	

To learn more and explore the GIS data, view this indicator in the SECAS Atlas.

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.



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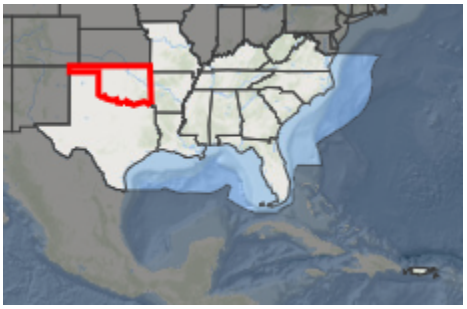

- Known grassland/savanna
- Likely grassland/savanna >10 acres
- Likely grassland/savanna ≤10 acres
- Pollinator buffer around known or likely grassland/savanna
- Potential grassland/savanna in mostly natural landscape
- Potential grassland/savanna in more altered landscape
- Historic grassland/savanna
- Not identified as grassland/savanna

Table 8: Indicator values for grasslands and savannas within Oklahoma. 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	0	0%	
	Likely grassland/savanna >10 acres	555,440	1.2%	
	Likely grassland/savanna ≤10 acres	32,370	<0.1%	↑ In good condition
	Pollinator buffer around known or likely grassland/savanna	650,096	1.5%	↓ Not in good condition
	Potential grassland/savanna in mostly natural landscape	12,483,020	27.9%	
	Potential grassland/savanna in more altered landscape	13,267,723	29.7%	
	Historic grassland/savanna	13,535,335	30.3%	
↓ Low	Not identified as grassland/savanna	4,205,622	9.4%	
	Area not evaluated for this indicator	*5,380*	*<0.1%*	
	Total area	**44,734,986**	**100%**	

To learn more and explore the GIS data, view this indicator in the SECAS Atlas.

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.

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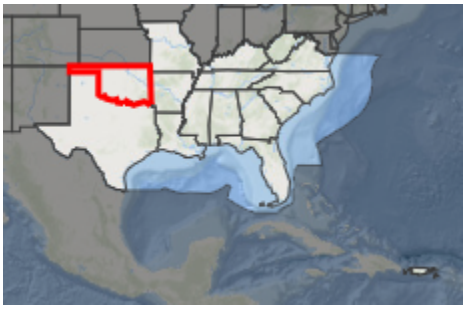


- Mostly natural and connected for ≥40 km
- Mostly natural and connected for 5 to <40 km or partly natural and connected for ≥40 km
- Mostly natural and connected for 1.9 to <5 km, partly natural and connected for 5 to <40 km, or developed and connected for ≥40 km
- Mostly natural and connected for <1.9 km, partly natural and connected for 1.9 to <5 km, or developed and connected for 5 to <40 km
- Partly natural and connected for <1.9 km or developed and connected for 1.9 to <5 km
- Developed and connected for <1.9 km
- Sidewalk
- Not identified as a trail, sidewalk, or other path

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

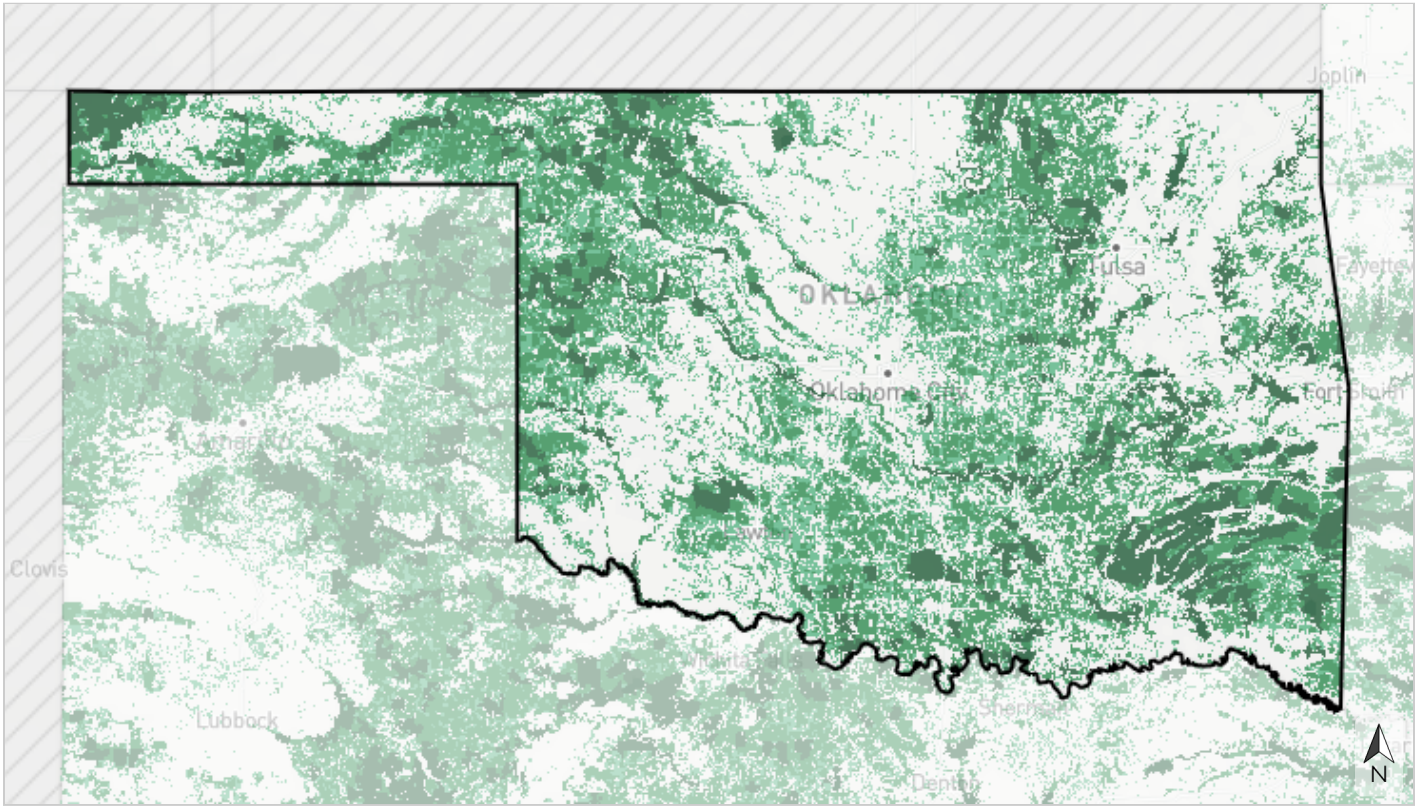
	Indicator Values	Acres	Percent of Area	
↑ High	Mostly natural and connected for ≥40 km	2,216	<0.1%	
	Mostly natural and connected for 5 to <40 km or partly natural and connected for ≥40 km	3,674	<0.1%	
	Mostly natural and connected for 1.9 to <5 km, partly natural and connected for 5 to <40 km, or developed and connected for ≥40 km	4,825	<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	3,223	<0.1%	↑ In good condition
	Partly natural and connected for <1.9 km or developed and connected for 1.9 to <5 km	1,999	<0.1%	↓ Not in good condition
	Developed and connected for <1.9 km	3,692	<0.1%	
	Sidewalk	15,521	<0.1%	
↓ Low	Not identified as a trail, sidewalk, or other path	44,699,837	99.9%	
	Total area	**44,734,986**	**100%**	

To learn more and explore the GIS data, [view this indicator in the SECAS Atlas](#).

Terrestrial

Intact habitat cores

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.



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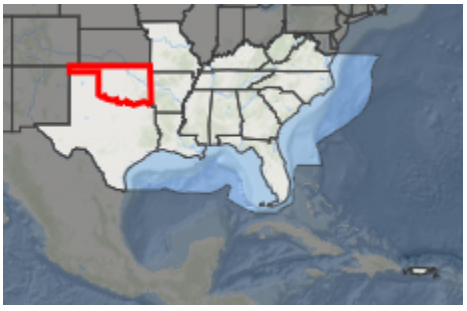


- Large core (>10,000 acres)
- Medium core (>1,000-10,000 acres)
- Small core (>100-1,000 acres)
- Not a core

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

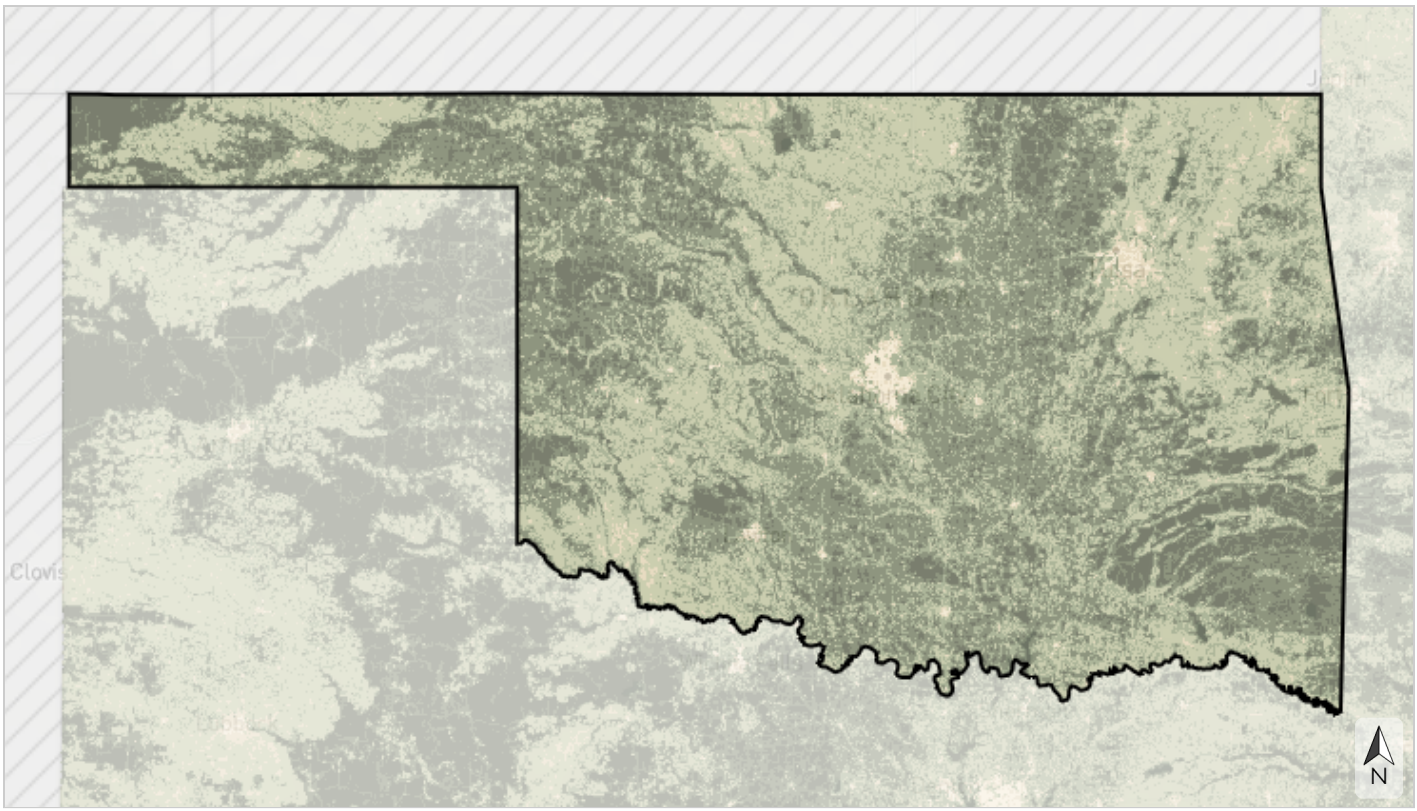
	Indicator Values	Acres	Percent of Area	
↑ High	Large core (>10,000 acres)	4,965,066	11.1%	
	Medium core (>1,000-10,000 acres)	9,852,689	22.0%	
	Small core (>100-1,000 acres)	6,995,186	15.6%	↑ In good condition
↓ Low	Not a core	22,922,045	51.2%	↓ Not in good condition
	Total area	**44,734,986**	**100%**	

To learn more and explore the GIS data, view this indicator in the SECAS Atlas.

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.



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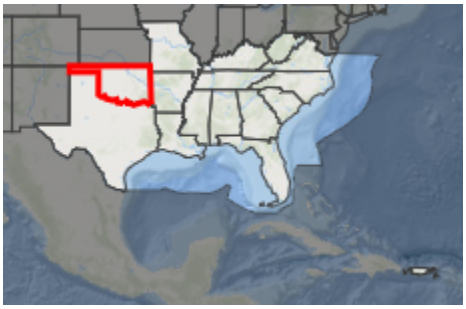

- Very natural landscape
- Natural landscape
- Mostly natural landscape
- Partly natural landscape
- Altered landscape
- Heavily altered landscape

Table 11: Indicator values for landscape condition within Oklahoma. 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	4,997,807	11.2%	
	Natural landscape	13,755,969	30.7%	
	Mostly natural landscape	11,222,596	25.1%	↑ In good condition
	Partly natural landscape	13,718,413	30.7%	↓ Not in good condition
	Altered landscape	815,856	1.8%	
↓ Low	Heavily altered landscape	218,966	0.5%	
	Area not evaluated for this indicator	*5,380*	*<0.1%*	
	Total area	**44,734,986**	**100%**	

To learn more and explore the GIS data, view this indicator in the SECAS Atlas.

Terrestrial

Playas

This indicator represents the condition and location of playas, which are round, shallow depressions found primarily in the western Great Plains that serve as temporary wetlands by collecting water from rainfall and runoff. It defines a healthy playa as one that is not farmed, hydrologically modified, within a wind farm, or impacted by sediment accumulation due to agriculture. It also considers the increased benefits to wildlife provided by clusters of nearby playas, compared to more sparsely distributed playas. Playas play a critical role in recharging the Ogallala aquifer and provide habitat and food for birds and other animals. This indicator originates from the Playa Lakes Joint Venture probable playas dataset.

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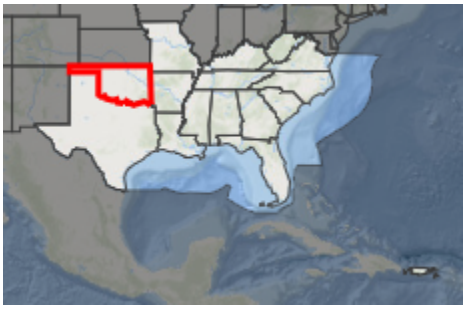


- Healthy playa and part of a larger cluster
- Healthy playa
- Other playa
- Not identified as a playa

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

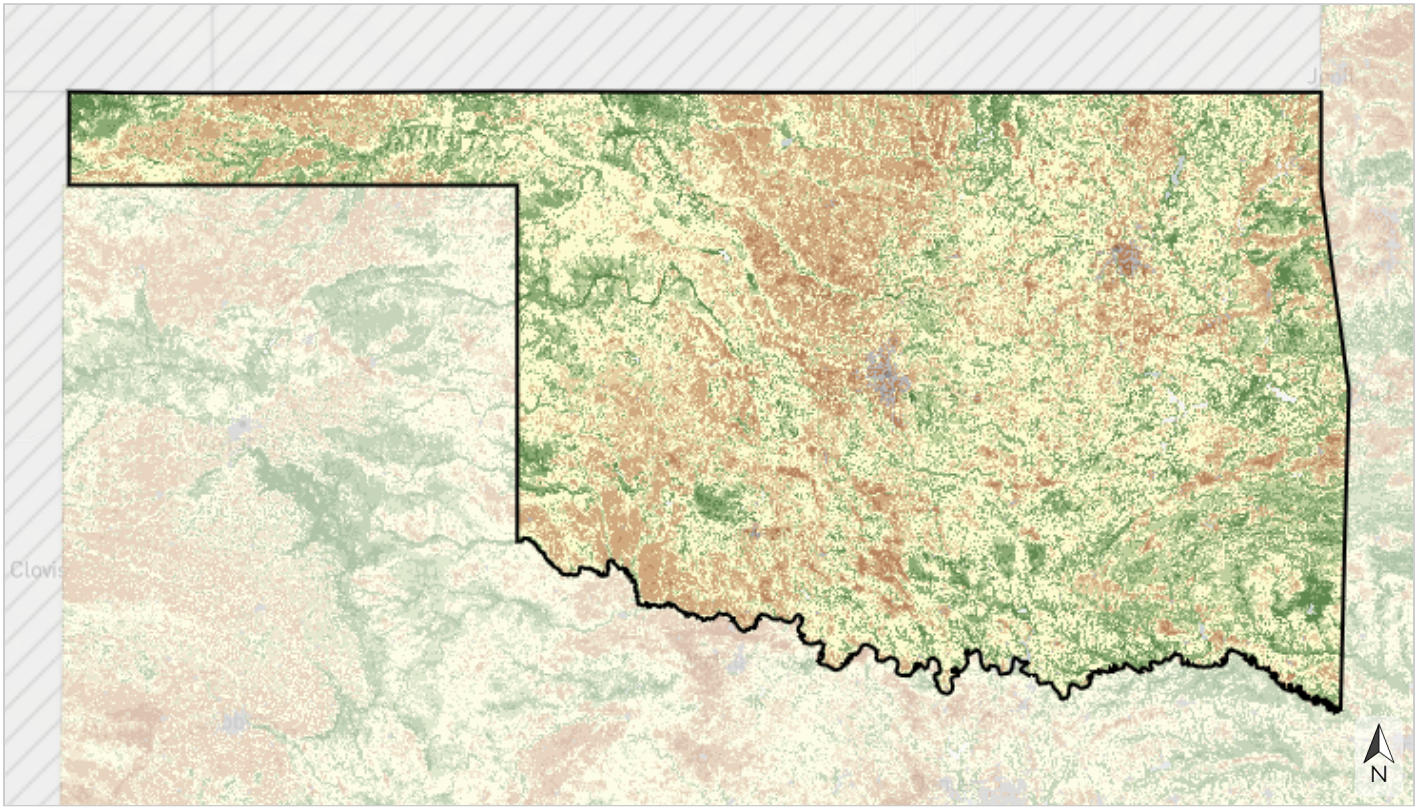
	Indicator Values	Acres	Percent of Area	
↑ High	Healthy playa and part of a larger cluster	4,752	<0.1%	
	Healthy playa	240	<0.1%	↑ In good condition
	Other playa	8,187	<0.1%	↓ Not in good condition
↓ Low	Not identified as a playa	21,287,724	47.6%	
	Area not evaluated for this indicator	*23,434,083*	*52.4%*	
	Total area	**44,734,986**	**100%**	

To learn more and explore the GIS data, view this indicator in the SECAS Atlas.

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.



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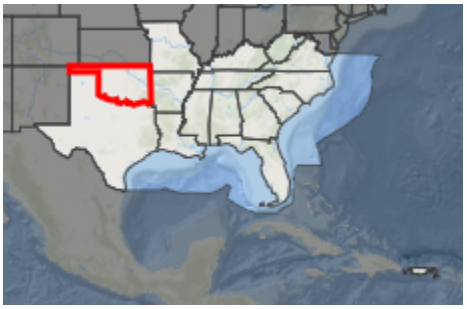

- Most resilient
- More resilient
- Slightly more resilient
- Average/median resilience
- Slightly less resilient
- Less resilient
- Least resilient
- Developed

Table 13: Indicator values for resilient terrestrial sites within Oklahoma. A good condition threshold is not yet defined for this indicator.

	Indicator Values	Acres	Percent of Area
↑ High	Most resilient	1,148,497	2.6%
	More resilient	6,391,425	14.3%
	Slightly more resilient	7,553,019	16.9%
	Average/median resilience	14,219,124	31.8%
	Slightly less resilient	7,102,299	15.9%
	Less resilient	6,137,567	13.7%
	Least resilient	922,784	2.1%
↓ Low	Developed	519,700	1.2%
	Area not evaluated for this indicator	*740,572*	*1.7%*
	Total area	**44,734,986**	**100%**

To learn more and explore the GIS data, view this indicator in the SECAS Atlas.

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.

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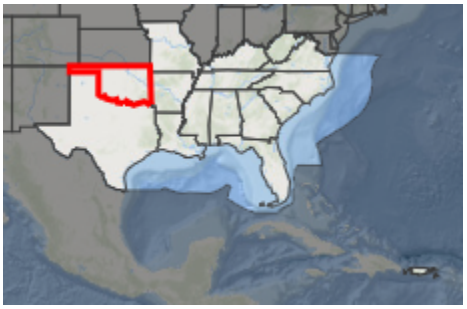

- 75+ acre urban park
- 50 to <75 acre urban park
- 30 to <50 acre urban park
- 10 to <30 acre urban park
- 5 to <10 acre urban park
- <5 acre urban park
- Not identified as an urban park

Table 14: Indicator values for urban park size within Oklahoma. A good condition threshold is not yet defined for this indicator.

	Indicator Values	Acres	Percent of Area
↑ High	75+ acre urban park	23,616	<0.1%
	50 to <75 acre urban park	2,094	<0.1%
	30 to <50 acre urban park	2,643	<0.1%
	10 to <30 acre urban park	4,162	<0.1%
	5 to <10 acre urban park	1,906	<0.1%
	<5 acre urban park	2,015	<0.1%
↓ Low	Not identified as an urban park	44,698,550	99.9%
	Total area	**44,734,986**	**100%**

To learn more and explore the GIS data, view this indicator in the SECAS Atlas.

Terrestrial

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.

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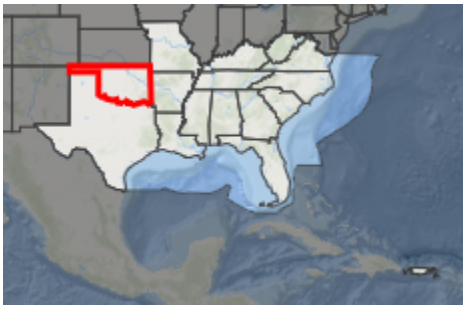

Habitat suitability for forested wetland bird umbrella species

- 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 15: Indicator values for West Coastal Plain & Ouachitas forested wetland birds within Oklahoma. 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)	17	<0.1%
	Medium-high habitat suitability (score >60-80)	4,775	<0.1%
	Medium habitat suitability (score >40-60)	10,043	<0.1%
	Medium-low habitat suitability (score >20-40)	12,346	<0.1%
	Low habitat suitability (score >0-20)	20,671	<0.1%
↓ Low	Not suitable (score = 0)	7,286,602	16.3%
	Area not evaluated for this indicator	*37,400,532*	*83.6%*
	Total area	**44,734,986**	**100%**

To learn more and explore the GIS data, view this indicator in the SECAS Atlas.

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.

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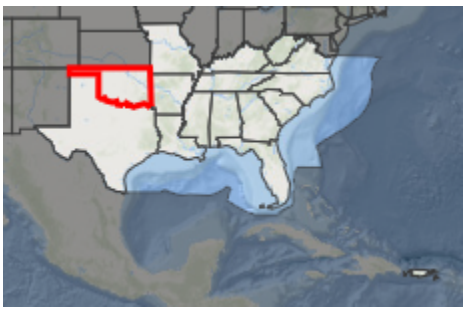


Ability of pine patch to support a population of umbrella bird species if managed in open condition

- 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 species
- Pine patch too small and isolated to support a population of any species or not an upland pine patch

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

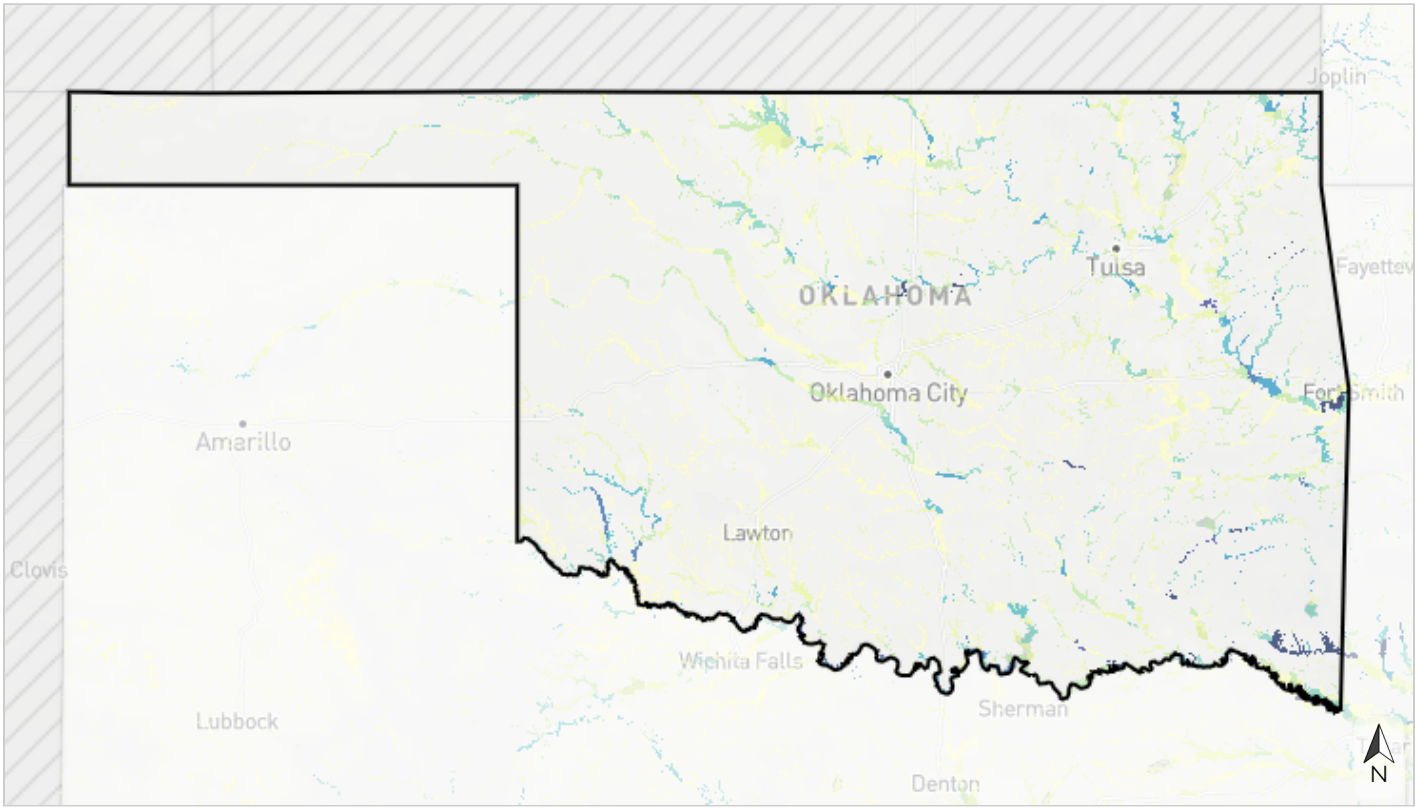
	Indicator Values: Ability of pine patch to support a population of umbrella bird species if managed in open condition	Acres	Percent of Area
↑ High	Large enough to support a population of all 3 species	823,726	1.8%
	Large enough to support a population of 2 species	364,909	0.8%
	Large enough to a population of 1 species	81,651	0.2%
	Part of a cluster of nearby patches able to support a population of all 3 species	56,138	0.1%
	Part of a cluster of nearby patches able to support a population of 2 species	182,466	0.4%
	Part of a cluster of nearby patches able to support a population of 1 species	11,906	<0.1%
↓ Low	Pine patch too small and isolated to support a population of any species or not an upland pine patch	5,814,463	13.0%
	Area not evaluated for this indicator	*37,399,727*	*83.6%*
	Total area	**44,734,986**	**100%**

To learn more and explore the GIS data, view this indicator in the SECAS Atlas.

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).



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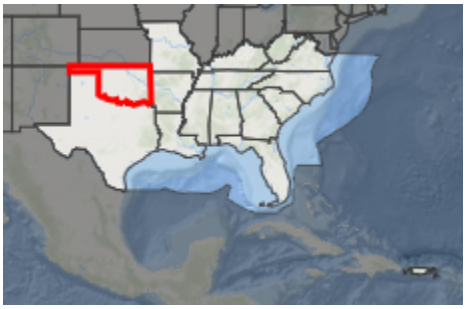


Number of aquatic animal Regional Species of Greatest Conservation Need (RSGCN) observed

- 8+ species
- 7 species
- 6 species
- 5 species
- 4 species
- 3 species
- 2 species
- 1 species
- 0 species
- Not identified as a floodplain

Table 17: Indicator values for imperiled aquatic species within Oklahoma. A good condition threshold is not yet defined for this indicator.

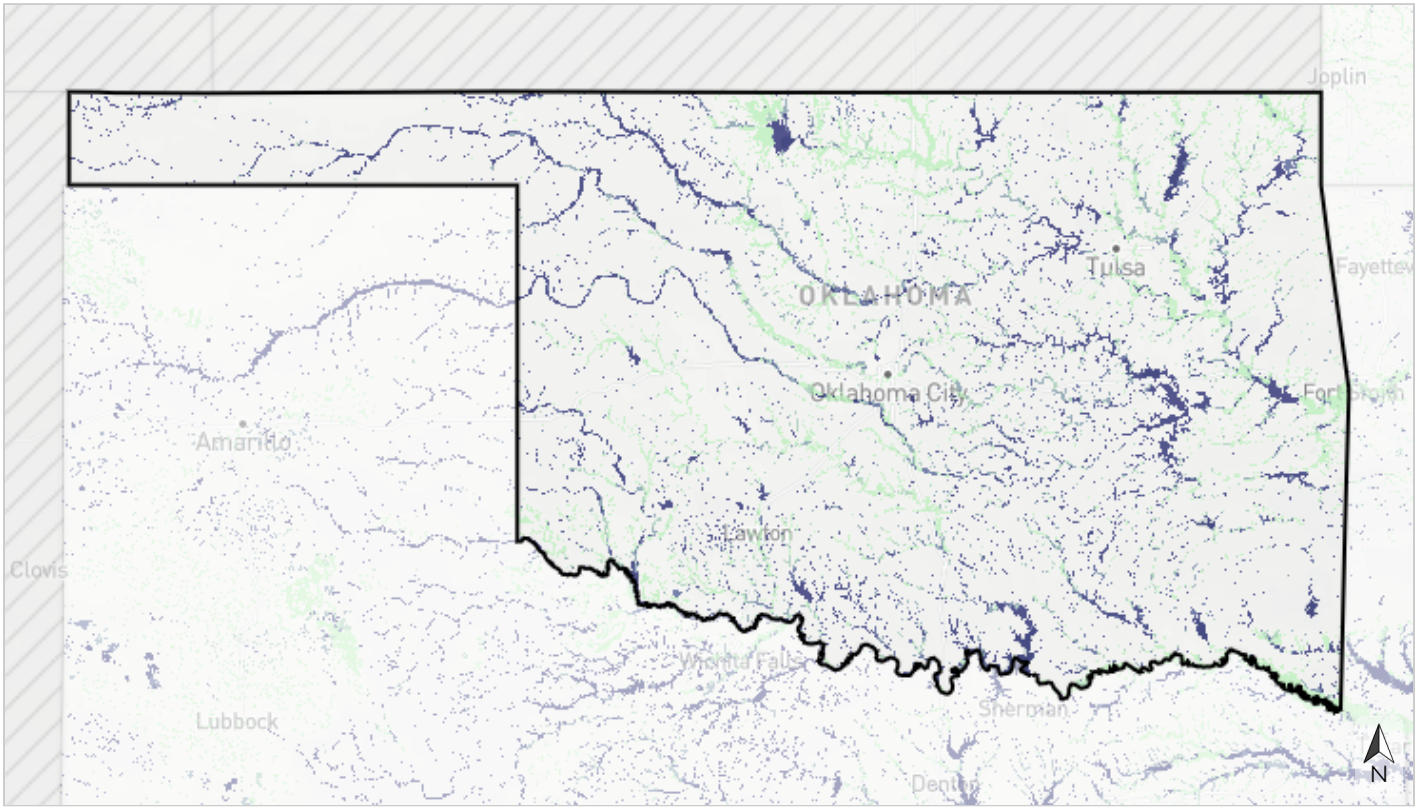
	Indicator Values: Number of aquatic animal Regional Species of Greatest Conservation Need (RSGCN) observed	Acres	Percent of Area
↑ High	8+ species	123,537	0.3%
	7 species	30,593	<0.1%
	6 species	83,225	0.2%
	5 species	164,919	0.4%
	4 species	233,324	0.5%
	3 species	538,593	1.2%
	2 species	812,001	1.8%
	1 species	1,313,854	2.9%
	0 species	3,242,637	7.2%
↓ Low	Not identified as a floodplain	38,192,303	85.4%
	Total area	**44,734,986**	**100%**

To learn more and explore the GIS data, view this indicator in the SECAS Atlas.

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).



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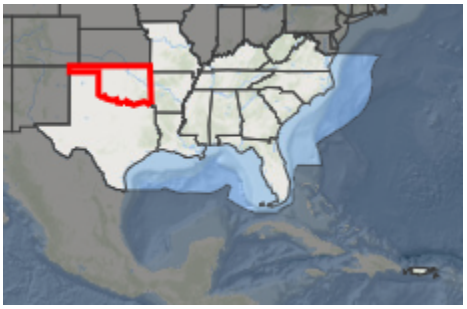


Percent natural landcover within the estimated floodplain, by catchment

- >90% natural landcover
- >80-90% natural landcover
- >70-80% natural landcover
- >60-70% natural landcover
- ≤60% natural landcover
- Not identified as a floodplain

Table 18: Indicator values for natural landcover in floodplains within Oklahoma. Good condition thresholds reflect the range of indicator values that occur in healthy, functioning ecosystems.

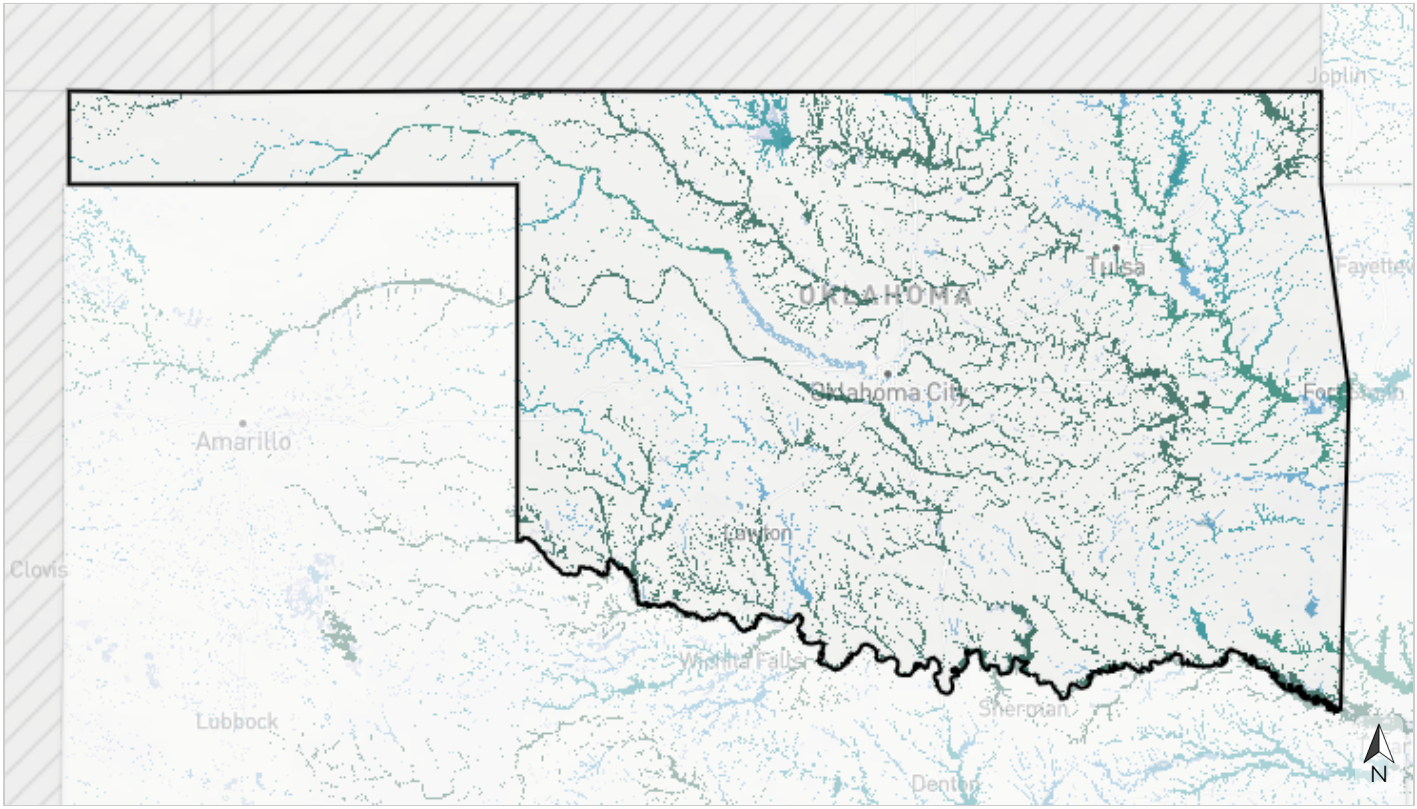
	Indicator Values: Percent natural landcover within the estimated floodplain, by catchment	Acres	Percent of Area	
↑ High	>90% natural landcover	2,235,600	5.0%	
	>80-90% natural landcover	759,380	1.7%	↑ In good condition
	>70-80% natural landcover	667,125	1.5%	↓ Not in good condition
	>60-70% natural landcover	592,283	1.3%	
	≤60% natural landcover	2,288,296	5.1%	
↓ Low	Not identified as a floodplain	38,192,303	85.4%	
	Total area	**44,734,986**	**100%**	

To learn more and explore the GIS data, view this indicator in the SECAS Atlas.

Freshwater

Network complexity

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).



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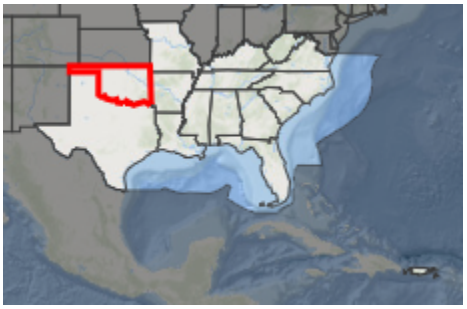


Number of connected stream size classes

- 7 size classes
- 6 size classes
- 5 size classes
- 4 size classes
- 3 size classes
- 2 size classes
- 1 size class
- Not identified as a floodplain

Table 19: Indicator values for network complexity within Oklahoma. Good condition thresholds reflect the range of indicator values that occur in healthy, functioning ecosystems.

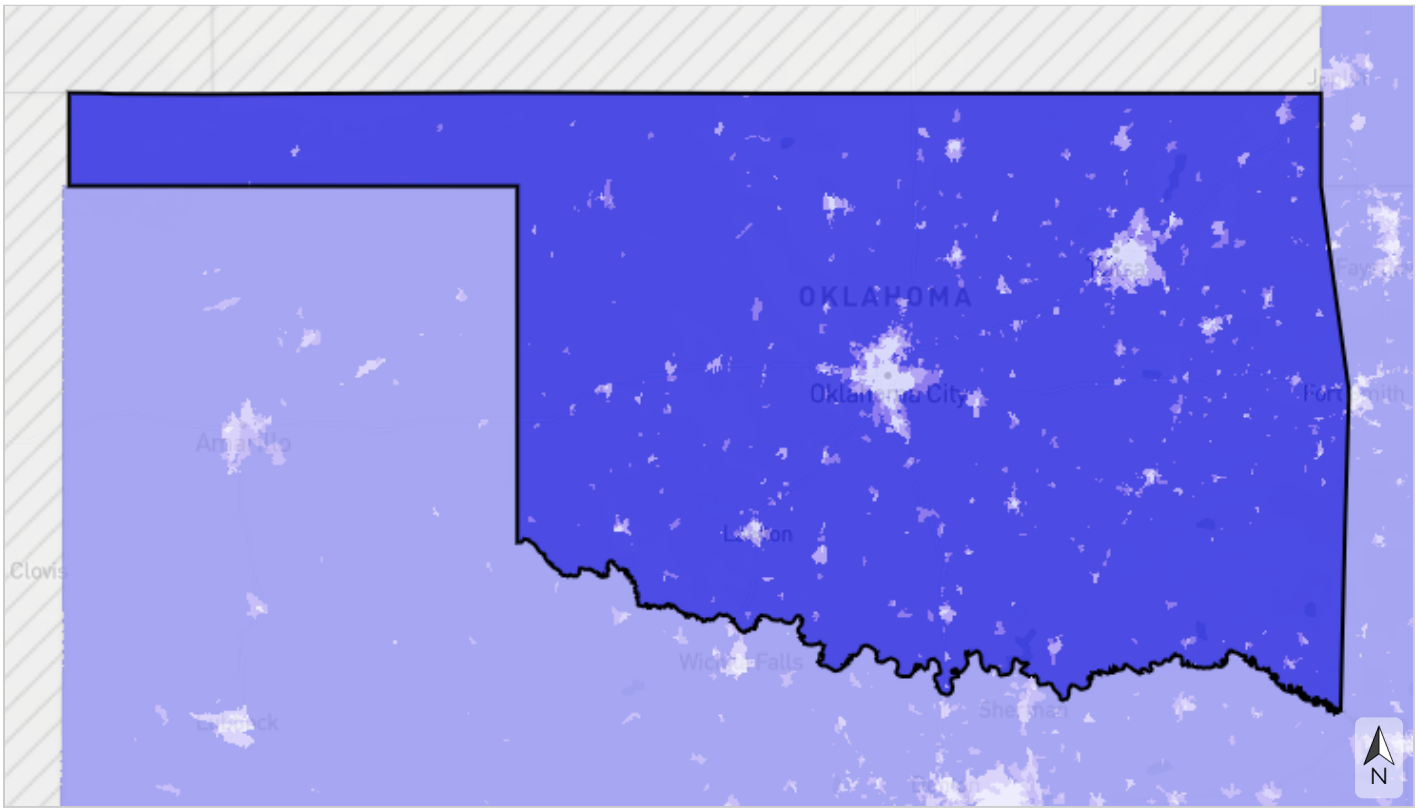
	Indicator Values: Number of connected stream size classes	Acres	Percent of Area	
↑ High	7 size classes	3,442,603	7.7%	
	6 size classes	861,312	1.9%	
	5 size classes	837,992	1.9%	
	4 size classes	418,159	0.9%	↑ In good condition
	3 size classes	274,027	0.6%	↓ Not in good condition
	2 size classes	370,084	0.8%	
	1 size class	335,570	0.8%	
↓ Low	Not identified as a floodplain	38,195,234	85.4%	
	Area not evaluated for this indicator	*4*	*<0.1%*	
	Total area	**44,734,986**	**100%**	

To learn more and explore the GIS data, view this indicator in the SECAS Atlas.

Freshwater

Permeable surface

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.



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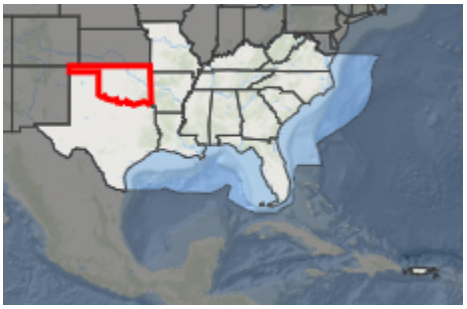


Percent of catchment permeable

- >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 20: Indicator values for permeable surface within Oklahoma. 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)	42,694,490	95.4%	↑ In good condition
	>90-95% permeable (likely declining water quality and supporting most aquatic species)	859,641	1.9%	↓ Not in good condition
	>70-90% permeable (likely degraded water quality and not supporting many aquatic species)	801,878	1.8%	
↓ Low	≤70% permeable (likely degraded instream flow, water quality, and aquatic species communities)	378,976	0.8%	
	Total area	**44,734,986**	**100%**	

To learn more and explore the GIS data, view this indicator in the SECAS Atlas.

Threats

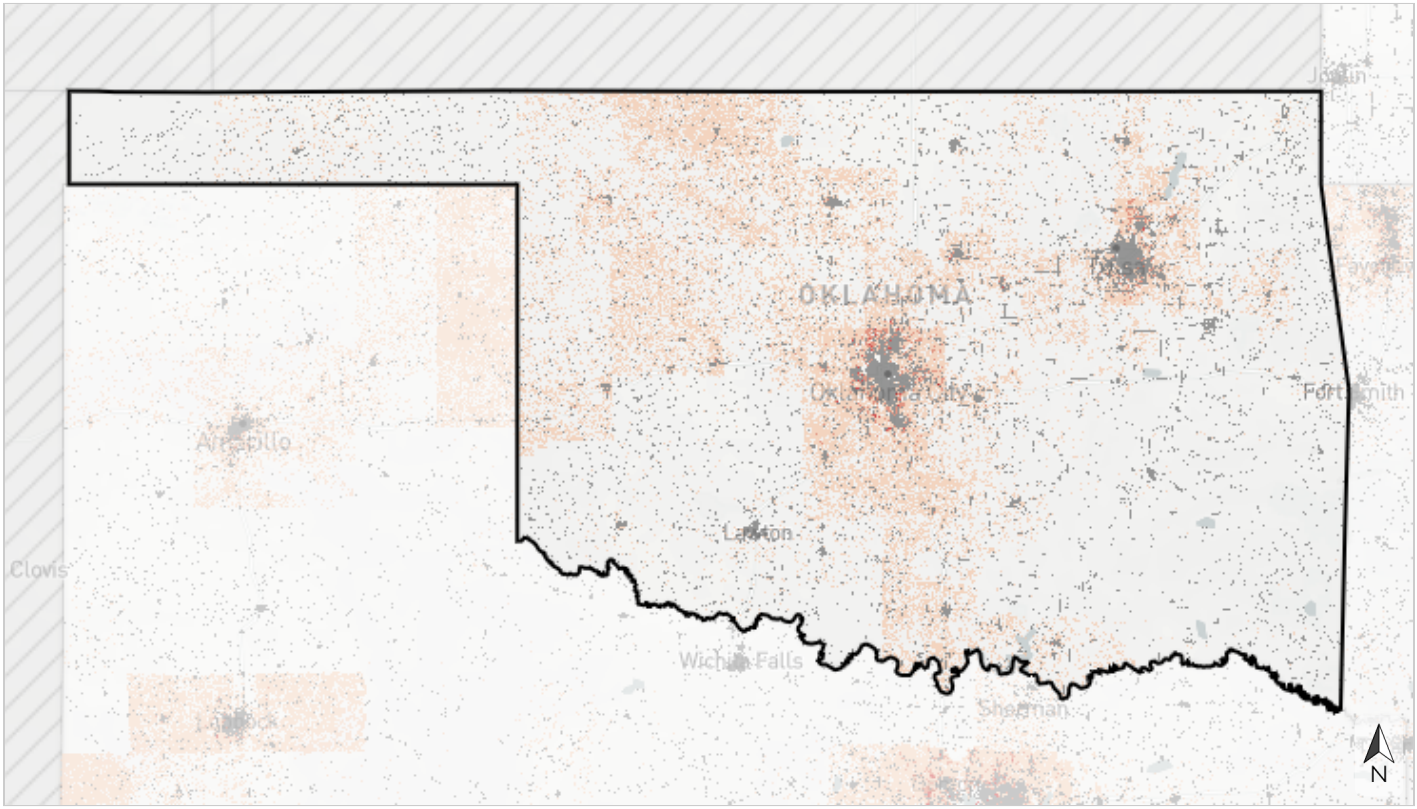
Sea-level rise

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.



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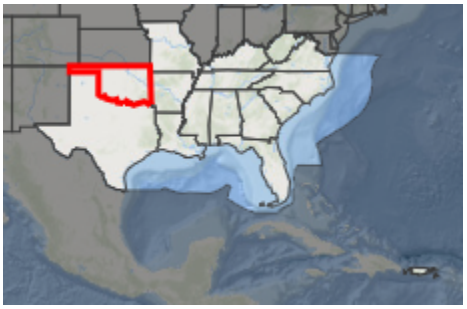


Probability of urbanization by 2060

- Urban in 2021
- Very high likelihood of urbanization (>50% probability)
- High likelihood of urbanization (25 - 50% probability)
- Moderate likelihood of urbanization (2 - 25% probability)
- Not likely to urbanize

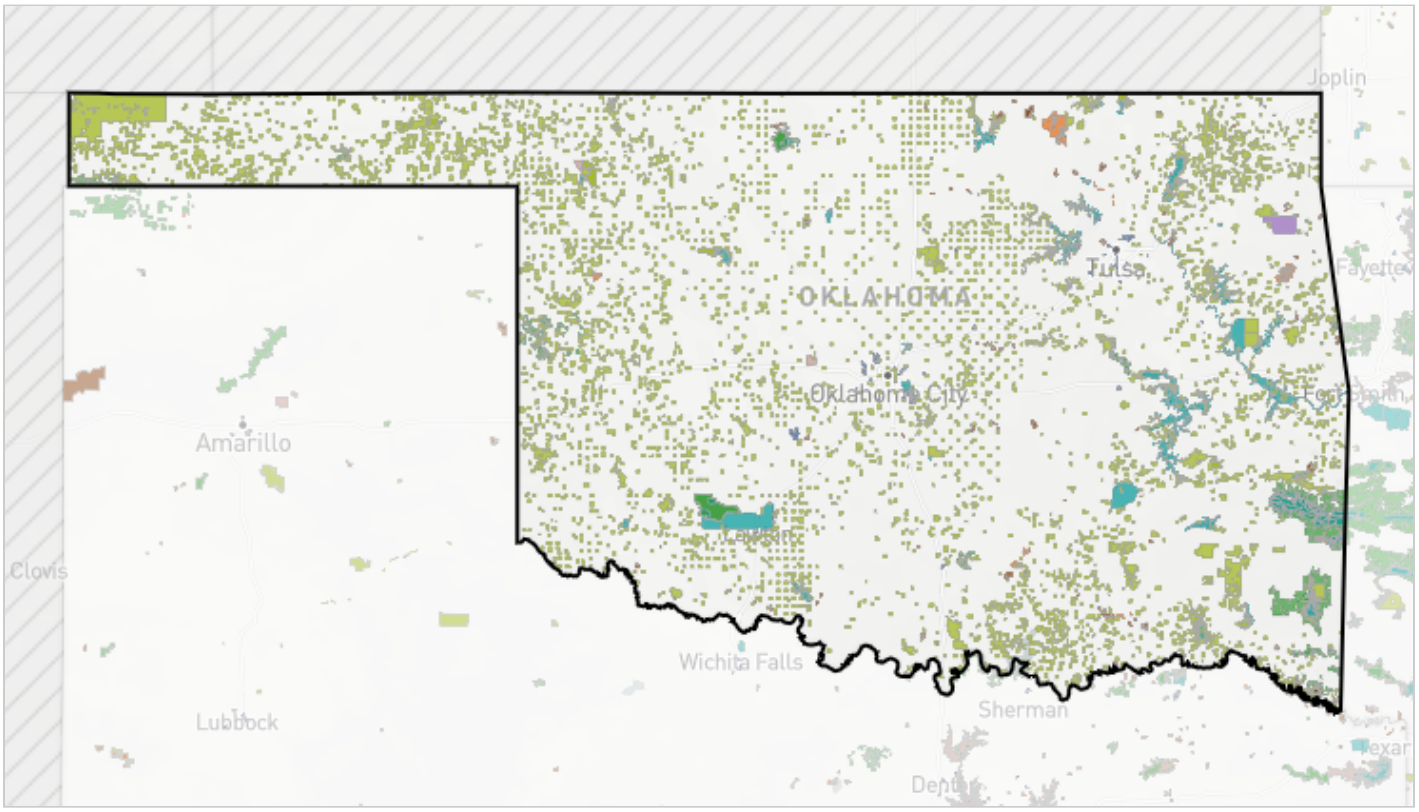
5.7% of this area is already urban in 2021, and an additional 15.0% has at least a moderate probability of urbanizing by 2060.

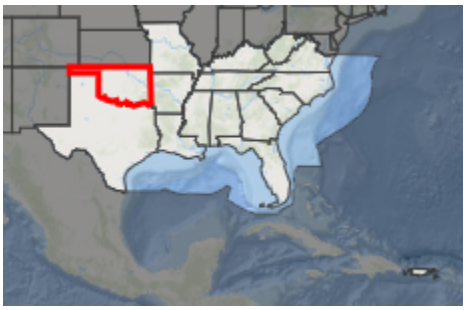
Table 21: Extent of projected urbanization by decade within Oklahoma. Values from FUTURES model projections for the contiguous United States developed by the Center for Geospatial Analytics, NC State University. 2060 corresponds to the SECAS goal: a 10% or greater improvement in the health, function, and connectivity of Southeastern ecosystems by 2060.

Decade	Acres	Percent of Area
Urban in 2021	2,556,232	5.7%
2030 projected extent	2,667,747	6.0%
2040 projected extent	2,736,499	6.1%
2050 projected extent	2,802,211	6.3%
2060 projected extent	2,871,394	6.4%
2070 projected extent	2,933,138	6.6%
2080 projected extent	2,986,734	6.7%
2090 projected extent	3,029,963	6.8%
2100 projected extent	3,063,925	6.8%
Not projected to urbanize by 2100	*33,366,699*	*74.6%*
Total area	**44,734,986**	**100%**

Ownership and Partners

Conserved lands ownership



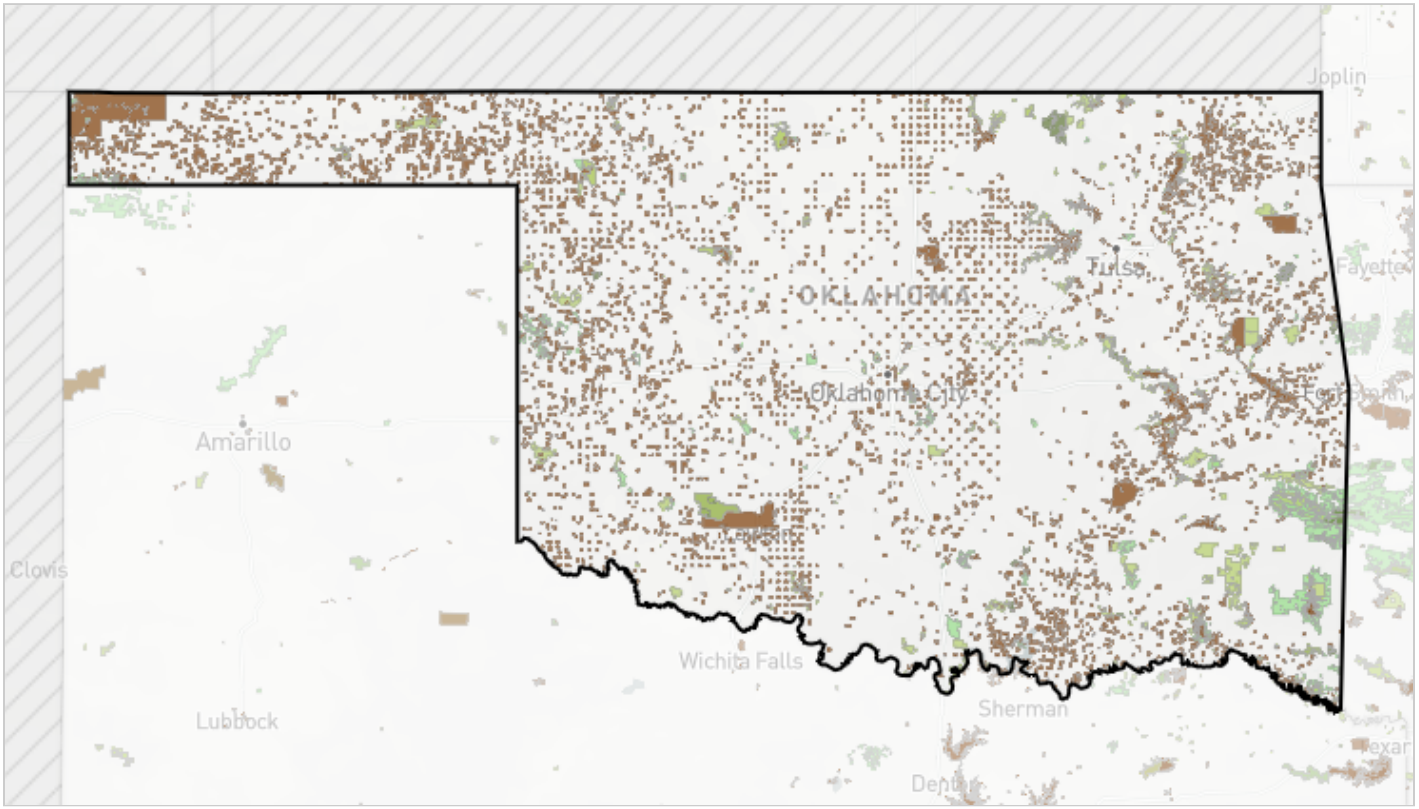


- Federal
- State/province
- Territorial
- Regional
- Local
- Joint
- Private non-profit conserved lands
- Private conservation land
- Tribal
- Designation
- Ownership unknown

Table 22: Extent of ownership class within Oklahoma. Protected areas are derived from the Protected Areas Database of the United States (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	632,838	1.4%
State/province	4,158,018	9.3%
Regional	1,176	<0.1%
Local	53,124	0.1%
Private non-profit conserved lands	72,117	0.2%
Private conservation land	119,864	0.3%
Tribal	36,913	<0.1%
Designation	680,006	1.5%
Ownership unknown	12,009	<0.1%

Land protection status



Basemap credits: © Mapbox © OpenStreetMap Improve this basemap

217 miles
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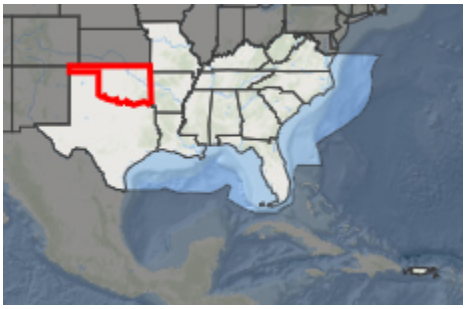

- Managed for biodiversity (disturbance events proceed or are mimicked)
- Managed for biodiversity (disturbance events suppressed)
- Managed for multiple uses (subject to extractive uses such as mining or logging, or OHV use)
- No known mandate for biodiversity protection

Table 23: Extent of land protection status within Oklahoma. Protected areas are derived from the Protected Areas Database of the United States (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)	189,943	0.4%
Managed for biodiversity (disturbance events suppressed)	1,065,214	2.4%
Managed for multiple uses (subject to extractive uses such as mining or logging, or OHV use)	635,714	1.4%
No known mandate for biodiversity protection	3,875,194	8.7%

Protected Areas

- CLO Lands (The Commissioners of the Land Office; 3,238,932 acres)
- Ouachita National Forest (USDA FOREST SERVICE; 353,453 acres)
- Eufaula Lake (Unknown owner; 101,458 acres)
- Fort Sill (Unknown owner; 93,725 acres)
- Honobia Creek Wildlife Management Area (Department of Wildlife Conservation; 80,896 acres)
- Robert S. Kerr Lake (Unknown owner; 62,676 acres)
- WICHITA MOUNTAINS WILDLIFE REFUGE (Fee; 59,021 acres)
- Wichita Mountains Wildlife Refuge (Fee; 59,021 acres)
- Copan Wildlife Management Area (Department of Wildlife Conservation; 46,912 acres)
- Cibola National Forest (USDA FOREST SERVICE; 46,339 acres)
- McAlester AAP (Unknown owner; 44,913 acres)
- Keystone Wildlife Management Area (Department of Wildlife Conservation; 44,810 acres)
- Indian Nations (Unknown owner; 44,642 acres)
- Kenwood Indian Reservation (Unknown; 36,817 acres)
- Wister Wildlife Management Area & Waterfowl Refuge (Department of Wildlife Conservation; 35,425 acres)
- NG Camp Gruber (Unknown owner; 33,482 acres)
- Greater Flint Hills (The Nature Conservancy; 28,570 acres)
- Oologah Lake (Unknown owner; 28,333 acres)
- Beaver River Wildlife Management Area (Department of Wildlife Conservation; 26,749 acres)
- Winding Stair Mountain (Unknown owner; 26,617 acres)
- Eufaula Wildlife Management Area (Department of Wildlife Conservation; 23,829 acres)
- Canton Wildlife Management Area & Waterfowl Refuge Portion (Department of Wildlife Conservation; 22,952 acres)
- Keystone Lake (Unknown owner; 22,342 acres)
- James Collins Wildlife Management Area (Department of Wildlife Conservation; 21,498 acres)
- SALT PLAINS NATIONAL WILDLIFE REFUGE (Fee; 21,182 acres)

Credits

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

Data credits

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

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

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

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