Southeast Conservation Blueprint Summary

for Oklahoma

Created 01/19/2024

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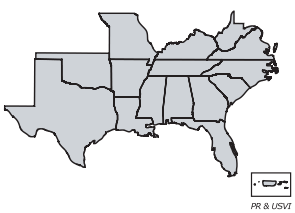
The Southeast Conservation Adaptation Strategy

SECAS



The Southeast Conservation Blueprint 2023

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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 2023 Development Process
- View and download the Blueprint data and make maps on the Blueprint page of the SECAS Atlas

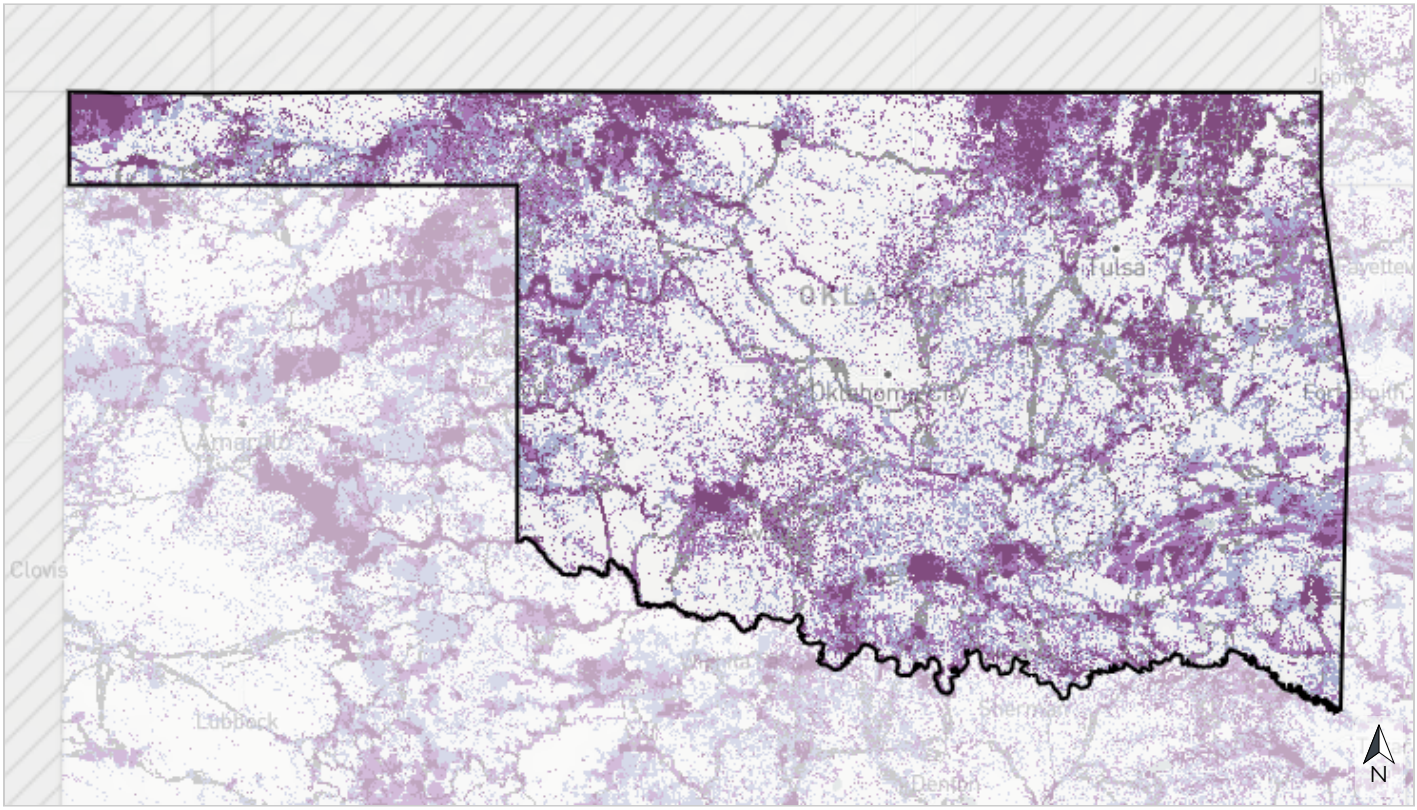
We're here to help!

- 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 Simple Viewer 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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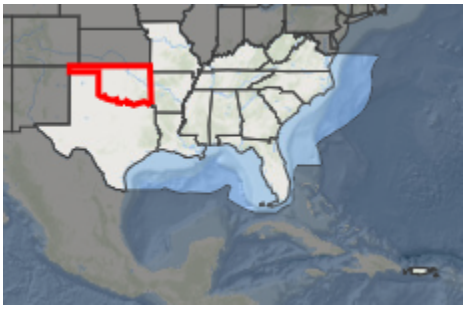


Priorities for a connected network of lands and waters

- 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.

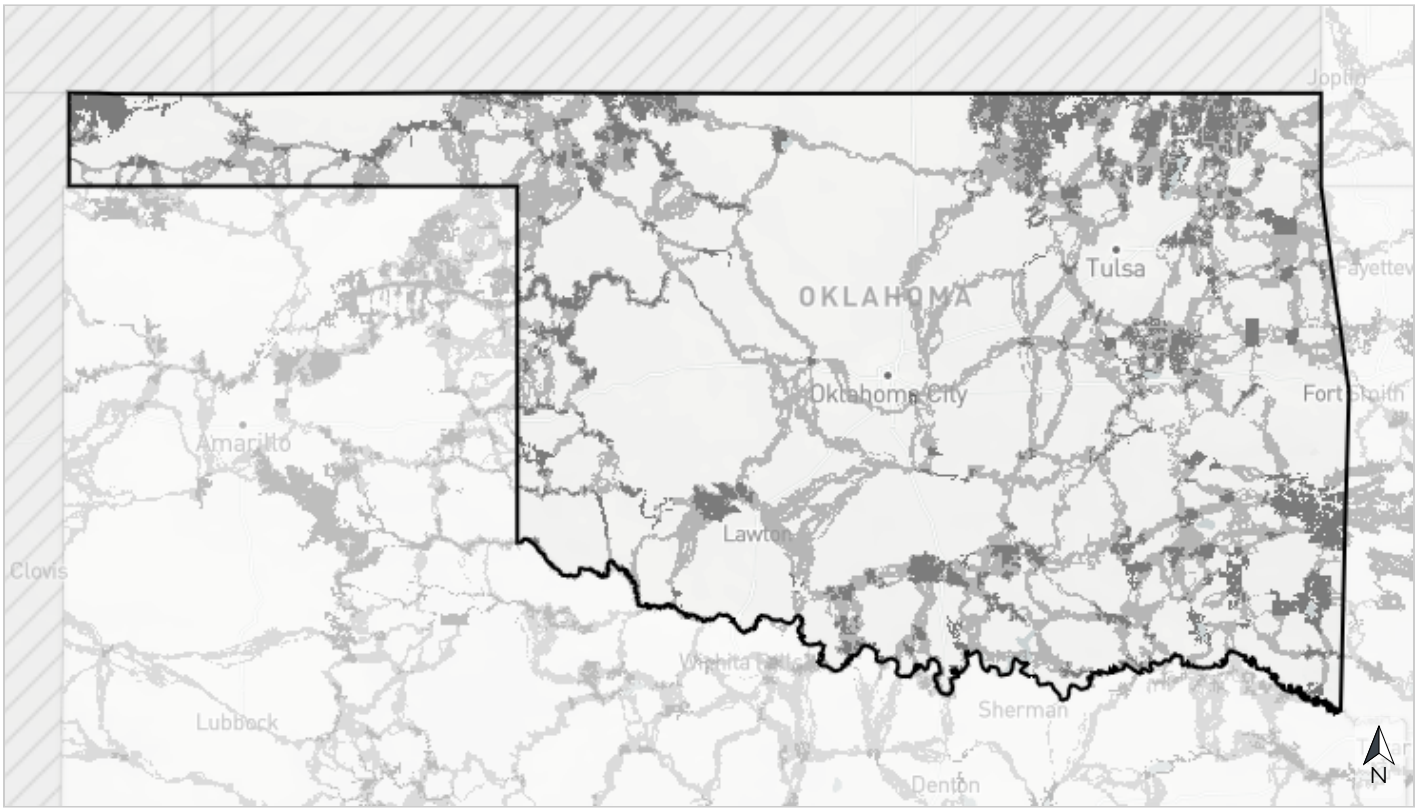
Table 1: Extent of each Blueprint priority category within Oklahoma.

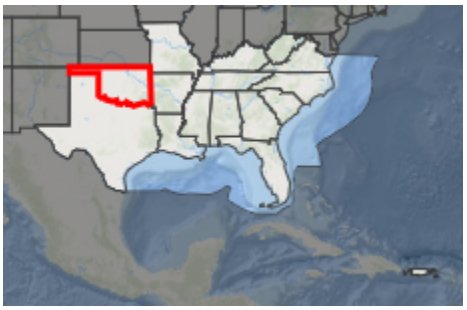
Priority Category	Acres	Percent of Area
Highest priority	5,748,696	12.9%
High priority	7,994,121	17.9%
Medium priority	7,664,054	17.1%
Priority connections	2,662,283	6.0%
Lower priority	20,665,832	46.2%
Total area	**44,734,986**	**100%**

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.

Inland hubs are large patches (~5,000+ acres) of highest priority Blueprint areas and/or protected lands, connected by inland corridors.





Inland continental hubs
Inland continental corridors
Not a hub or corridor

Table 2: Extent of hubs and corridors within Oklahoma.

Type	Acres	Percent of Area
Inland continental hubs	4,099,896	9.2%
Inland continental corridors	9,660,485	21.6%
Not a hub or corridor	30,974,606	69.2%
Total area	**44,734,986**	**100%**

Indicator Summary

Table 3: Terrestrial indicators.

Indicator	Present
Equitable access to potential parks	✓
Fire frequency	✓
Great Plains perennial grasslands	✓
Greenways & trails	✓
Intact habitat cores	✓
Interior Southeast grasslands	✓
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	-

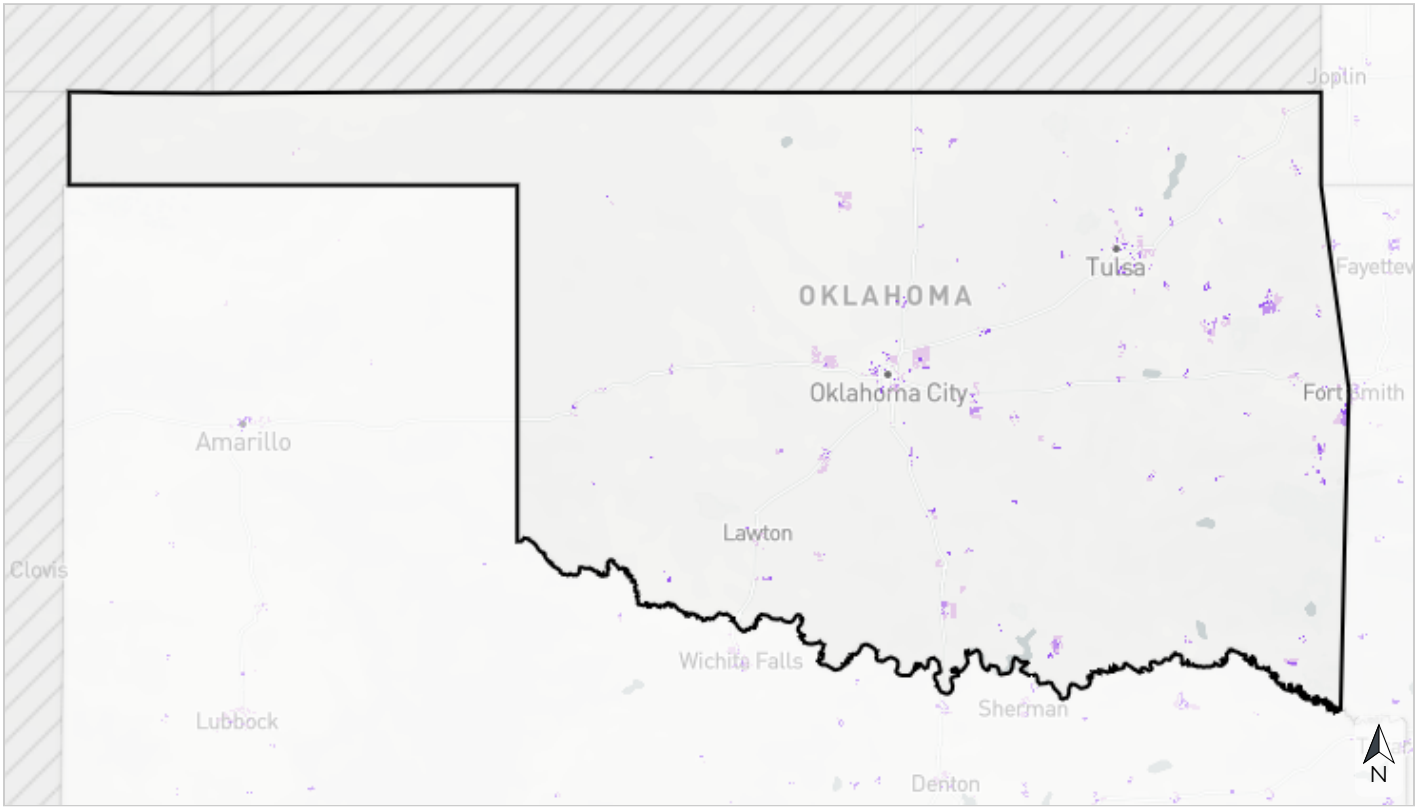
Table 4: Freshwater indicators.

Indicator	Present
Imperiled aquatic species	✓
Natural landcover in floodplains	✓
Network complexity	✓
Permeable surface	✓

Terrestrial

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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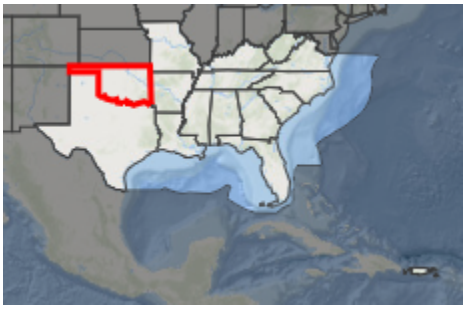


Priority for a new park that would create nearby equitable access

- Very high priority
- High priority
- Moderate priority
- Not identified as a priority (within urban areas)

Table 5: Indicator values for equitable access to potential parks within Oklahoma. A good condition threshold is not yet defined for this indicator.

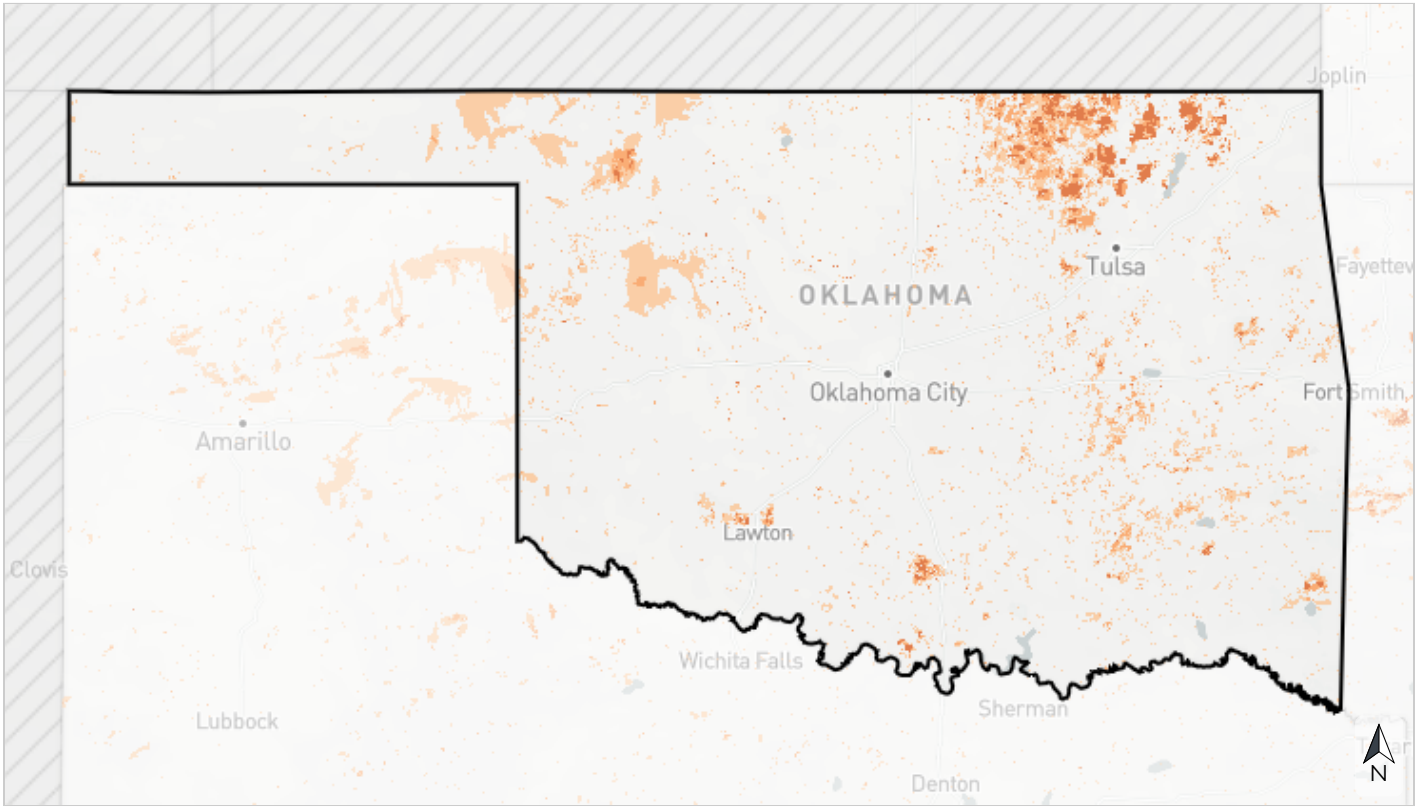
	Indicator Values: Priority for a new park that would create nearby equitable access	Acres	Percent of Area
↑ High	Very high priority	64,105	0.1%
	High priority	108,556	0.2%
	Moderate priority	221,501	0.5%
↓ Low	Not identified as a priority (within urban areas)	44,340,824	99.1%
	Total area	**44,734,986**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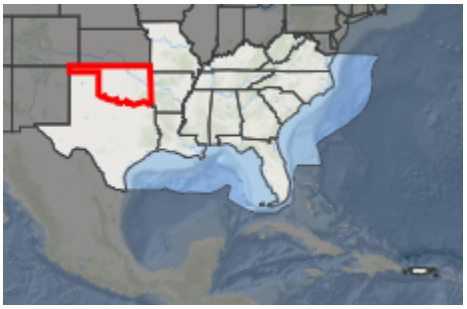


- Burned 3+ times from 2013-2021
- Burned 2 times from 2013-2021
- Burned 1 time from 2013-2021
- Not burned from 2013-2021 or row crop

Table 6: Indicator values for fire frequency within Oklahoma. Good condition thresholds reflect the range of indicator values that occur in healthy, functioning ecosystems.

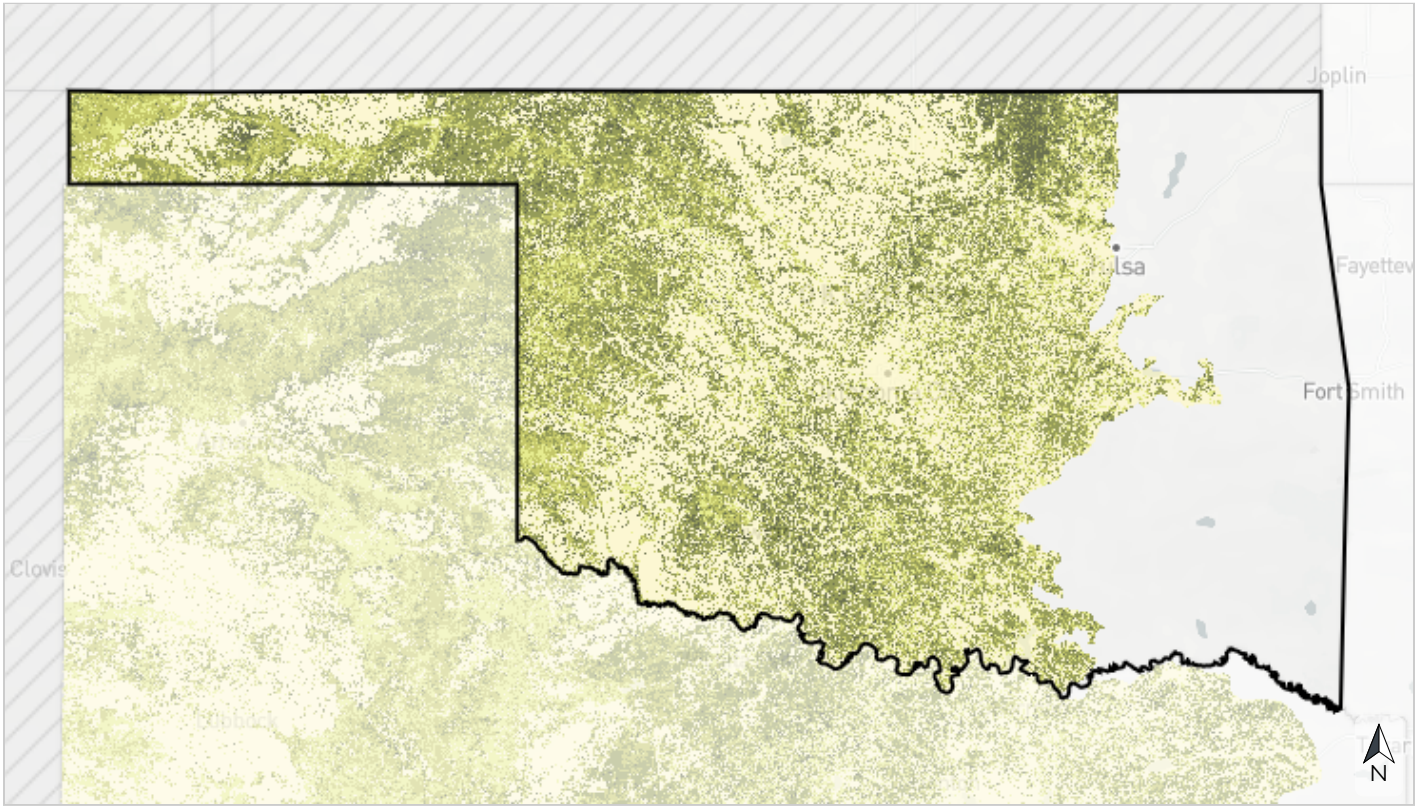
	Indicator Values	Acres	Percent of Area	
↑ High	Burned 3+ times from 2013-2021	400,009	0.9%	
	Burned 2 times from 2013-2021	627,152	1.4%	↑ In good condition
	Burned 1 time from 2013-2021	2,759,106	6.2%	↓ Not in good condition
↓ Low	Not burned from 2013-2021 or row crop	40,948,720	91.5%	
	Total area	**44,734,986**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

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

Terrestrial

Great Plains perennial grasslands

This indicator measures the percent of perennial forbs and perennial grass to evaluate grassland condition across the Great Plains. Grasslands in this area with a high percentage of perennials are less likely to be impacted by woody encroachment, less susceptible to non-native annual grasses, and more likely to support important plants, birds, and pollinators. This indicator originates from Rangeland Analysis Platform vegetation cover data.



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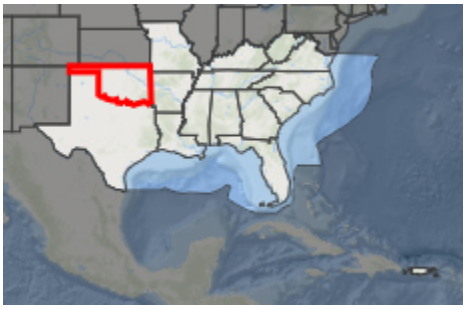

- 81-100% perennial forbs and perennial grass
- 61-80% perennial forbs and perennial grass
- 41-60% perennial forbs and perennial grass
- 21-40% perennial forbs and perennial grass
- 0-20% perennial forbs and perennial grass

Table 7: Indicator values for Great Plains perennial grasslands within Oklahoma. A good condition threshold is not yet defined for this indicator.

	Indicator Values	Acres	Percent of Area
↑ High	81-100% perennial forbs and perennial grass	1,778,287	4.0%
	61-80% perennial forbs and perennial grass	8,555,975	19.1%
	41-60% perennial forbs and perennial grass	4,800,624	10.7%
	21-40% perennial forbs and perennial grass	3,085,372	6.9%
↓ Low	0-20% perennial forbs and perennial grass	13,779,967	30.8%
	Area not evaluated for this indicator	*12,734,761*	*28.5%*
	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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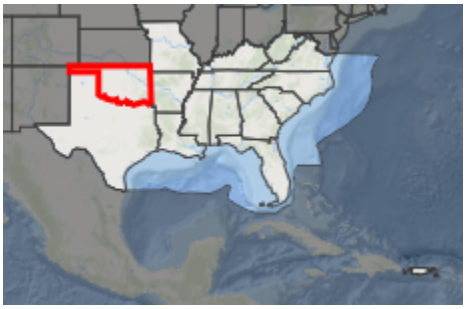


- Mostly natural and connected for ≥40 km
- Mostly natural and connected for 5 to <40 km or partly natural and connected for ≥40 km
- Mostly natural and connected for 1.9 to <5 km, partly natural and connected for 5 to <40 km, or developed and connected for ≥40 km
- Mostly natural and connected for <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 8: Indicator values for greenways & trails within Oklahoma. Good condition thresholds reflect the range of indicator values that occur in healthy, functioning ecosystems.

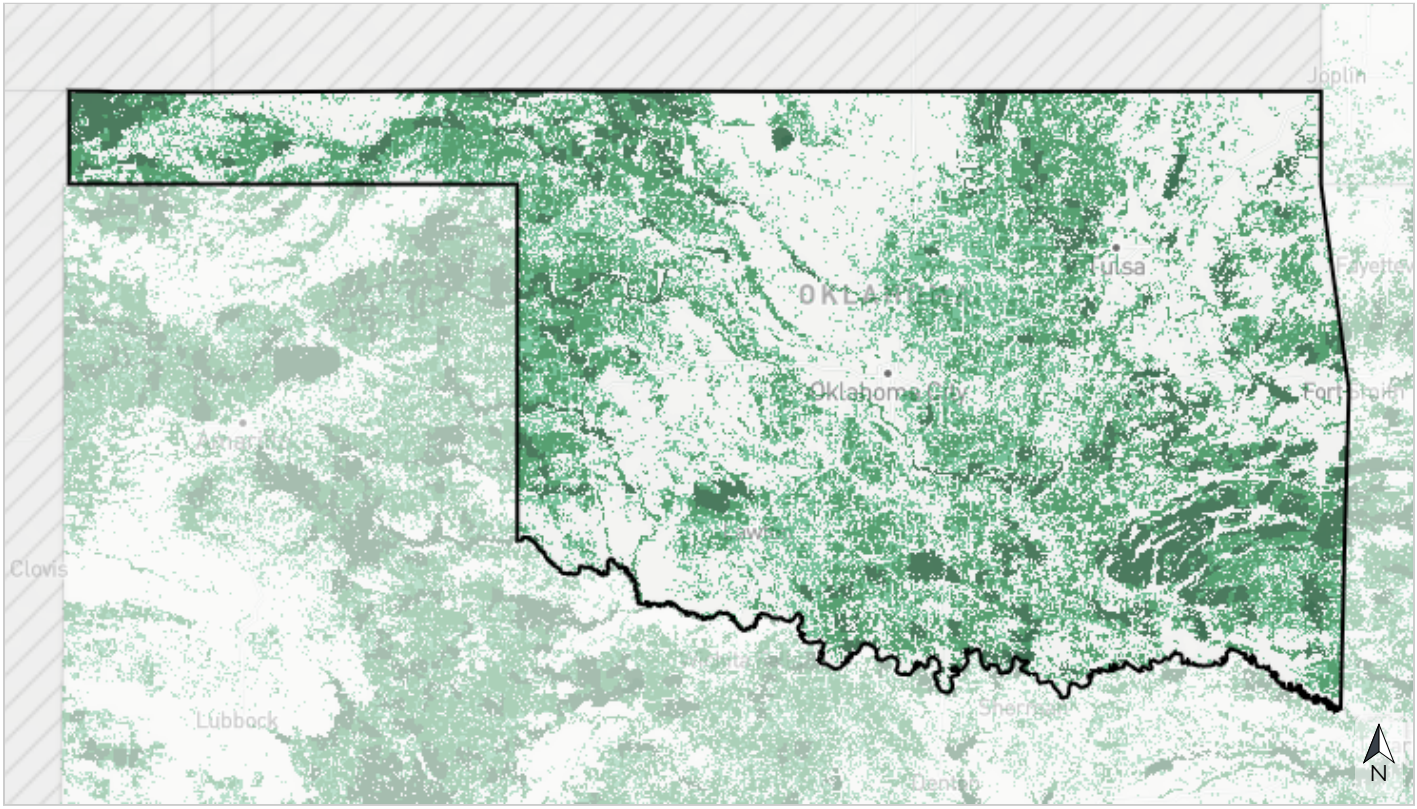
	Indicator Values	Acres	Percent of Area	
↑ High	Mostly natural and connected for ≥40 km	2,216	<0.1%	
	Mostly natural and connected for 5 to <40 km or partly natural and connected for ≥40 km	3,674	<0.1%	
	Mostly natural and connected for 1.9 to <5 km, partly natural and connected for 5 to <40 km, or developed 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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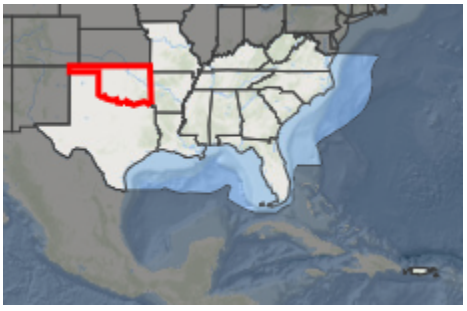

- Large core (>10,000 acres)
- Medium core (>1,000-10,000 acres)
- Small core (>100-1,000 acres)
- Not a core

Table 9: 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)	4,518,998	10.1%	
	Medium core (>1,000-10,000 acres)	9,472,253	21.2%	
	Small core (>100-1,000 acres)	7,178,261	16.0%	↑ In good condition
↓ Low	Not a core	23,565,474	52.7%	↓ 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

Interior Southeast grasslands

This indicator represents grasslands in the interior southeastern United States, which support important plants, birds, and pollinators. It includes grasslands with and without trees that are historically maintained by geology (e.g., outcrops, glades, and barrens), fire (e.g., Piedmont prairies), and/or the regular violent flooding on the banks of high-energy rivers known as “riverscour” (e.g, riverscour prairies). Known grasslands receive the highest scores, followed by bumble bee habitat buffers around known sites, areas in potentially compatible management, and restoration opportunities within grassland geology. This indicator combines data from multiple sources, including the Southeastern Grasslands Institute, Central Hardwoods Joint Venture, Rangeland Analysis Platform, and more.

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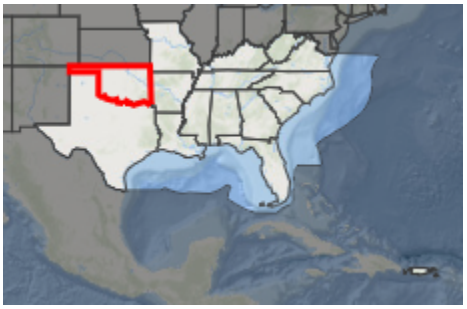

- Known grassland
- Known grassland buffer
- Potentially compatible management within grassland geology (undeveloped powerline right-of-way or perennial forbs and grasses)
- Potentially compatible management outside of grassland geology (undeveloped powerline right-of-way or perennial forbs and grasses)
- Grassland geology
- Grassland less likely

Table 10: Indicator values for Interior Southeast grasslands within Oklahoma. A good condition threshold is not yet defined for this indicator.

	Indicator Values	Acres	Percent of Area
↑ High	Known grassland	1,079	<0.1%
	Known grassland buffer	3,797	<0.1%
	Potentially compatible management within grassland geology (undeveloped powerline right-of-way or perennial forbs and grasses)	1,844,047	4.1%
	Potentially compatible management outside of grassland geology (undeveloped powerline right-of-way or perennial forbs and grasses)	677,727	1.5%
	Grassland geology	1,184,399	2.6%
↓ Low	Grassland less likely	1,133,056	2.5%
	Area not evaluated for this indicator	*39,890,882*	*89.2%*
	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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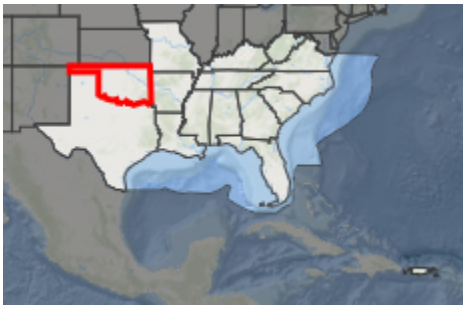


- Healthy playa and part of a larger cluster
- Healthy playa
- Other playa
- Not identified as a playa

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

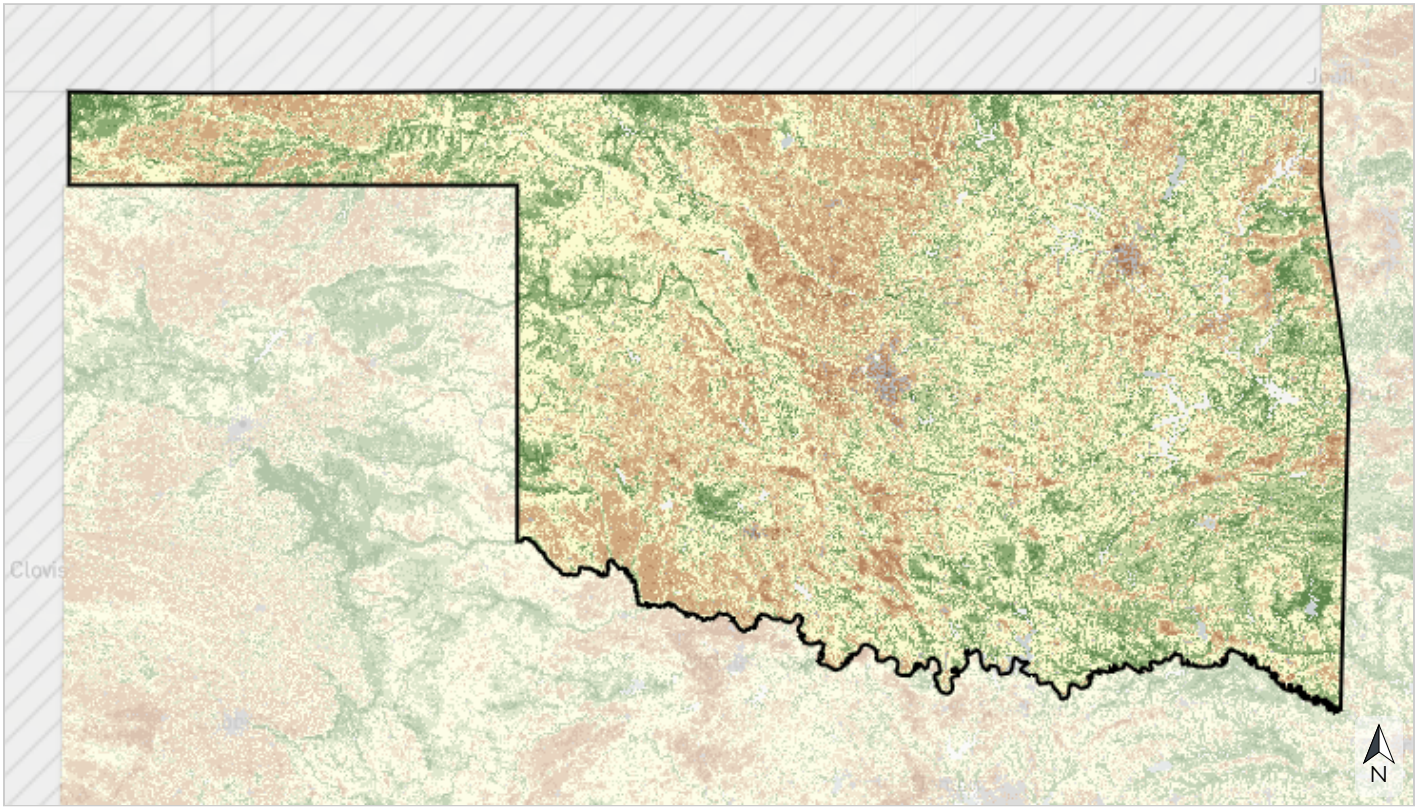
	Indicator Values	Acres	Percent of Area	
↑ High	Healthy playa and part of a larger cluster	4,752	<0.1%	
	Healthy playa	240	<0.1%	↑ In good condition
	Other playa	8,187	<0.1%	↓ Not in good condition
↓ Low	Not identified as a playa	21,287,724	47.6%	
	Area not evaluated for this indicator	*23,434,083*	*52.4%*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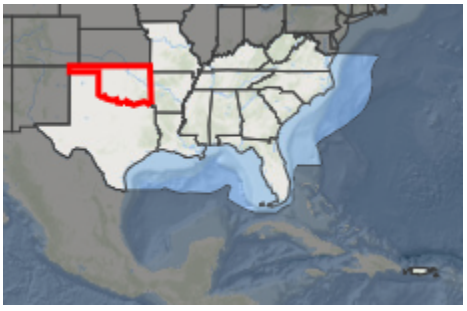

- Most resilient
- More resilient
- Slightly more resilient
- Average/median resilience
- Slightly less resilient
- Less resilient
- Least resilient
- Developed

Table 12: 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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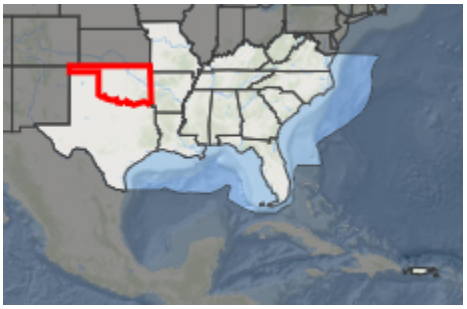

- 75+ acre urban park
- 50 to <75 acre urban park
- 30 to <50 acre urban park
- 10 to <30 acre urban park
- 5 to <10 acre urban park
- <5 acre urban park or not identified as an urban park

Table 13: 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	24,304	<0.1%
	50 to <75 acre urban park	2,115	<0.1%
	30 to <50 acre urban park	3,045	<0.1%
	10 to <30 acre urban park	4,866	<0.1%
	5 to <10 acre urban park	2,052	<0.1%
↓ Low	<5 acre urban park or not identified as an urban park	44,698,603	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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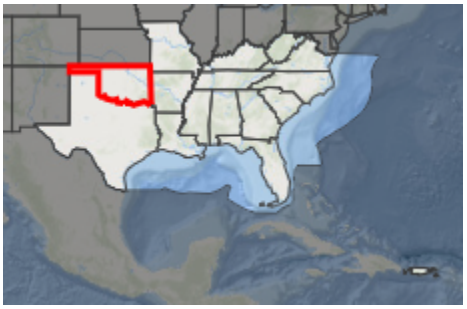

Habitat suitability for forested wetland bird umbrella species

- 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 14: 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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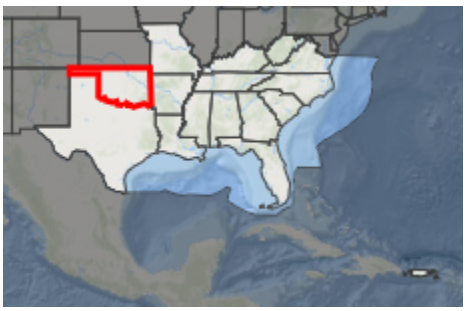


Ability of pine patch to support a population of umbrella bird species if managed in open condition

- Large enough to support a population of all 3 species
- Large enough to support a population of 2 species
- Large enough to support 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
- Too small and isolated to support a population of any species or not an upland pine patch

Table 15: Indicator values for West Coastal Plain & Ouachitas open pine birds within Oklahoma. A good condition threshold is not yet defined for this indicator.

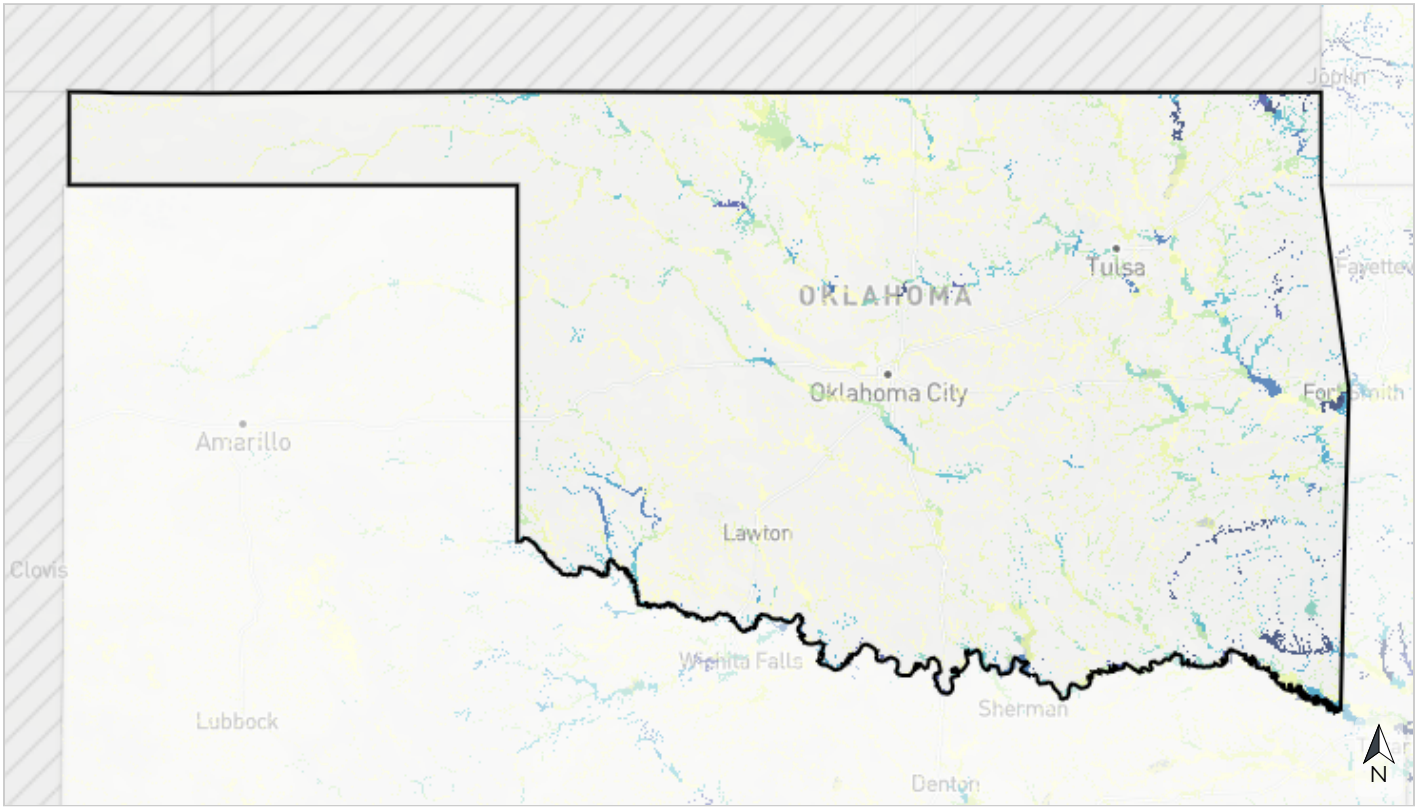
	Indicator Values: Ability of pine patch to support a population of umbrella bird species if managed in open condition	Acres	Percent of Area
↑ High	Large enough to support a population of all 3 species	823,726	1.8%
	Large enough to support a population of 2 species	364,909	0.8%
	Large enough to support 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	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 Species of Greatest Conservation Need (SGCN) observed within each 12-digit HUC subwatershed, including fish, mussels, snails, crayfish, and amphibians. SGCN are identified in State Wildlife Action Plans as most in need of conservation action. This indicator captures patterns of rare and endemic aquatic species diversity. It 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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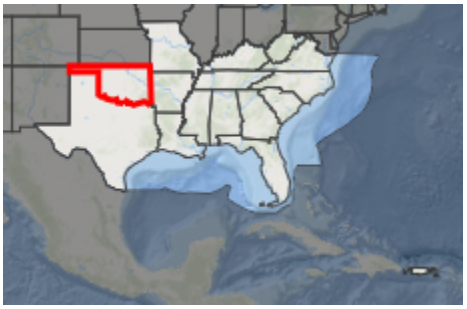


Number of aquatic animal Species of Greatest Conservation Need observed

- 8+ species
- 7 species
- 6 species
- 5 species
- 4 species
- 3 species
- 2 species
- 1 species
- 0 species
- Not identified as a floodplain (excluding West Virginia)

Table 16: Indicator values for imperiled aquatic species within Oklahoma. A good condition threshold is not yet defined for this indicator.

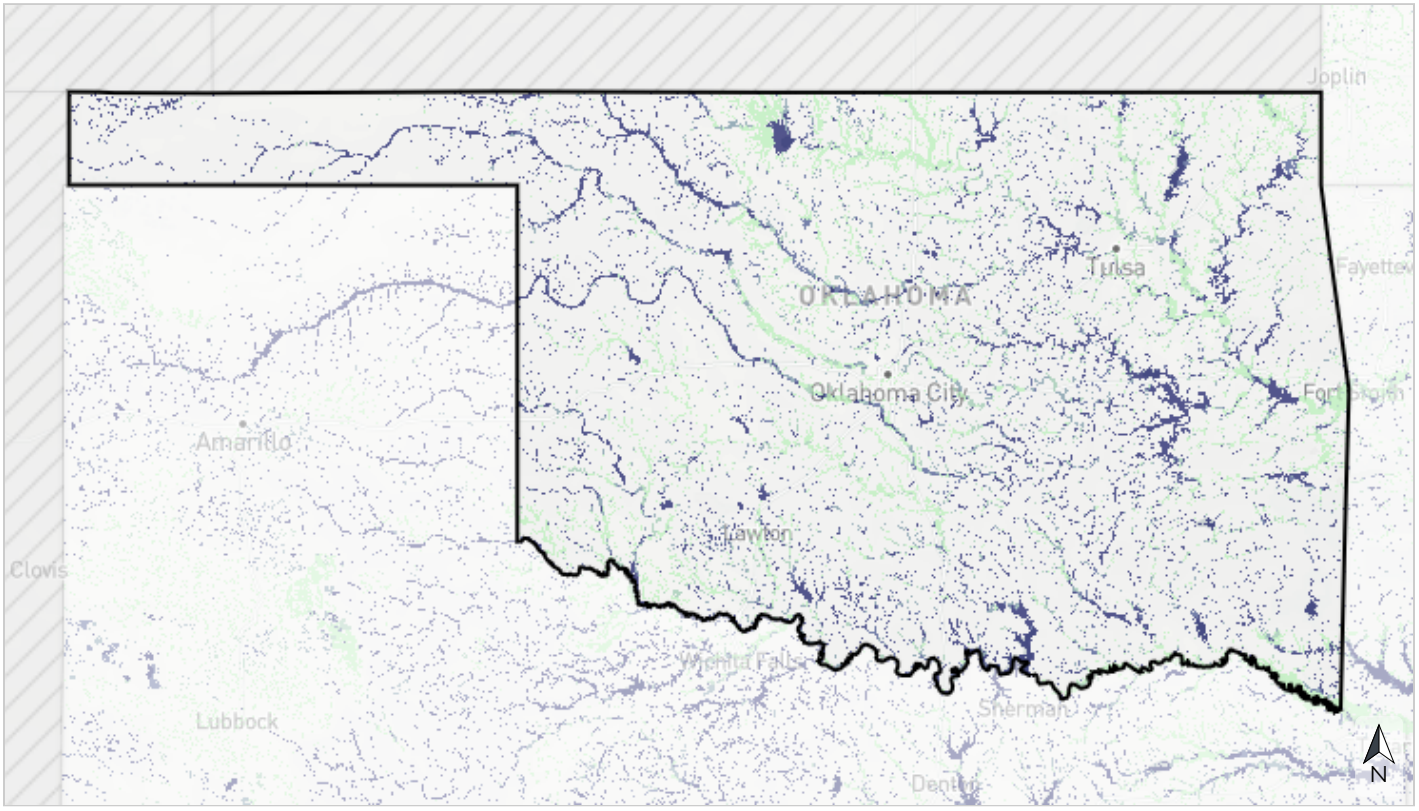
	Indicator Values: Number of aquatic animal Species of Greatest Conservation Need observed	Acres	Percent of Area
↑ High	8+ species	176,971	0.4%
	7 species	57,932	0.1%
	6 species	147,232	0.3%
	5 species	218,107	0.5%
	4 species	308,872	0.7%
	3 species	366,580	0.8%
	2 species	841,634	1.9%
	1 species	1,367,470	3.1%
	0 species	3,057,885	6.8%
↓ Low	Not identified as a floodplain (excluding West Virginia)	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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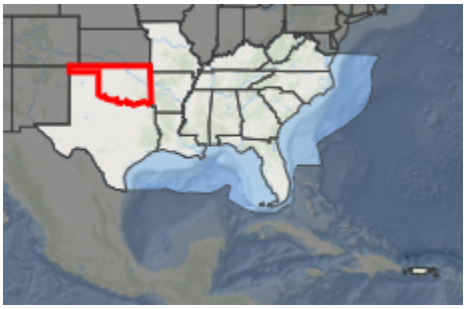


Percent natural landcover within the estimated floodplain, by catchment

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

Table 17: Indicator values for natural landcover in floodplains within Oklahoma. Good condition thresholds reflect the range of indicator values that occur in healthy, functioning ecosystems.

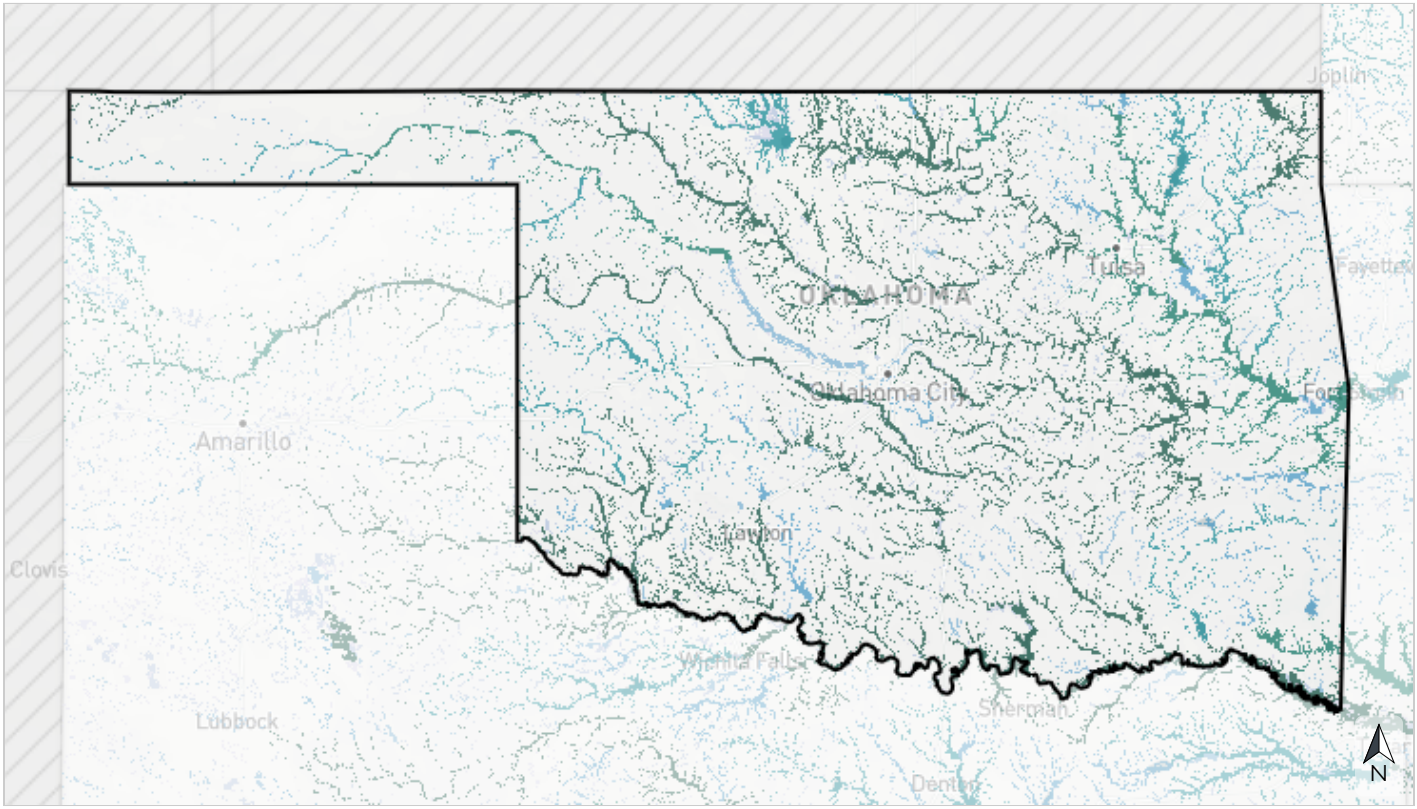
	Indicator Values: Percent natural landcover within the estimated floodplain, by catchment	Acres	Percent of Area	
↑ High	>90% natural landcover	2,194,435	4.9%	↑ In good condition
	>80-90% natural landcover	752,944	1.7%	
	>70-80% natural landcover	646,002	1.4%	↓ Not in good condition
	>60-70% natural landcover	601,066	1.3%	
	≤60% natural landcover	2,348,237	5.2%	
↓ 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

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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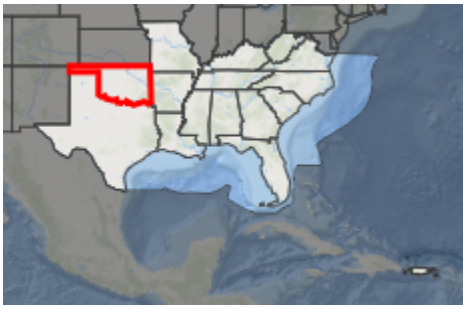


Number of connected stream size classes

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

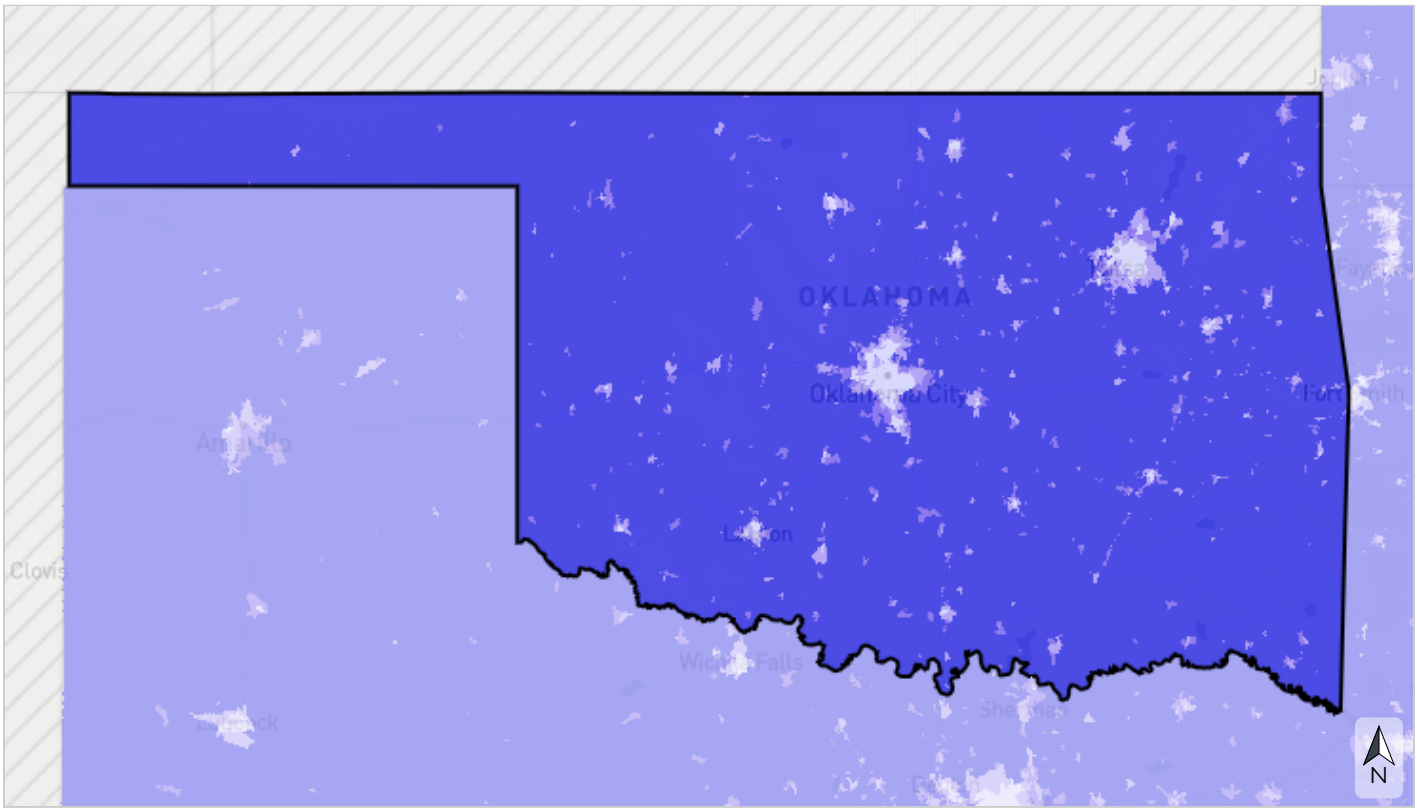
	Indicator Values: Number of connected stream size classes	Acres	Percent of Area	
↑ High	7 size classes	3,442,603	7.7%	
	6 size classes	861,312	1.9%	
	5 size classes	837,992	1.9%	
	4 size classes	418,159	0.9%	↑ In good condition
	3 size classes	274,027	0.6%	↓ Not in good condition
	2 size classes	370,084	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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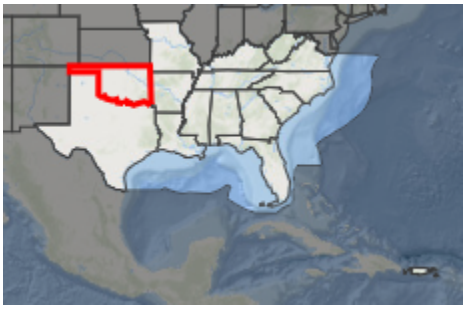


Percent of catchment permeable

- >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 19: 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)	42,715,030	95.5%	↑ In good condition
	>90-95% permeable (likely declining water quality and supporting most aquatic species)	864,534	1.9%	↓ Not in good condition
	>70-90% permeable (likely degraded water quality and not supporting many aquatic species)	786,356	1.8%	
↓ Low	≤70% permeable (likely degraded instream flow, water quality, and aquatic species communities)	369,067	0.8%	
	Total area	**44,734,986**	**100%**	

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

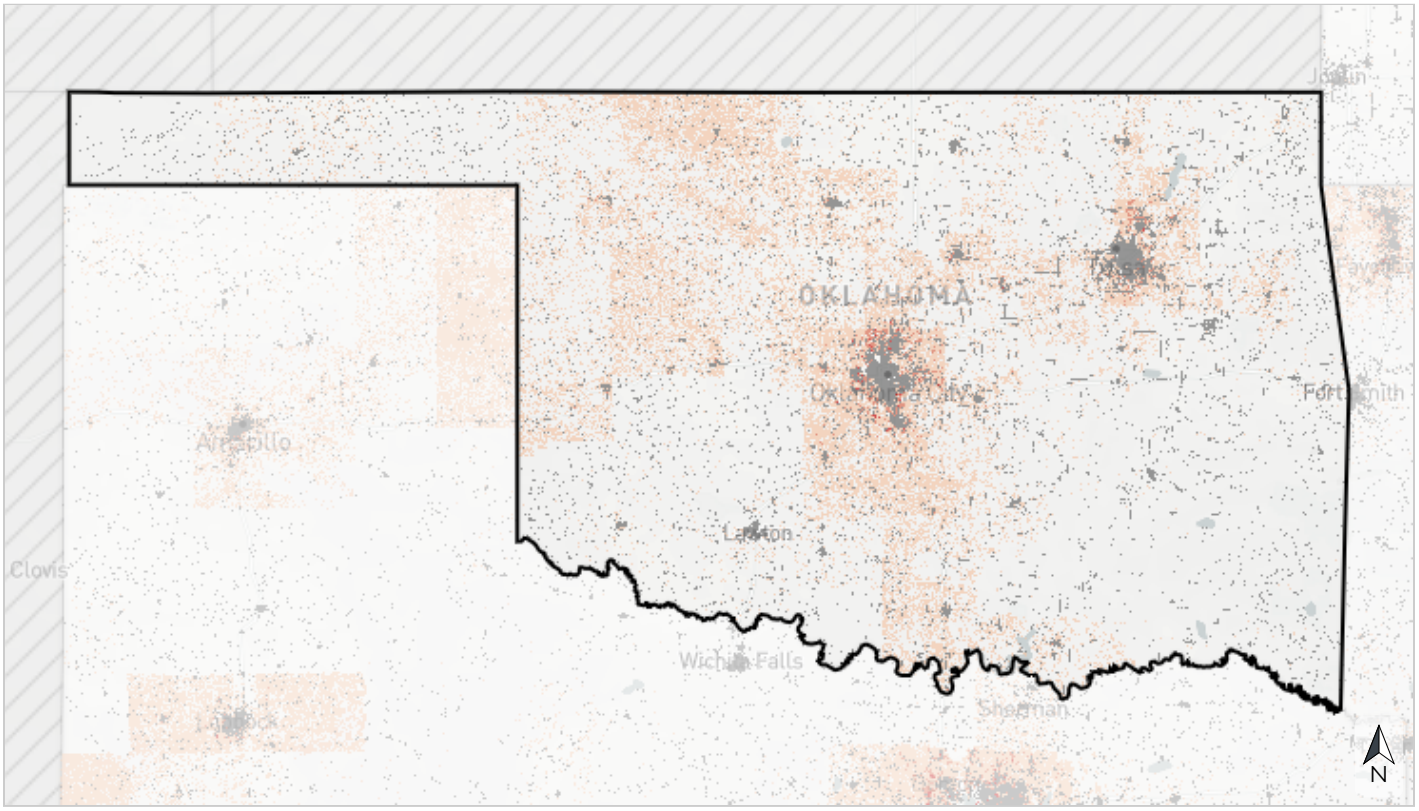
Threats

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.



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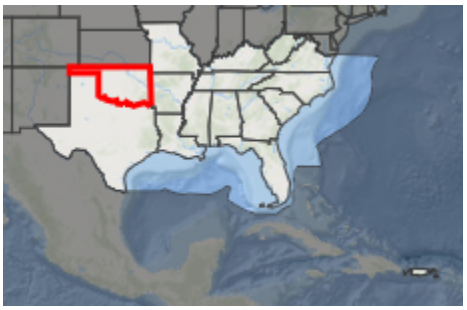


Probability of urbanization by 2060

- 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

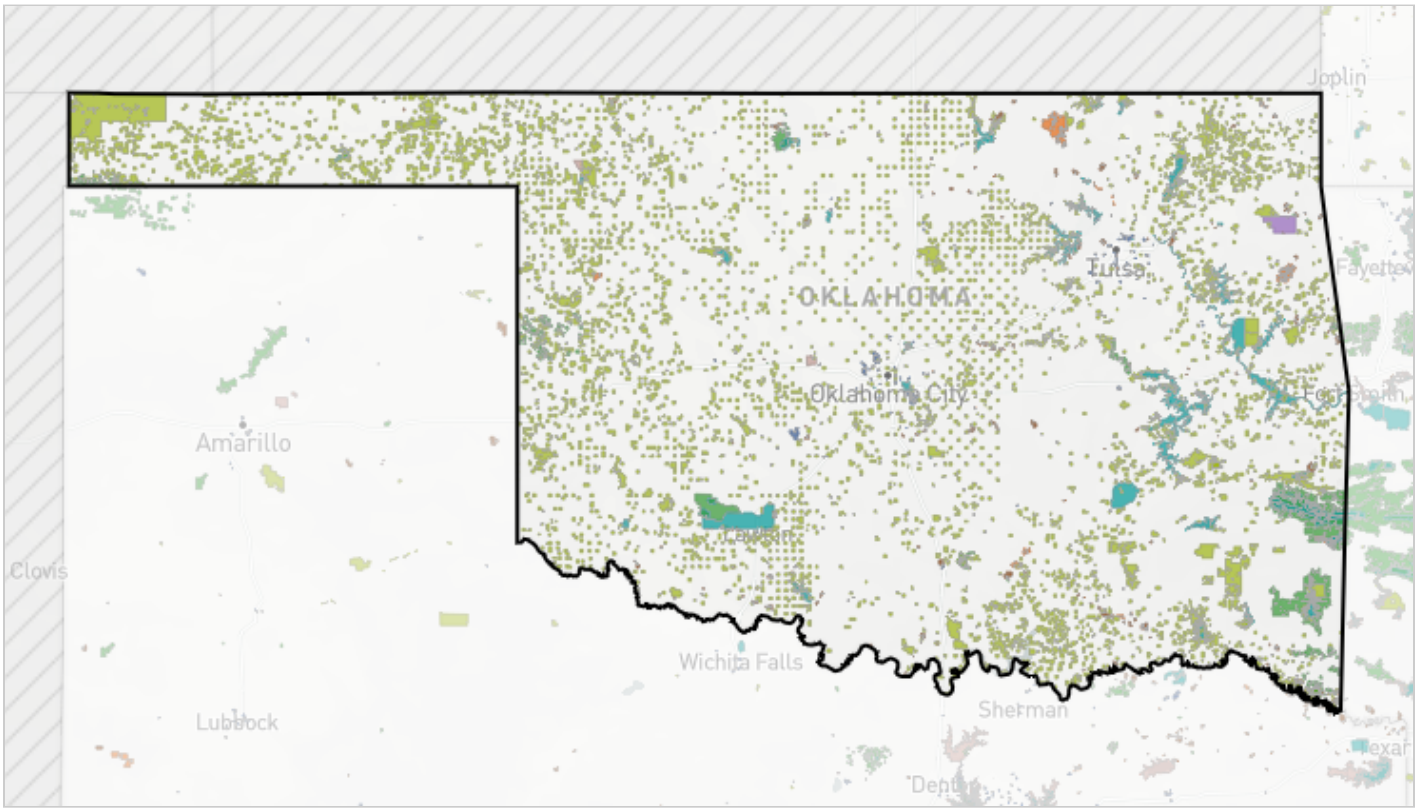
5.7% of this area is already urban in 2021, and an additional 15.0% has at least a moderate probability of urbanizing by 2060.

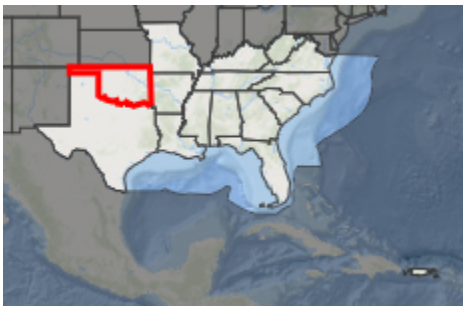
Table 20: Extent of projected urbanization by decade within Oklahoma. Values from FUTURES model projections for the contiguous United States developed by the Center for Geospatial Analytics, NC State University. 2060 corresponds to the SECAS goal: a 10% or greater improvement in the health, function, 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



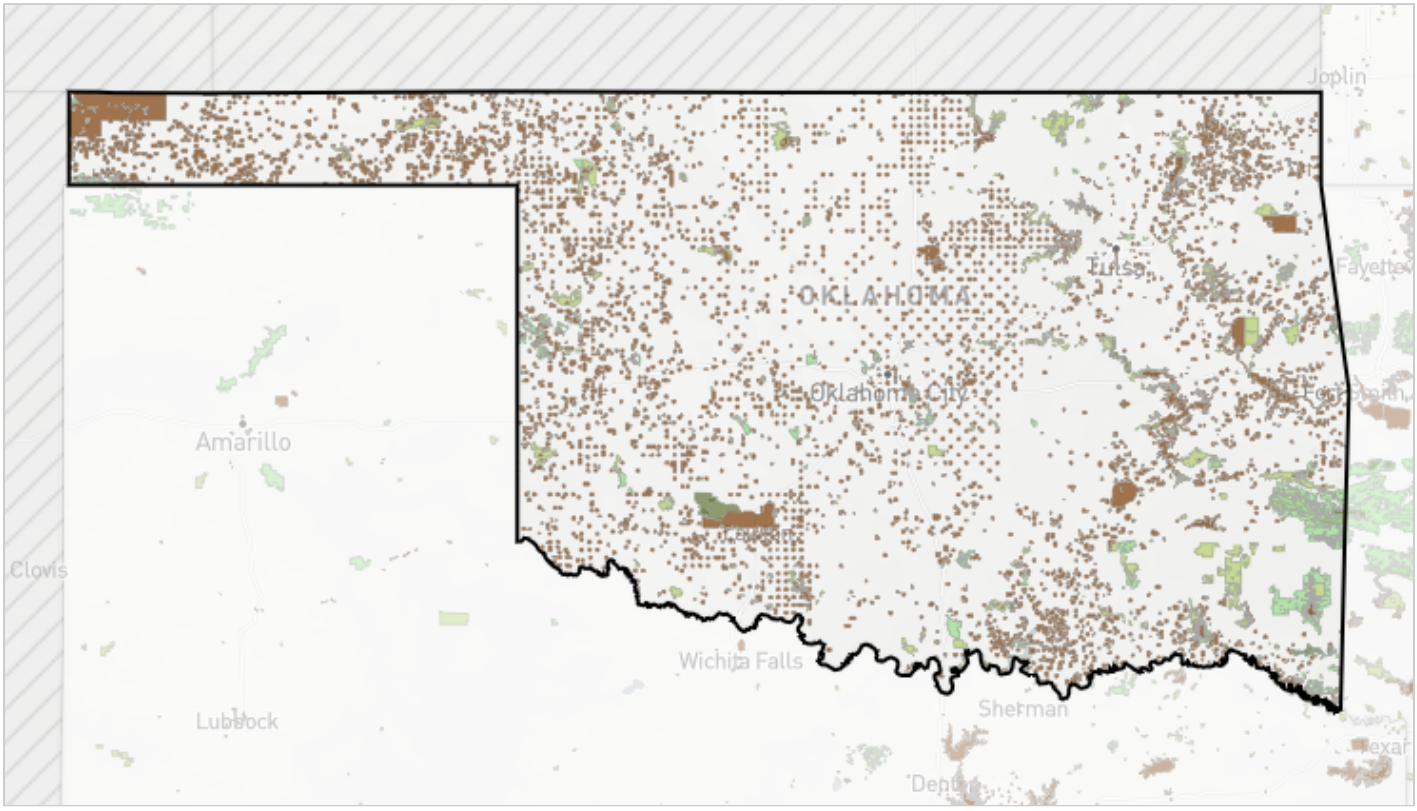


- Federal
- State/province
- Territorial
- Regional
- Local
- Joint
- Private non-profit conserved lands
- Private conservation land
- Tribal
- Designation
- Ownership unknown

Table 21: Extent of ownership class within Oklahoma. Protected areas are derived from the Protected Areas Database of the United States (PAD-US 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 v3.0 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	522,095	1.2%
State/province	4,094,135	9.2%
Regional	723	<0.1%
Local	48,791	0.1%
Private non-profit conserved lands	72,120	0.2%
Private conservation land	104,069	0.2%
Tribal	37,001	<0.1%
Designation	678,702	1.5%
Ownership unknown	10,895	<0.1%

Land protection status



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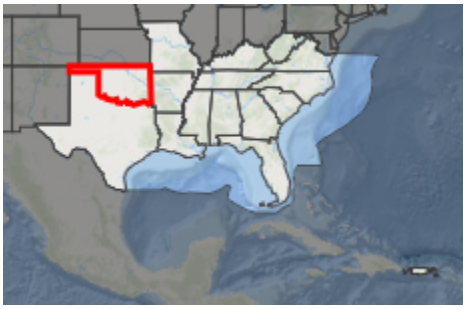

- Managed for biodiversity (disturbance events proceed or are mimicked)
- Managed for biodiversity (disturbance events suppressed)
- Managed for multiple uses (subject to extractive uses such as mining or logging, or OHV use)
- No known mandate for biodiversity protection

Table 22: Extent of land protection status within Oklahoma. Protected areas are derived from the Protected Areas Database of the United States (PAD-US 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 v3.0 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)	118,716	0.3%
Managed for biodiversity (disturbance events suppressed)	942,820	2.1%
Managed for multiple uses (subject to extractive uses such as mining or logging, or OHV use)	642,250	1.4%
No known mandate for biodiversity protection	3,864,745	8.6%

Protected Areas

- CLO Lands (The Commissioners of the Land Office; 3,238,932 acres)
- Ouachita National Forest (USDA FOREST SERVICE; 353,283 acres)
- Eufaula Lake (101,458 acres)
- Fort Sill (93,725 acres)
- Honobia Creek Wildlife Management Area (Department of Wildlife Conservation; 80,896 acres)
- Robert S. Kerr Lake (62,676 acres)
- WICHITA MOUNTAINS WILDLIFE REFUGE (Fee; 59,021 acres)
- Cibola National Forest (USDA FOREST SERVICE; 46,339 acres)
- McAlester AAP (44,913 acres)
- Indian Nations (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 (33,482 acres)
- Greater Flint Hills (The Nature Conservancy; 28,570 acres)
- Oologah Lake (28,333 acres)
- Beaver River Wildlife Management Area (Department of Wildlife Conservation; 26,749 acres)

- Winding Stair Mountain (26,617 acres)
- Eufaula Wildlife Management Area (Department of Wildlife Conservation; 23,829 acres)
- Copan Wildlife Management Area (Department of Wildlife Conservation; 23,456 acres)
- Keystone Wildlife Management Area (Department of Wildlife Conservation; 22,405 acres)
- Keystone Lake (22,342 acres)
- James Collins Wildlife Management Area (Department of Wildlife Conservation; 21,498 acres)
- SALT PLAINS NATIONAL WILDLIFE REFUGE (Fee; 21,182 acres)
- Fort Gibson Public Hunting Area & Waterfowl Refuge Portion (Department of Wildlife Conservation; 20,575 acres)
- Packsaddle Wildlife Management Area (Department of Wildlife Conservation; 20,513 acres)
- ... and 1,491 more protected areas ...

Nearby land trusts

Click here to search for land trusts within 500 miles of this area on the Land Trust Alliance website.

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 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.