Southeast Conservation Blueprint Summary

for Tennessee

Created 11/20/2025

Table of Contents

The Southeast Conservation Blueprint 2025

Southeast Conservation Adaptation Strategy

[THIS PAGE INTENTIONALLY LEFT BLANK]

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 2025 Development Process
- View and download the Blueprint data and make maps on the Blueprint page of the SECAS Atlas

We're here to help!

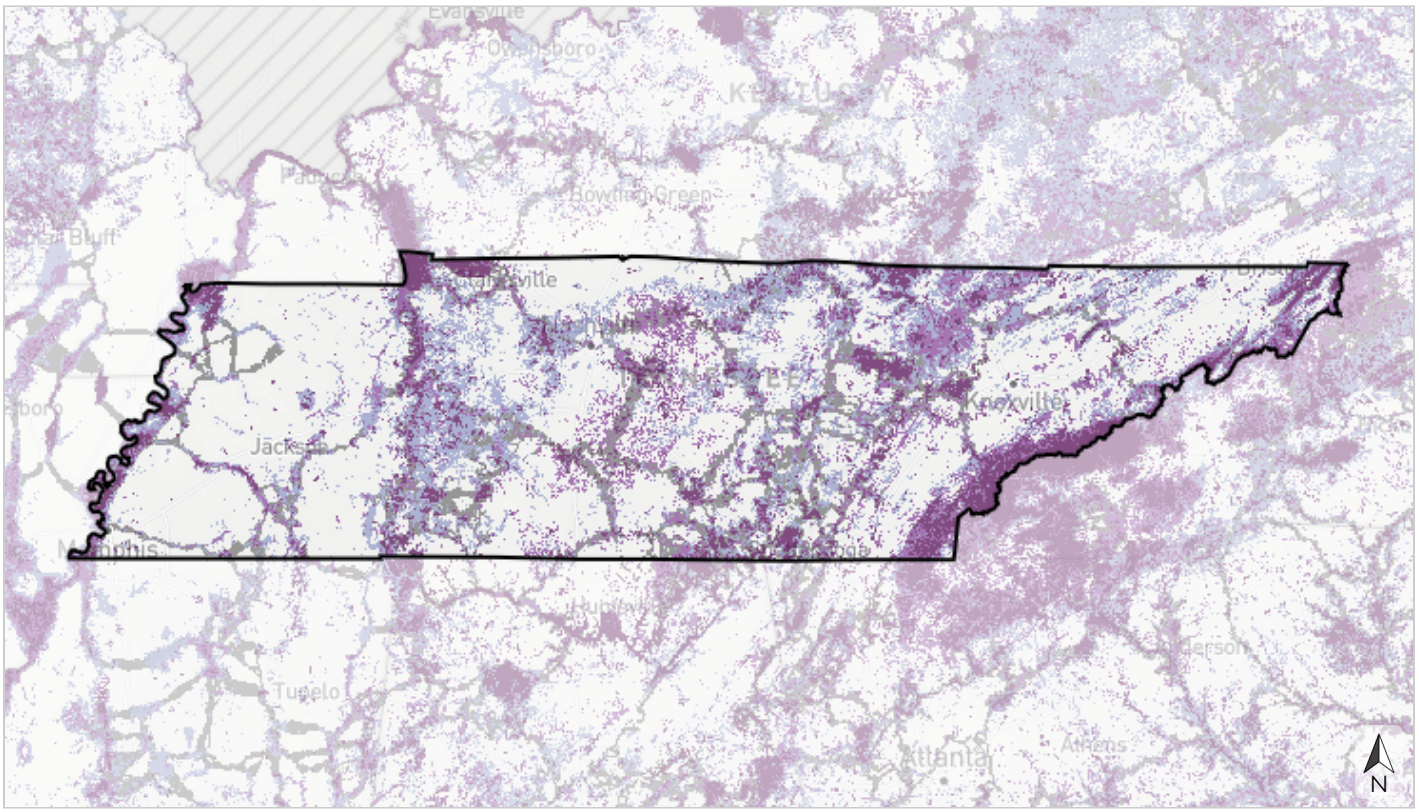
- Do you have a question about the Blueprint?
- Would you like help using the Blueprint to support a proposal or inform a decision?
- Do you have a suggestion on how to improve the Blueprint? The Blueprint and its inputs are regularly revised based on input from people like you.
- Do you have feedback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

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.

Southeast Blueprint Priorities



55 110 219 miles

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.

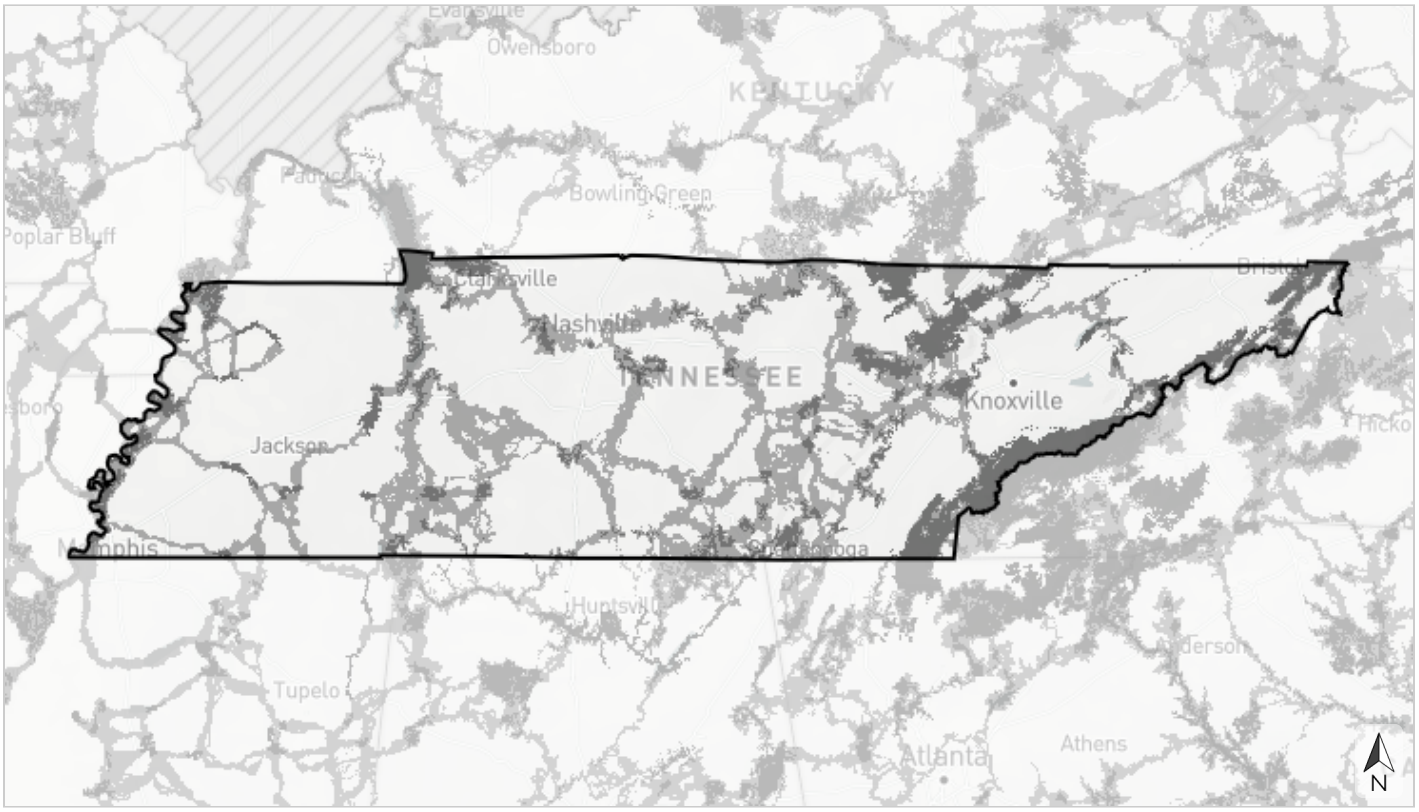
Table 1: Extent of each Blueprint priority category within Tennessee.

Priority Category	Acres	Percent of Area
Highest priority	2,549,658	9.5%
High priority	3,681,727	13.7%
Medium priority	4,749,782	17.6%
Priority connections	2,022,453	7.5%
Lower priority	13,959,151	51.8%
Total area	**26,962,771**	**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.



55 110 219 miles

Hubs
Corridors

Table 2: Extent of hubs and corridors within Tennessee.

Type	Acres	Percent of Area
Hubs	2,636,348	9.8%
Corridors	5,537,862	20.5%
Not a hub or corridor	18,788,561	69.7%
Total area	**26,962,771**	**100%**

Indicator Summary

Table 3: Terrestrial indicators.

Indicator	Present
East Coastal Plain open pine birds	-
Fire frequency	✓
Grassland & savanna extent	✓
Grassland & savanna restoration	✓
Greenways & trails	✓
Imperiled amphibians & reptiles	✓
Imperiled mammals	✓
Intact habitat cores	✓
Landscape condition	✓
Mississippi Alluvial Valley forest birds - protection	✓
Mississippi Alluvial Valley forest birds - reforestation	✓
Potential access to parks	✓
Resilient terrestrial sites	✓
River cane restoration	✓
South Atlantic forest birds	-
South Atlantic low-urban historic landscapes	-
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
Atlantic migratory fish habitat	-
Floodplain inundation	✓
Gulf migratory fish connectivity	-
Imperiled aquatic species	✓
Lakes & reservoirs	✓
Natural landcover in floodplains	✓
Network complexity	✓
Permeable surface	✓

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.

Basemap credits: © Mapbox © OpenStreetMap Improve this basemap

55 110 219 miles

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

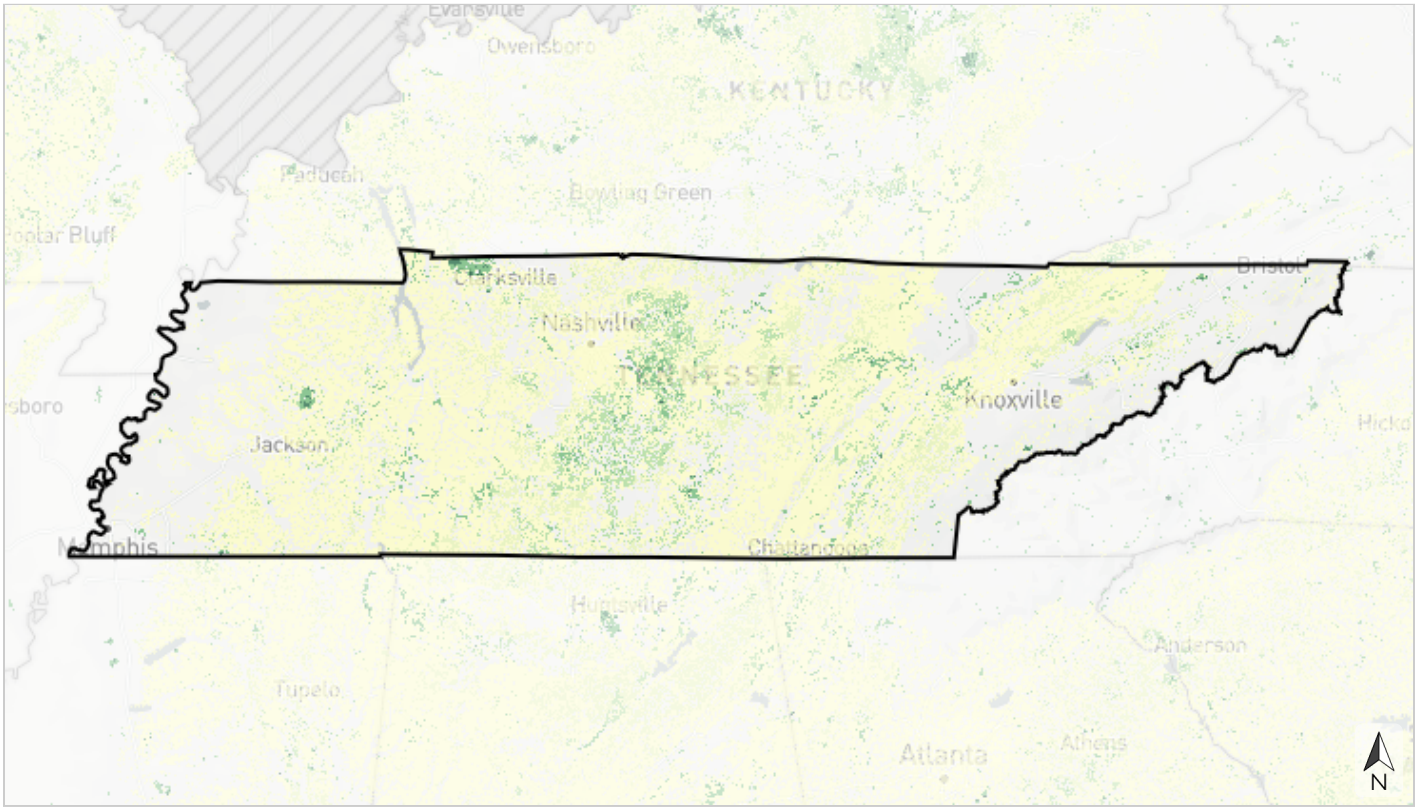
	Indicator Values	Acres	Percent of Area	
↑ High	Burned 3+ times from 2013-2021	3,451	<0.1%	
	Burned 2 times from 2013-2021	13,359	<0.1%	↑ In good condition
	Burned 1 time from 2013-2021	249,723	0.9%	↓ Not in good condition
↓ Low	Not burned from 2013-2021 or row crop	26,696,239	99.0%	
	Total area	**26,962,771**	**100%**	

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

Terrestrial

Grassland & savanna extent

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



55 110 219 miles

- 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 grassland/savanna hub
- Potential grassland/savanna outside grassland/savanna hub
- Historic grassland/savanna
- Not identified as grassland/savanna

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

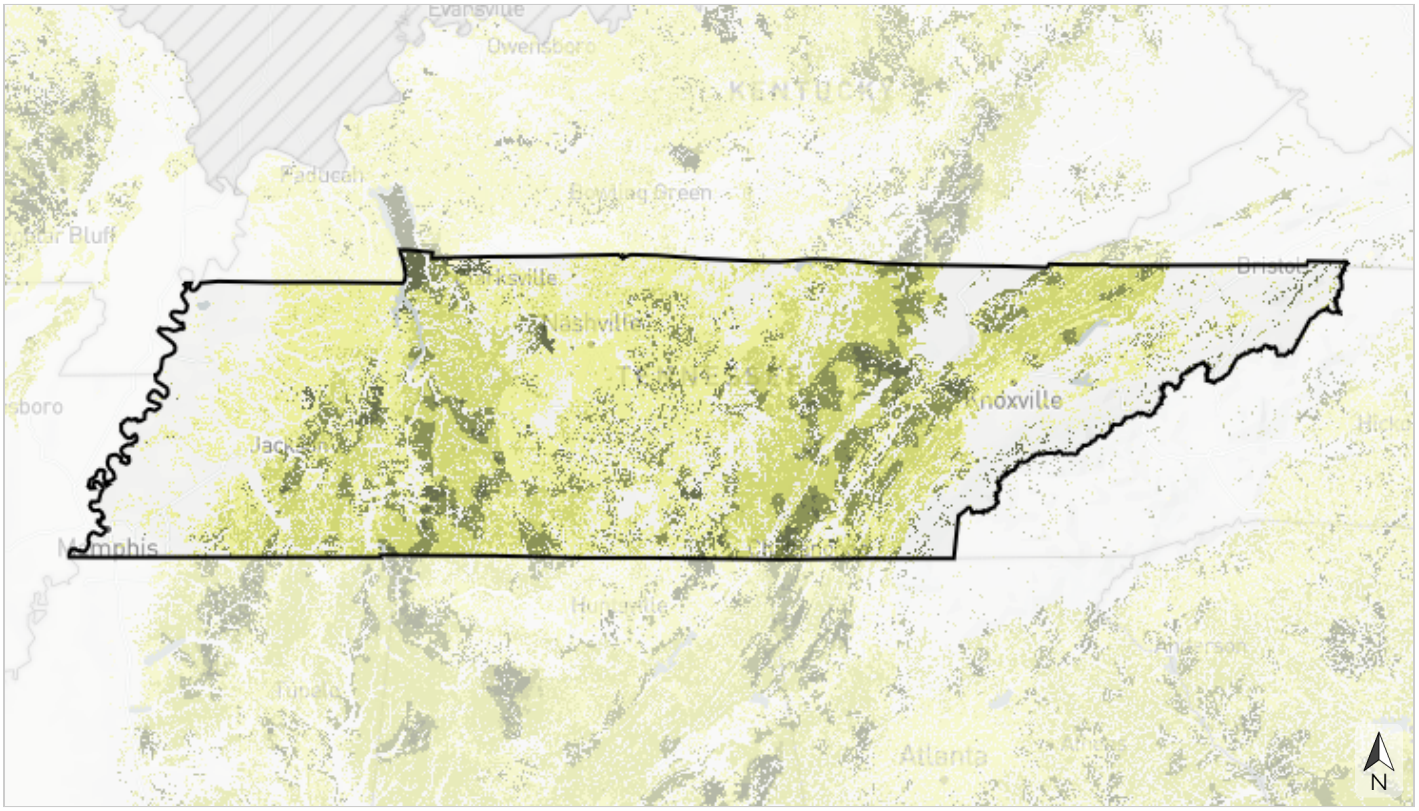
	Indicator Values	Acres	Percent of Area	
↑ High	Known grassland/savanna	5,829	<0.1%	
	Likely grassland/savanna >10 acres	50,777	0.2%	
	Likely grassland/savanna ≤10 acres	24,389	<0.1%	↑ In good condition
	Pollinator buffer around known or likely grassland/savanna	386,563	1.4%	↓ Not in good condition
	Potential grassland/savanna in grassland/savanna hub	1,566,423	5.8%	
	Potential grassland/savanna outside grassland/savanna hub	2,309,722	8.6%	
	Historic grassland/savanna	10,934,928	40.6%	
↓ Low	Not identified as grassland/savanna	11,684,141	43.3%	
	Total area	**26,962,771**	**100%**	

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

Terrestrial

Grassland & savanna restoration

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



Basemap credits: © Mapbox © OpenStreetMap Improve this basemap

219 miles
55
110

Restoration priority

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

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

	Indicator Values: Restoration priority	Acres	Percent of Area
↑ High	Highest (in a grassland/savanna hub, in a protected area with management potential, in a historic patch >10 acres)	572,115	2.1%
	Very high (in a grassland/savanna hub, unprotected landcover with good restoration potential, in a historic patch >10 acres)	2,649,624	9.8%
	High (outside a grassland/savanna hub, in a protected area with management potential, in a historic patch >10 acres)	64,477	0.2%
	Medium (outside a grassland/savanna hub, unprotected landcover with good restoration potential, in a historic patch >10 acres)	4,123,017	15.3%
	Low (other historic grassland/savanna)	7,634,015	28.3%
	Very low (already known or likely grassland/savanna)	80,995	0.3%
↓ Low	Lowest (not identified as historic grassland/savanna)	11,838,528	43.9%
	Total area	**26,962,771**	**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.

Basemap credits: © Mapbox © OpenStreetMap Improve this basemap

55 110 219 miles

- 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 Tennessee. Good condition thresholds reflect the range of indicator values that occur in healthy, functioning ecosystems.

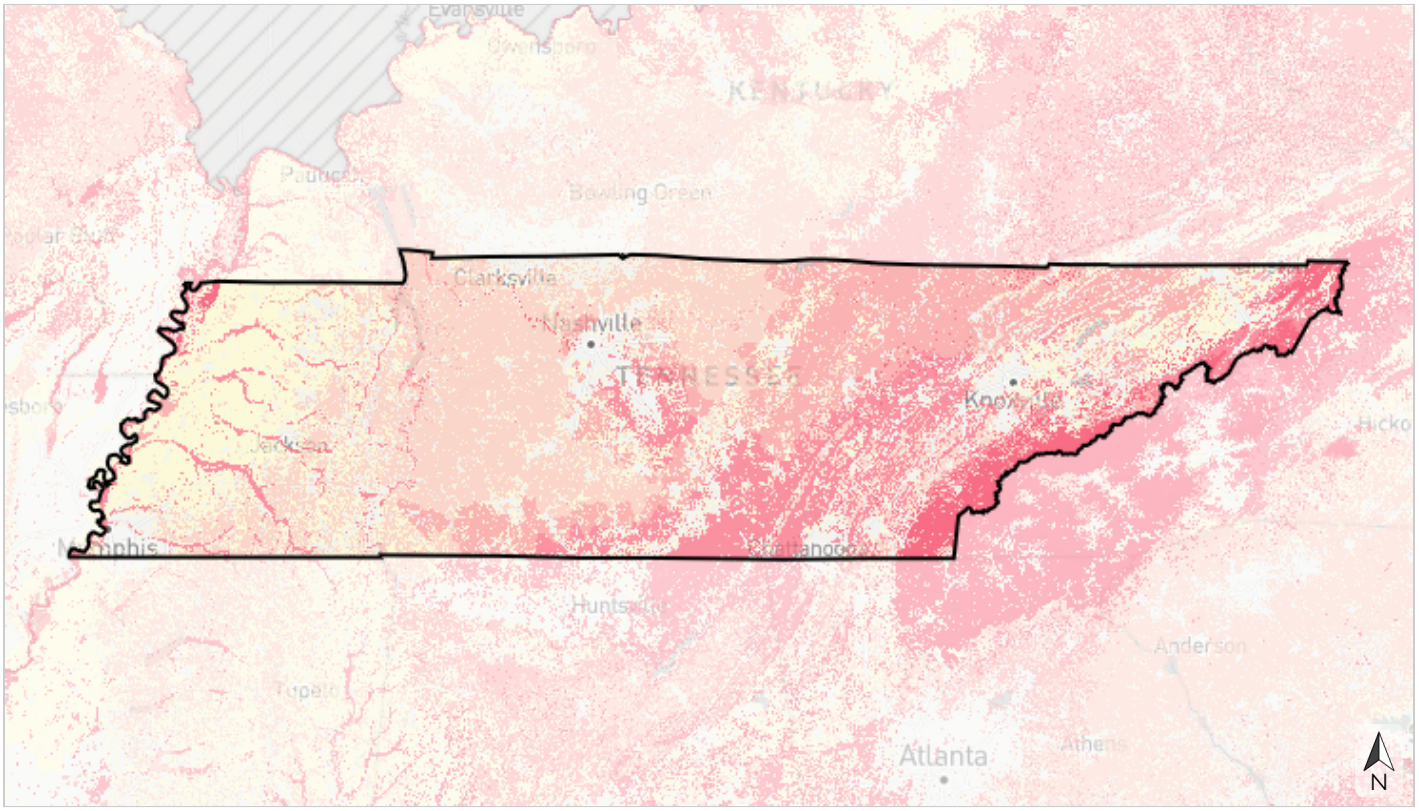
	Indicator Values	Acres	Percent of Area	
↑ High	Mostly natural and connected for ≥40 km	15,883	<0.1%	
	Mostly natural and connected for 5 to <40 km or partly natural and connected for ≥40 km	15,725	<0.1%	
	Mostly natural and connected for 1.9 to <5 km, partly natural and connected for 5 to <40 km, or developed and connected for ≥40 km	8,496	<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	7,190	<0.1%	↑ In good condition
	Partly natural and connected for <1.9 km or developed and connected for 1.9 to <5 km	4,006	<0.1%	↓ Not in good condition
	Developed and connected for <1.9 km	7,245	<0.1%	
	Sidewalk	18,545	<0.1%	
↓ Low	Not identified as a trail, sidewalk, or other path	26,885,680	99.7%	
	Total area	**26,962,771**	**100%**	

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

Terrestrial

Imperiled amphibians & reptiles

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



Basemap credits: © Mapbox © OpenStreetMap Improve this basemap

55 110 219 miles

Importance for range-restricted species

- Highest importance (top 5% of larger analysis area)
- Very high importance (upper 5-10% of larger analysis area)
- High importance (upper 10-20% of larger analysis area)
- Medium importance (above average in larger analysis area)
- Low importance (below average in larger analysis area)
- Developed landcover or no potential habitat

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

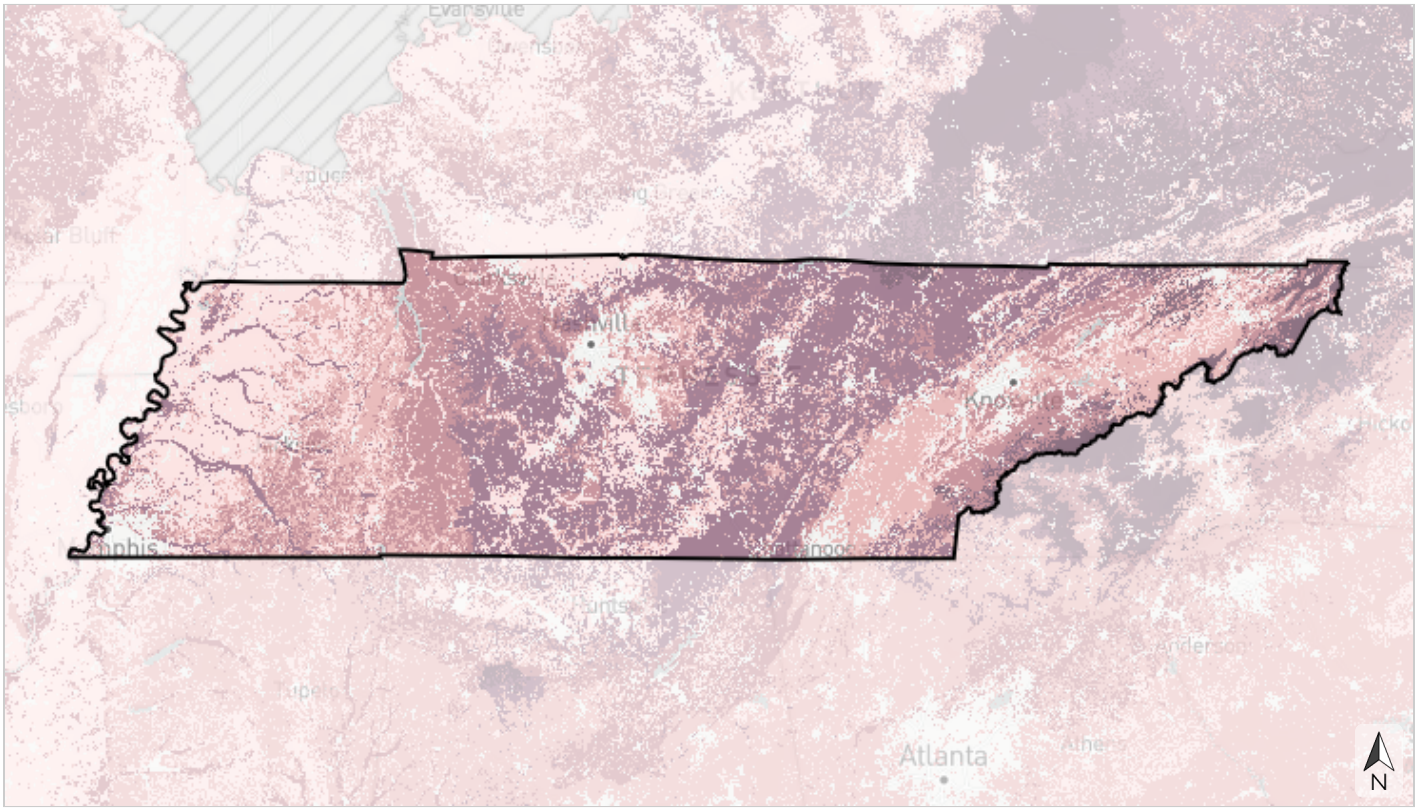
	Indicator Values: Importance for range-restricted species	Acres	Percent of Area
↑ High	Highest importance (top 5% of larger analysis area)	1,300,389	4.8%
	Very high importance (upper 5-10% of larger analysis area)	3,338,439	12.4%
	High importance (upper 10-20% of larger analysis area)	3,619,696	13.4%
	Medium importance (above average in larger analysis area)	7,125,638	26.4%
	Low importance (below average in larger analysis area)	5,928,592	22.0%
↓ Low	Developed landcover or no potential habitat	5,650,017	21.0%
	Total area	**26,962,771**	**100%**

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

Terrestrial

Imperiled mammals

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



55 110 219 miles

Importance for range-restricted species

- Highest importance (top 5% of larger analysis area)
- Very high importance (upper 5-10% of larger analysis area)
- High importance (upper 10-20% of larger analysis area)
- Medium importance (above average in larger analysis area)
- Low importance (below average in larger analysis area)
- Developed landcover or no potential habitat

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

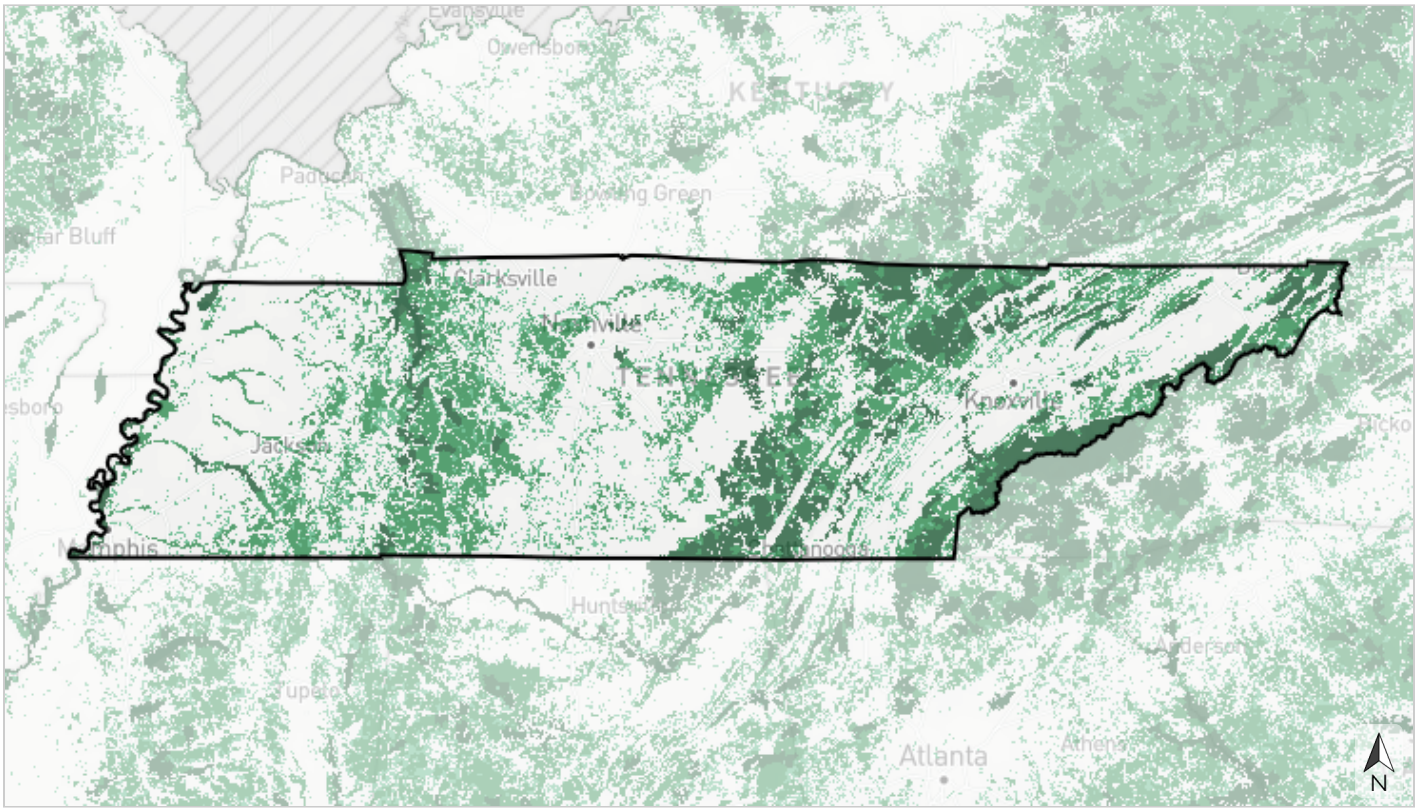
	Indicator Values: Importance for range-restricted species	Acres	Percent of Area
↑ High	Highest importance (top 5% of larger analysis area)	853,922	3.2%
	Very high importance (upper 5-10% of larger analysis area)	6,372,380	23.6%
	High importance (upper 10-20% of larger analysis area)	4,504,996	16.7%
	Medium importance (above average in larger analysis area)	6,157,136	22.8%
	Low importance (below average in larger analysis area)	5,583,094	20.7%
↓ Low	Developed landcover or no potential habitat	3,491,243	12.9%
	Total area	**26,962,771**	**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.



55 110 219 miles

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

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

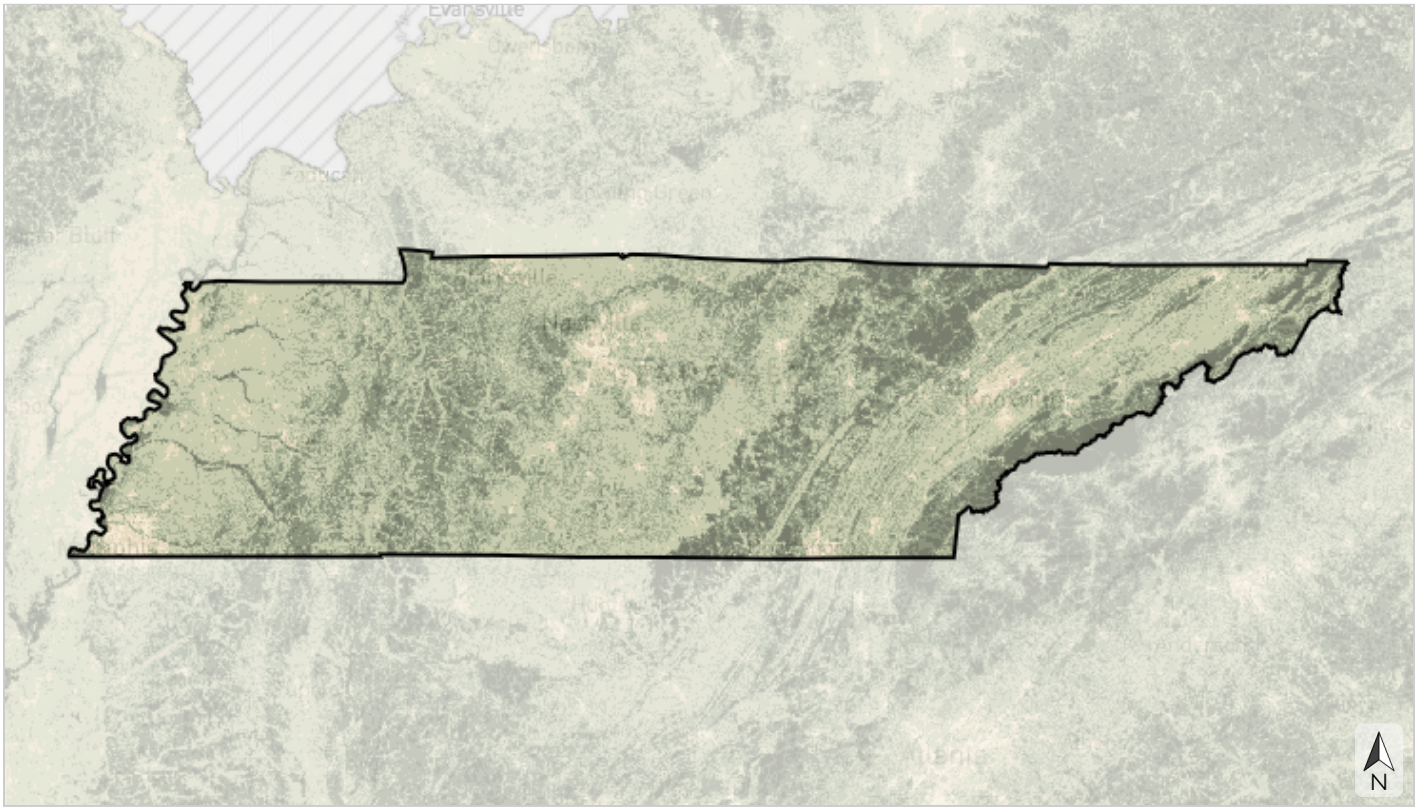
	Indicator Values	Acres	Percent of Area	
↑ High	Large core (>10,000 acres)	3,288,416	12.2%	
	Medium core (>1,000-10,000 acres)	4,734,601	17.6%	
	Small core (>100-1,000 acres)	2,463,111	9.1%	↑ In good condition
↓ Low	Not a core	16,476,644	61.1%	↓ Not in good condition
	Total area	**26,962,771**	**100%**	

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 combines data from multiple sources, including the National Land Cover Database; various data on grasslands, mines, quarries, and reservoirs; ideas from the Florida Critical Lands and Waters Identification Project's approach for evaluating land use intensity; and more.



55 110 219 miles

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

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

	Indicator Values	Acres	Percent of Area	
↑ High	Very natural landscape	1,655,940	6.1%	
	Natural landscape	5,258,713	19.5%	
	Mostly natural landscape	8,372,042	31.1%	↑ In good condition
	Partly natural landscape	10,360,907	38.4%	↓ Not in good condition
	Altered landscape	1,077,393	4.0%	
↓ Low	Heavily altered landscape	237,777	0.9%	
	Total area	**26,962,771**	**100%**	

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

Terrestrial

Mississippi Alluvial Valley forest birds - protection

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

55 110 219 miles

Priority of forest breeding bird habitat patch for future protection

- Score >90-100 (highest priority)
- Score >80-90
- Score >70-80
- Score >60-70
- Score >50-60
- Score >40-50
- Score >30-40
- Score >20-30
- Score >10-20
- Score >0-10 (low priority)
- Score 0 (not a priority)

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

	Indicator Values: Priority of forest breeding bird habitat patch for future protection	Acres	Percent of Area
↑ High	Score >90-100 (highest priority)	6,580	<0.1%
	Score >80-90	3,060	<0.1%
	Score >70-80	429	<0.1%
	Score >60-70	1,590	<0.1%
	Score >50-60	9,199	<0.1%
	Score >40-50	1,909	<0.1%
	Score >30-40	3,577	<0.1%
	Score >20-30	4,443	<0.1%
	Score >10-20	9,896	<0.1%
	Score >0-10 (low priority)	1,194	<0.1%
↓ Low	Score 0 (not a priority)	503,656	1.9%
	Area not evaluated for this indicator	*26,417,237*	*98.0%*
	Total area	**26,962,771**	**100%**

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

Terrestrial

Mississippi Alluvial Valley forest birds - reforestation

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

Basemap credits: © Mapbox © OpenStreetMap Improve this basemap

55 110 219 miles

Likelihood that reforestation will contribute to forest breeding bird habitat needs

- Most likely (≥90th percentile)
- Most likely (80th to <90th percentile)
- More likely (70th to <80th percentile)
- Less likely (60th to <70th percentile)
- Least likely (50th to <60th percentile)
- Least likely (40th to <50th percentile)
- Least likely (30th to <40th percentile)
- Least likely (20th to <30th percentile)
- Least likely (10th to <20th percentile)
- Least likely (<10th percentile)
- Not a priority for reforestation

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

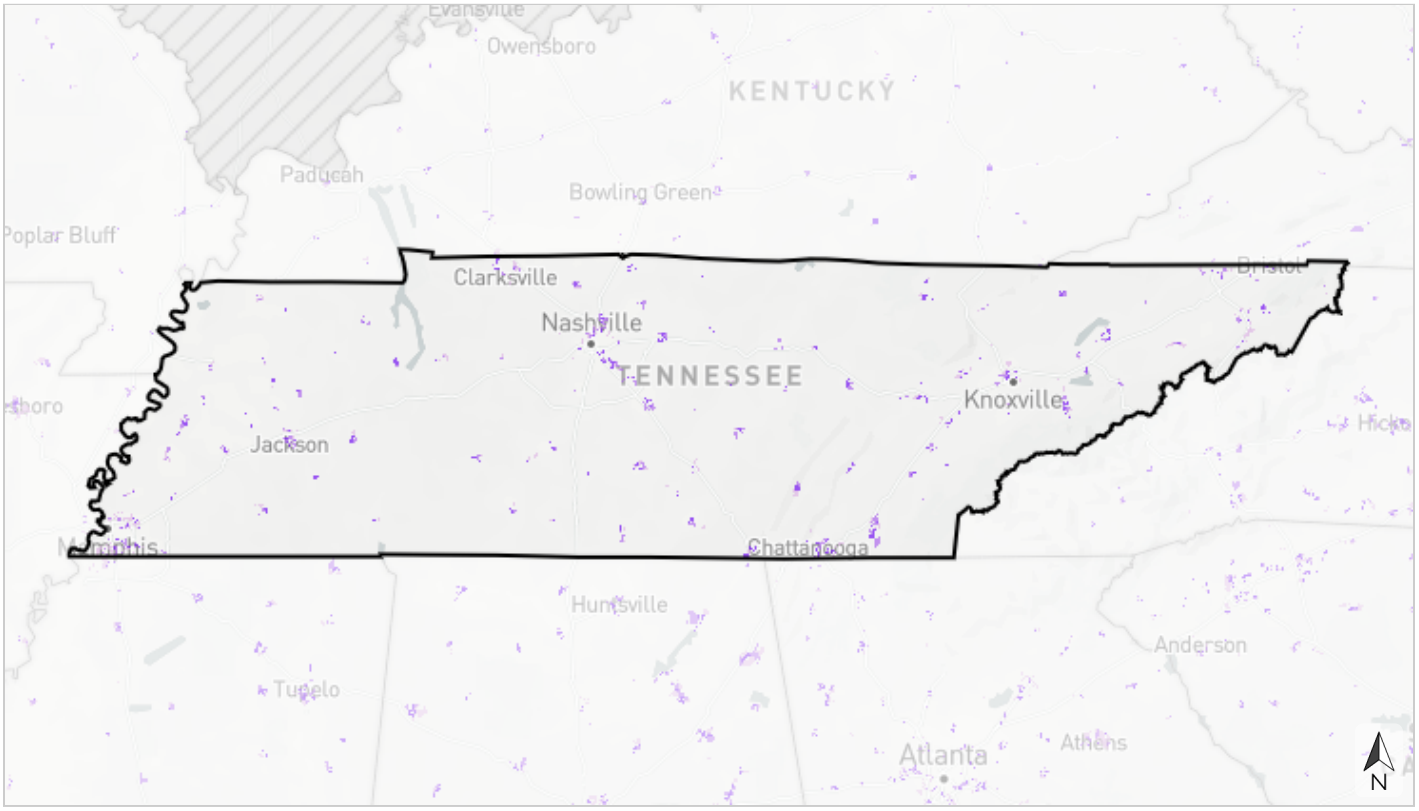
	Indicator Values: Likelihood that reforestation will contribute to forest breeding bird habitat needs	Acres	Percent of Area
↑ High	Most likely (≥90th percentile)	53,446	0.2%
	Most likely (80th to <90th percentile)	48,778	0.2%
	More likely (70th to <80th percentile)	34,825	0.1%
	Less likely (60th to <70th percentile)	36,556	0.1%
	Least likely (50th to <60th percentile)	54,880	0.2%
	Least likely (40th to <50th percentile)	40,936	0.2%
	Least likely (30th to <40th percentile)	22,506	<0.1%
	Least likely (20th to <30th percentile)	11,345	<0.1%
	Least likely (10th to <20th percentile)	3,460	<0.1%
	Least likely (<10th percentile)	0	0%
↓ Low	Not a priority for reforestation	238,703	0.9%
	Area not evaluated for this indicator	*26,417,336*	*98.0%*
	Total area	**26,962,771**	**100%**

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

Terrestrial

Potential access to parks

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



Basemap credits: © Mapbox © OpenStreetMap Improve this basemap

55 110 219 miles

Priority for a new park to serve people who lack nearby park access

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

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

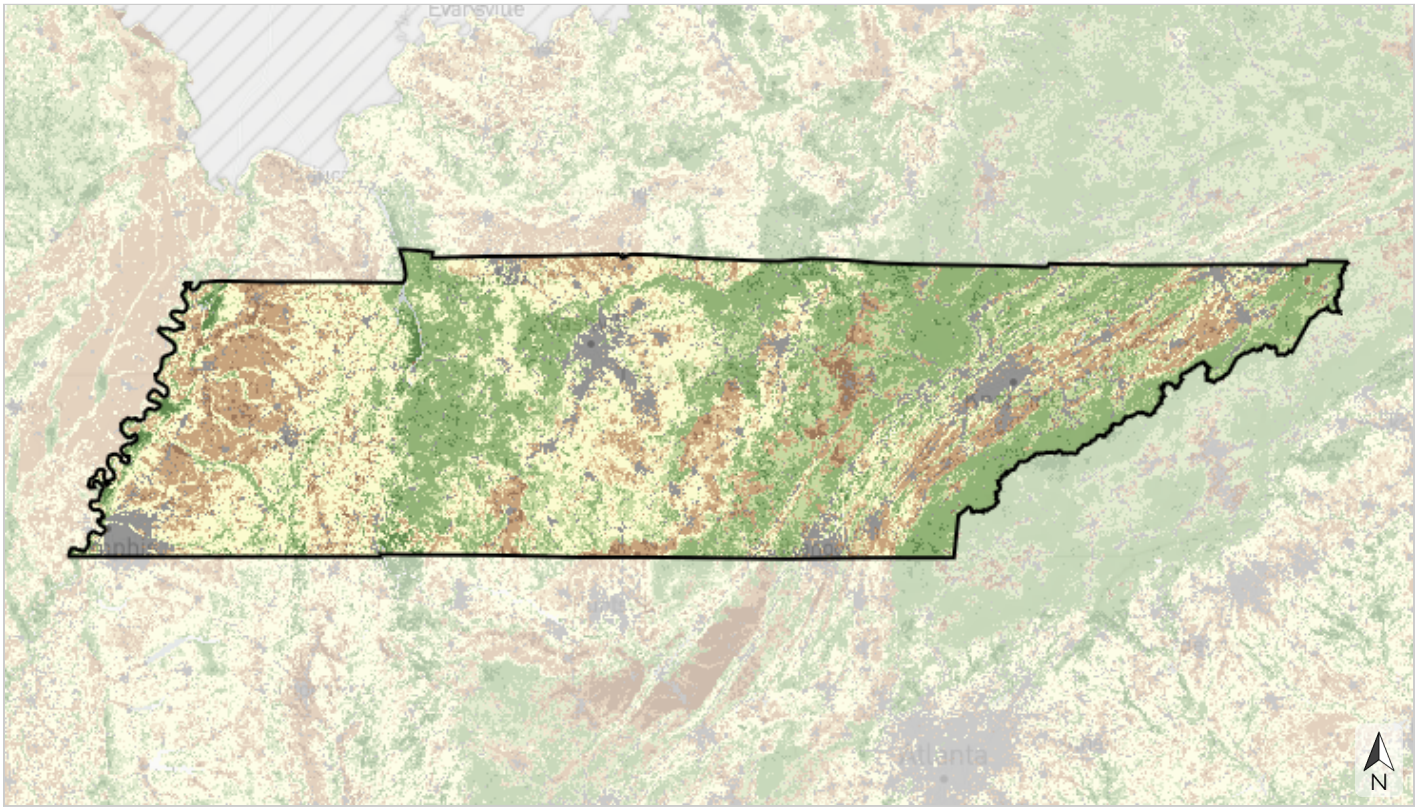
	Indicator Values: Priority for a new park to serve people who lack nearby park access	Acres	Percent of Area
↑ High	Very high priority	123,898	0.5%
	High priority	140,719	0.5%
	Moderate priority	122,102	0.5%
↓ Low	Not identified as a priority (within urban areas)	26,576,052	98.6%
	Total area	**26,962,771**	**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.



55 110 219 miles

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

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

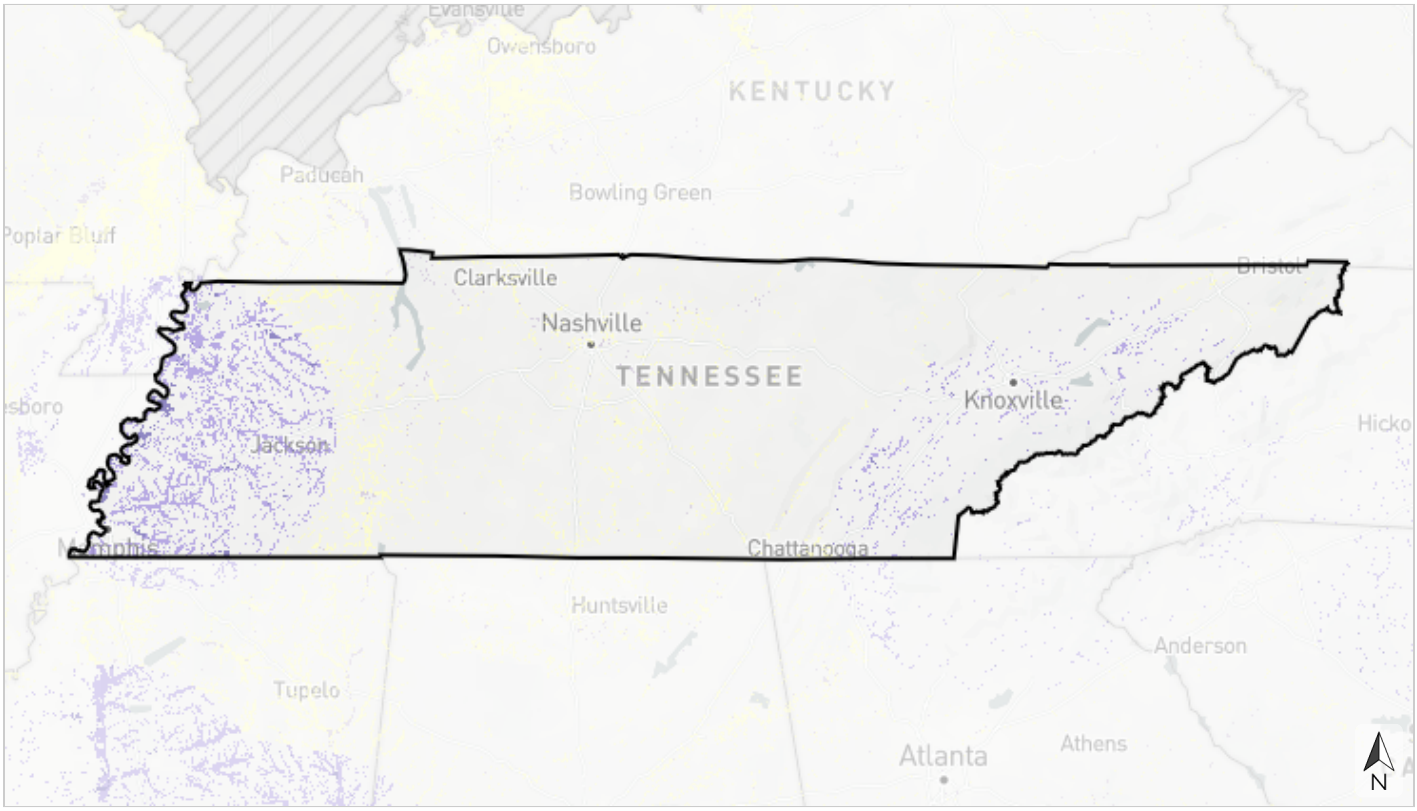
	Indicator Values	Acres	Percent of Area
↑ High	Most resilient	568,270	2.1%
	More resilient	6,379,748	23.7%
	Slightly more resilient	4,571,810	17.0%
	Average/median resilience	5,378,399	19.9%
	Slightly less resilient	2,606,156	9.7%
	Less resilient	3,067,766	11.4%
	Least resilient	524,658	1.9%
↓ Low	Developed	3,278,334	12.2%
	Area not evaluated for this indicator	*587,631*	*2.2%*
	Total area	**26,962,771**	**100%**

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

Terrestrial

River cane restoration

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



Basemap credits: © Mapbox © OpenStreetMap Improve this basemap

55 110 219 miles

- Potential river cane restoration/management area on Tribal land
- Potential river cane restoration/management area on protected land near Tribal lands
- Potential river cane restoration/management area near Tribal lands
- Potential river cane restoration/management area on protected land
- Potential river cane restoration/management area
- Not identified as a rivercane restoration/management area

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

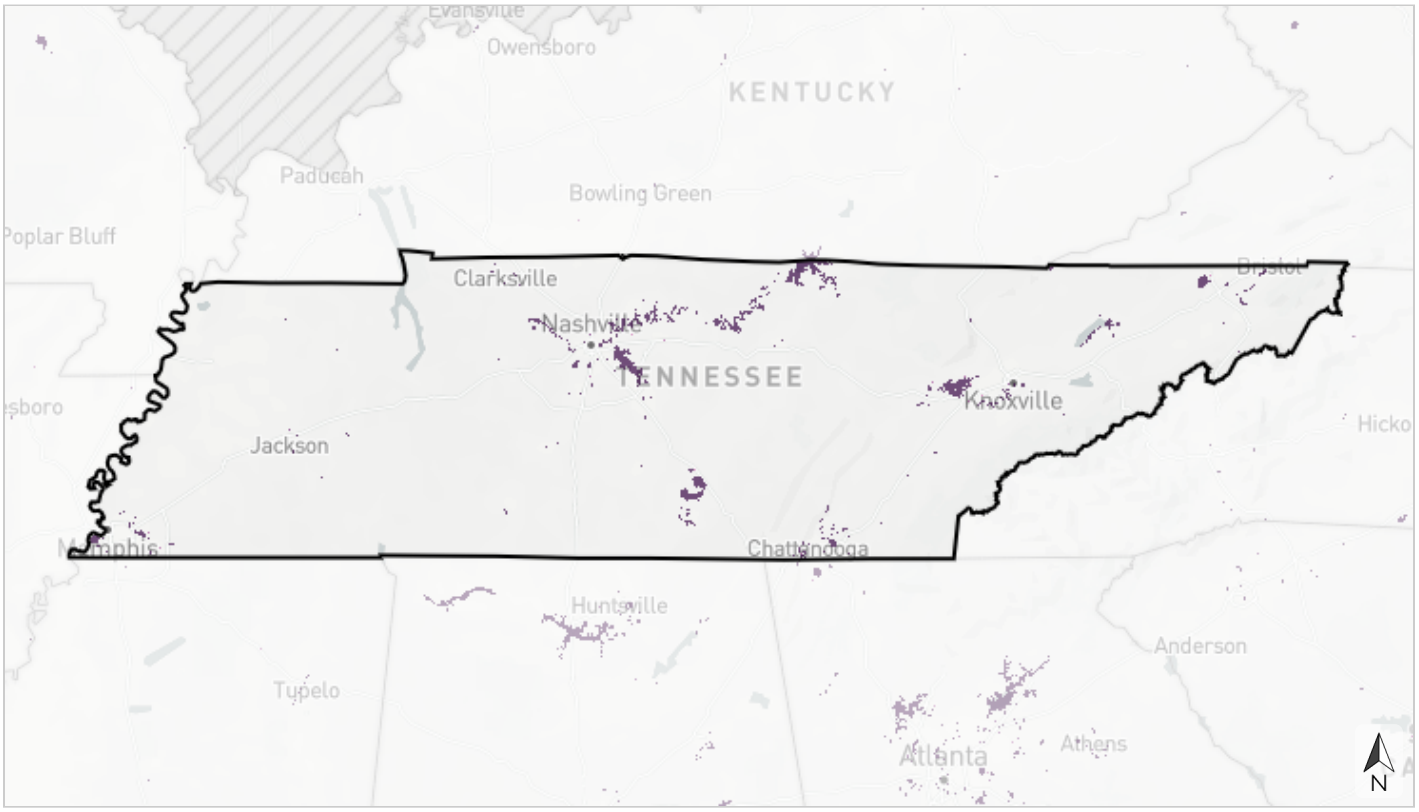
	Indicator Values	Acres	Percent of Area
↑ High	Potential river cane restoration/management area on Tribal land	58	<0.1%
	Potential river cane restoration/management area on protected land near Tribal lands	161,312	0.6%
	Potential river cane restoration/management area near Tribal lands	1,593,488	5.9%
	Potential river cane restoration/management area on protected land	151,772	0.6%
	Potential river cane restoration/management area	1,849,396	6.9%
↓ Low	Not identified as a rivercane restoration/management area	23,206,744	86.1%
	Total area	**26,962,771**	**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, U.S. Census Bureau urban areas, and the National Land Cover Database.



55 110 219 miles

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

	Indicator Values	Acres	Percent of Area
↑ High	75+ acre urban park	341,646	1.3%
	50 to <75 acre urban park	5,705	<0.1%
	30 to <50 acre urban park	6,416	<0.1%
	10 to <30 acre urban park	9,671	<0.1%
	5 to <10 acre urban park	3,004	<0.1%
	<5 acre urban park	2,265	<0.1%
↓ Low	Not identified as an urban park	26,594,064	98.6%
	Total area	**26,962,771**	**100%**

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

Freshwater

Floodplain inundation

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

Basemap credits: © Mapbox © OpenStreetMap Improve this basemap

55 110 219 miles

Frequency of inundation within the floodplain

- Frequent inundation (flooded in 21-90% of days with available data)
- Regular inundation (flooded in 6-20% of days with available data)
- Occasional inundation (flooded in 2-5% of days with available data)
- Persistent inundation (flooded in 91-100% of days with available data)
- No detected inundation (flooded in 0% of days with available data)
- Not identified as a floodplain

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

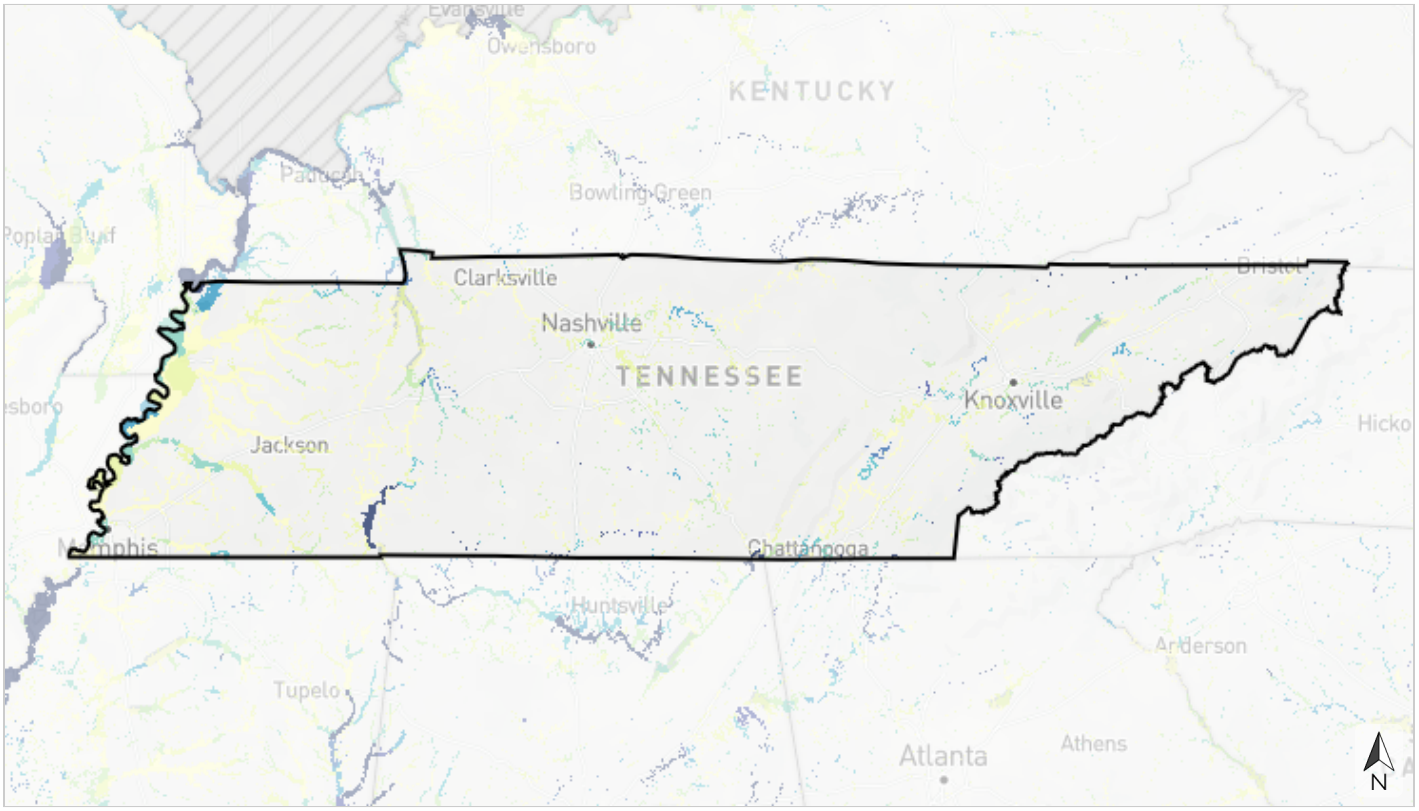
	Indicator Values: Frequency of inundation within the floodplain	Acres	Percent of Area	
↑ High	Frequent inundation (flooded in 21-90% of days with available data)	238,092	0.9%	
	Regular inundation (flooded in 6-20% of days with available data)	382,577	1.4%	↑ In good condition
	Occasional inundation (flooded in 2-5% of days with available data)	339,377	1.3%	↓ Not in good condition
	Persistent inundation (flooded in 91-100% of days with available data)	401,770	1.5%	
	No detected inundation (flooded in 0% of days with available data)	1,963,695	7.3%	
↓ Low	Not identified as a floodplain	23,637,261	87.7%	
	Total area	**26,962,771**	**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).



55 110 219 miles

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

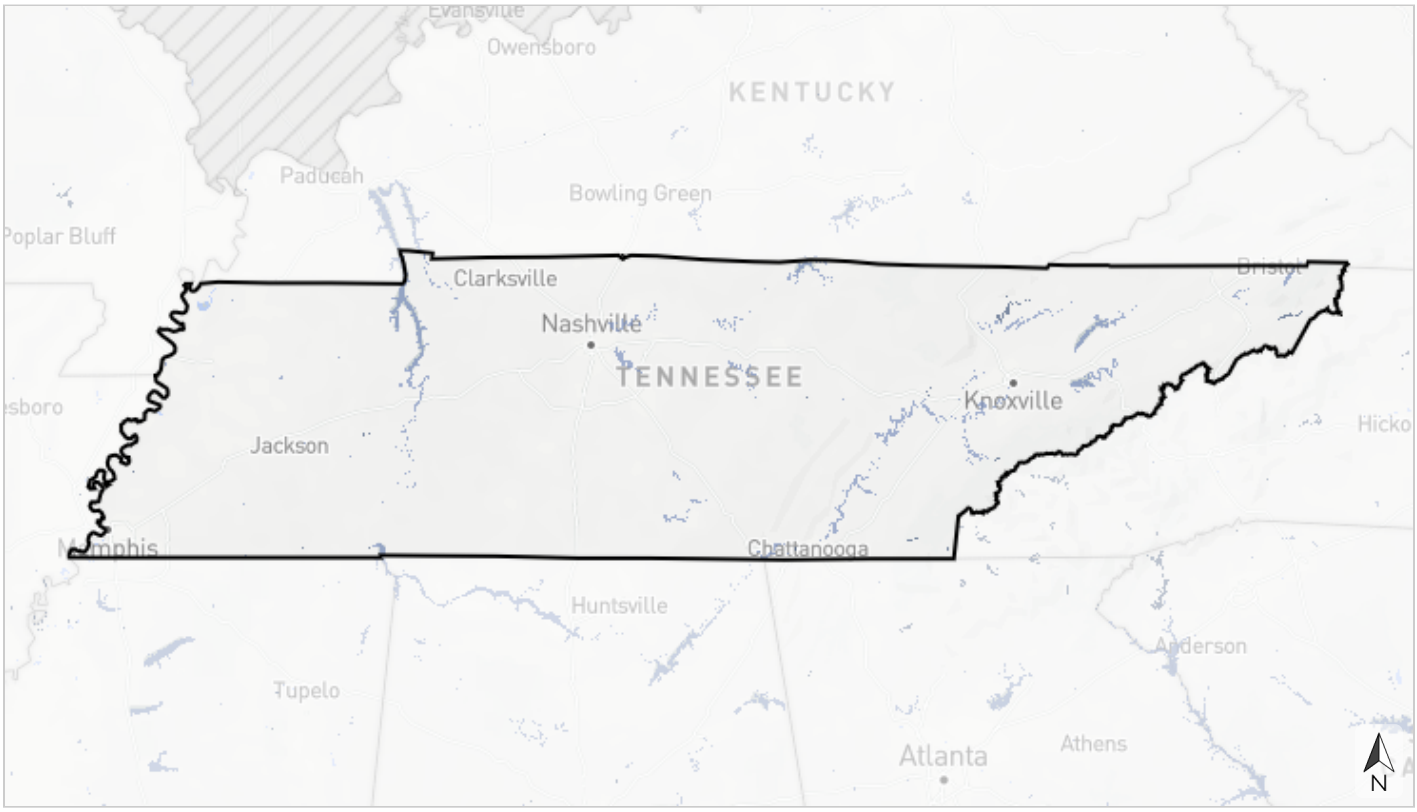
	Indicator Values: Number of aquatic animal Regional Species of Greatest Conservation Need (RSGCN) observed	Acres	Percent of Area
↑ High	8+ species	85,992	0.3%
	7 species	20,401	<0.1%
	6 species	38,341	0.1%
	5 species	97,865	0.4%
	4 species	120,779	0.4%
	3 species	250,982	0.9%
	2 species	292,056	1.1%
	1 species	826,168	3.1%
	0 species	1,592,928	5.9%
↓ Low	Not identified as a floodplain	23,637,261	87.7%
	Total area	**26,962,771**	**100%**

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

Freshwater

Lakes & reservoirs

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



Basemap credits: © Mapbox © OpenStreetMap Improve this basemap

55 110 219 miles

- Lake or reservoir with low disturbance (0-25%) in upstream watershed
- Lake or reservoir with medium disturbance (>25-60%) in upstream watershed
- Lake or reservoir with high disturbance (>60%) in upstream watershed
- Not identified as a lake or reservoir

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

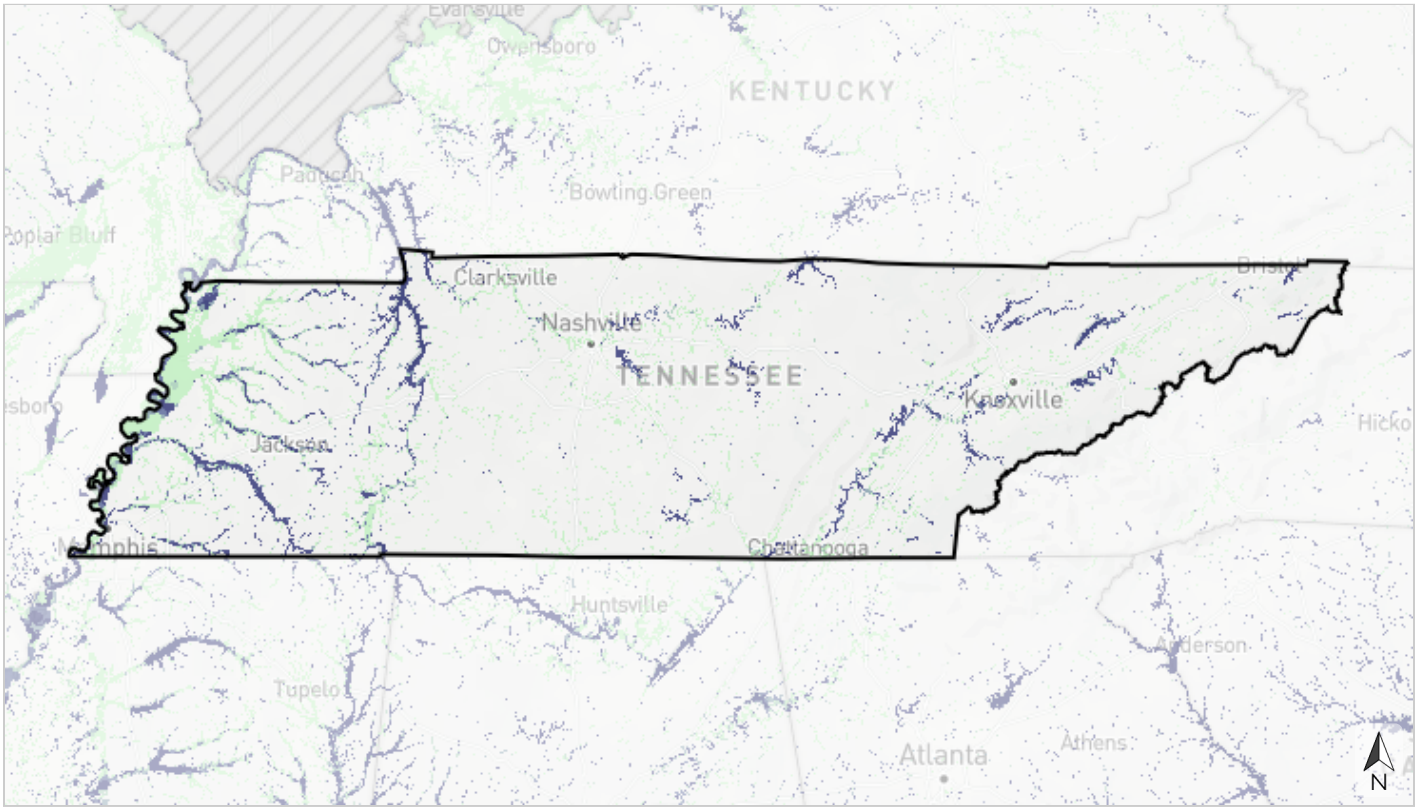
	Indicator Values	Acres	Percent of Area	
↑ High	Lake or reservoir with low disturbance (0-25%) in upstream watershed	37,805	0.1%	↑ In good condition
	Lake or reservoir with medium disturbance (>25-60%) in upstream watershed	433,861	1.6%	↓ Not in good condition
	Lake or reservoir with high disturbance (>60%) in upstream watershed	31,643	0.1%	
↓ Low	Not identified as a lake or reservoir	26,459,462	98.1%	
	Total area	**26,962,771**	**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).



Basemap credits: © Mapbox © OpenStreetMap Improve this basemap

55 110 219 miles

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

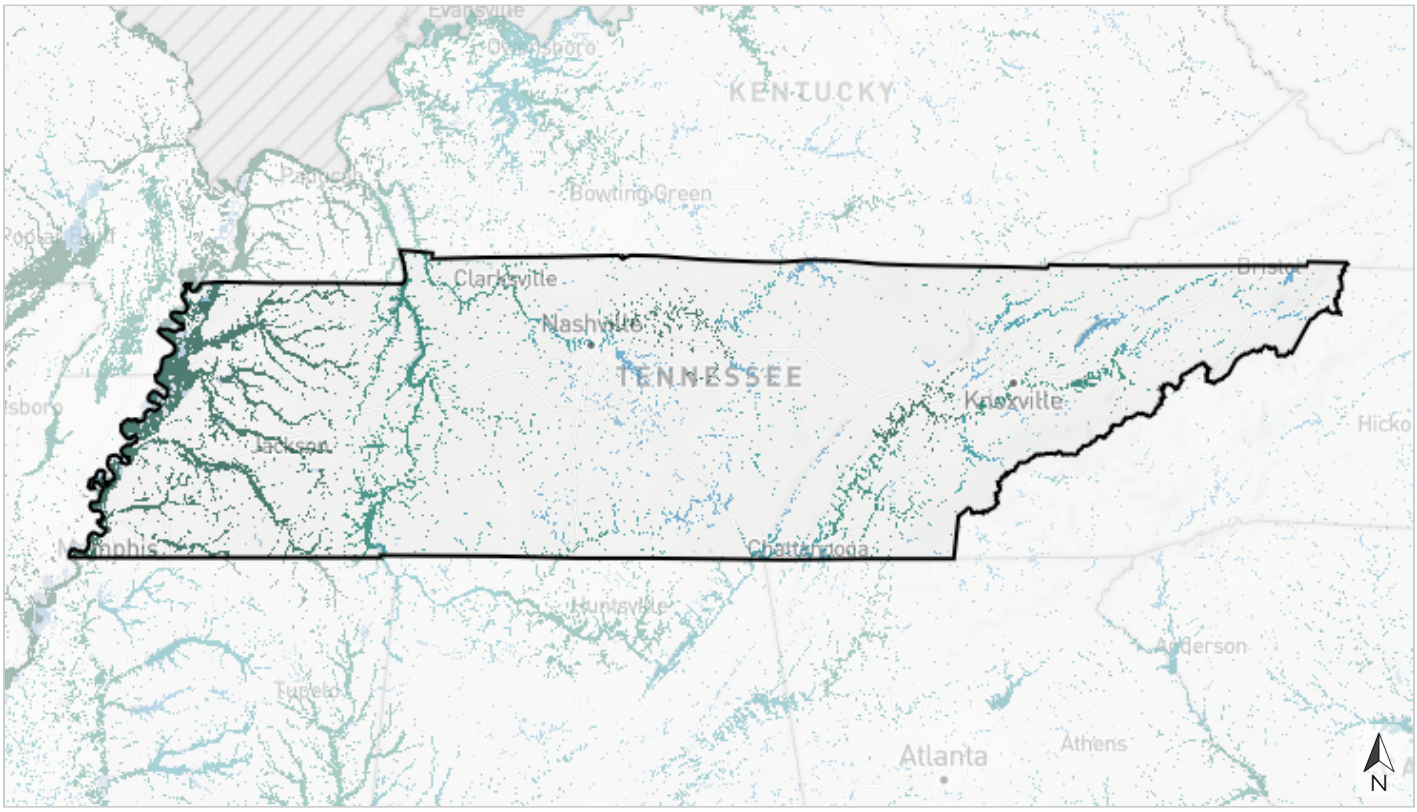
	Indicator Values: Percent natural landcover within the estimated floodplain, by catchment	Acres	Percent of Area	
↑ High	>90% natural landcover	812,810	3.0%	
	>80-90% natural landcover	272,723	1.0%	↑ In good condition
	>70-80% natural landcover	215,170	0.8%	↓ Not in good condition
	>60-70% natural landcover	220,934	0.8%	
	≤60% natural landcover	1,803,874	6.7%	
↓ Low	Not identified as a floodplain	23,637,261	87.7%	
	Total area	**26,962,771**	**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).



Basemap credits: © Mapbox © OpenStreetMap Improve this basemap

55 110 219 miles

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

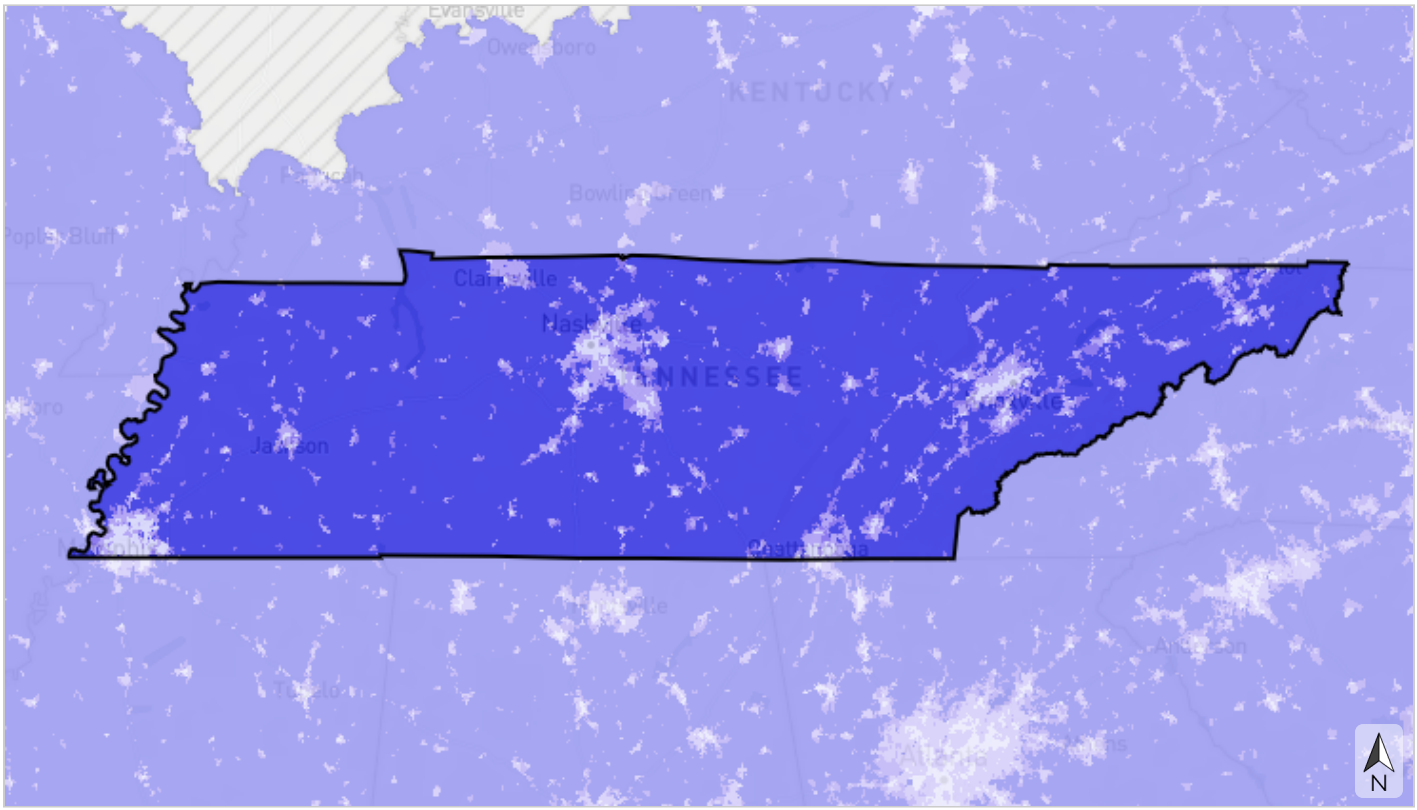
	Indicator Values: Number of connected stream size classes	Acres	Percent of Area	
↑ High	7 size classes	1,355,380	5.0%	
	6 size classes	846,711	3.1%	
	5 size classes	399,923	1.5%	
	4 size classes	370,889	1.4%	↑ In good condition
	3 size classes	154,608	0.6%	↓ Not in good condition
	2 size classes	88,826	0.3%	
	1 size class	109,080	0.4%	
↓ Low	Not identified as a floodplain	23,637,352	87.7%	
	Total area	**26,962,771**	**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.



55 110 219 miles

Percent of catchment permeable

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

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

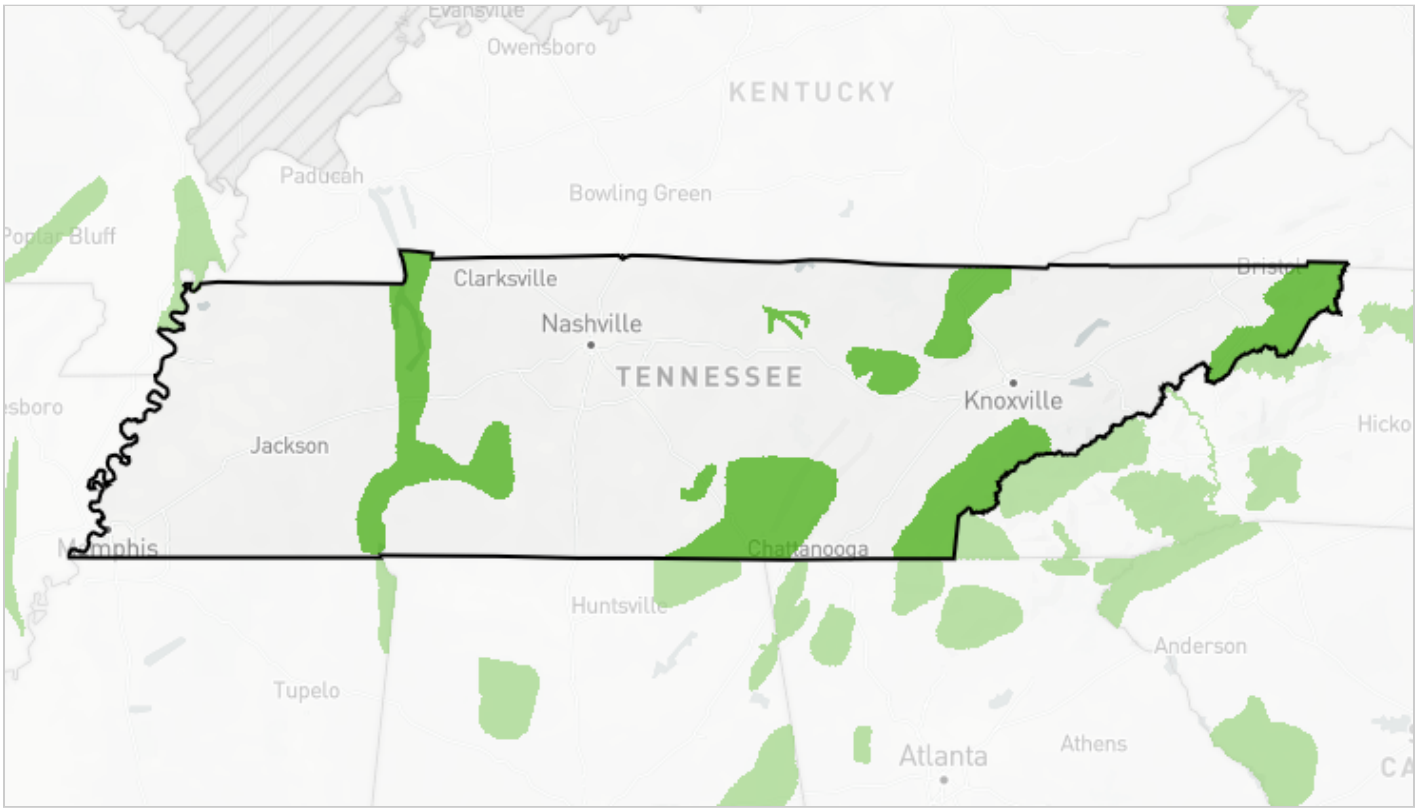
	Indicator Values: Percent of catchment permeable	Acres	Percent of Area	
↑ High	>95% permeable (likely high water quality and supporting most sensitive aquatic species)	23,680,620	87.8%	↑ In good condition
	>90-95% permeable (likely declining water quality and supporting most aquatic species)	1,350,482	5.0%	↓ Not in good condition
	>70-90% permeable (likely degraded water quality and not supporting many aquatic species)	1,456,736	5.4%	
↓ Low	≤70% permeable (likely degraded instream flow, water quality, and aquatic species communities)	474,933	1.8%	
	Total area	**26,962,771**	**100%**	

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

More Information

Priority Amphibian and Reptile Conservation Areas

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



Basemap credits: © Mapbox © OpenStreetMap Improve this basemap

55 110 219 miles

Priority Amphibian and Reptile Conservation Area (PARCA)

Not a PARCA (excluding Kentucky and Virginia)

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

Priority Amphibian and Reptile Conservation Areas status	Acres	Percent of Area
Priority Amphibian and Reptile Conservation Area (PARCA)	4,294,015	15.9%
Not a PARCA (excluding Kentucky and Virginia)	22,668,756	84.1%
Total area	**26,962,771**	**100%**

Priority Amphibian and Reptile Conservation Areas at this location:

Bonnaroo Barrens

The Bonnaroo Barrens PARCA is a distinct ecological region characterized by its open, grassy landscapes and well-drained sandy soils. This unique barrens environment supports a diverse array of plant and animal species adapted to its dry conditions, including various grasses, wildflowers, and low shrubs. The area is particularly notable for its rare and specialized flora and fauna, which thrive in its nutrient-poor soils and open habitat. The barrens provide critical habitat for numerous grassland birds, butterflies, and other wildlife that rely on its specific ecological conditions.

Catoosa

The Catoosa PARCA occurs in the southern Cumberland Mountains and includes larger tracts of contiguous forest, many of which are located on Catoosa Wildlife Management Area. Much of this PARCA is mountainous and streams are moderate- to high-gradient with primarily bedrock substrates. Natural vegetation is mixed mesic hardwood forest composed of oaks, maples, buckeye, beech, and tulip poplar, with forest composition varying depending on elevation and local topography. Some focal species of this area include the eastern hognose snake, scarlet snake, Black Mountain salamander, eastern hellbender, and Cumberland dusky salamander. Conservation focus and effort in this region are aimed at understanding the effects of habitat management and fire regime in herpetological communities, monitoring for northern pine snakes, and general life history and ecology of the Cumberland dusky salamander. Habitat management plans focus on protecting and managing mature hardwood stands, managing invasive species, and developing best practices for the area for timber harvest and burn regimes.

Cohutta

The Cohutta PARCA, located in the southern extent of the Blue Ridge in North Georgia, is perhaps the largest contiguously forested region in the state, boasting high salamander diversity. This area features some of the state's highest mountains, lush hardwood forests, and thick leaf litter, creating a moist environment ideal for amphibians. The rocky, clear streams are the headwaters of the Conasauga River on the western side, while the eastern streams support important aquatic salamander species.

Cumberland Mountains

The Cumberland Mountains PARCA occurs within the Central Appalachians ecoregion and contains the highest elevations of the Cumberland Plateau and some of largest tracts of contiguous forest in Tennessee. Much of this PARCA is mountainous and much more dissected than the adjacent Cumberland Plateau, with elevations ranging from 360-1,060 m with local relief up to 600 m. It’s located primarily on publicly owned land, including North Cumberland Wildlife Management Area, Tackett Creek Wildlife Management Area, Frozen Head State Park, and Indian Mountain State Park. It contains a very rich diversity of herpetofauna, with a big portion of that diversity consisting of salamanders. One is the Wehrle's salamander, with a subspecies population only occurring on the Cumberland Plateau. Unfortunately, a lot of primary habitat has been disturbed and negatively impacted by coal mining, feral hogs, and incompatible forestry practices. However, recent conservation focus and effort have been aimed toward mitigating the impacts of mining and conducting inventory and monitoring of the Wehrle's salamander.

French Broad
The French Broad PARCA follows the flow and floodplain of the French Broad River for 218 miles from Rosman, North Carolina to Tennessee. As one of the oldest rivers in the world, the French Broad is valued for its cultural and economic importance. Several species of ambystomatid salamanders and aquatic turtles are found throughout the floodplain and river. By far the largest threat to this PARCA is pollution via stormwater runoff, which can cause sedimentation, increased pathogen levels, and streambank erosion. To reduce runoff and water quality decline, practices such as septic tank repairs, stormwater management, agricultural best management practices, and streambank stabilization should be put in place to minimize impacts to sensitive species.

Grandfather Unaka
The Grandfather Unaka PARCA is characterized by high-elevation spruce-fir forests and northern hardwood habitats, located on the border of Tennessee and northwest North Carolina. Once dominated by giant American chestnuts, invasive blight wiped out these massive trees, dramatically changing the forest composition and associated species. The tall mountain peaks in this PARCA may be considered "sky islands" that lead the way to disjunct populations of rare species like the Weller's salamander and northern pygmy salamander. There is a large risk of extirpation and local extinction for these species as temperatures are predicted to increase at higher elevations due to climate change. Additionally, impacts of heavy recreation may be playing a role in habitat degradation and species declines. More research is needed to determine thermal tolerances and range-wide effects of climate change on these species.

Great Smoky Mountains
As its name suggests, the Great Smoky Mountains PARCA includes the North Carolina portion of Great Smoky Mountains National Park. This area is known for its exceptionally high salamander diversity due to the presence of rich coves along with pristine riverine habitat. Species of note in the area include Junaluska salamander, Tellico salamander, Cheoah Bald salamander, imitator salamander, and southern zigzag salamander. One major concern in this PARCA is acid rain; Great Smoky Mountains receives more sulfur and nitrogen deposits of any monitored national park. The park's high-elevation forests and mountain streams are becoming so acidic, it is affecting the overall health of these ecosystems and species. Transitioning away from fossil fuels, advocating for better air quality and pollution standards, and working with industries to find new technological solutions to prevent these issues will ensure a future for the incredible biodiversity in this PARCA.

Hiwassee
The Hiwassee PARCA is located in the southwest corner of North Carolina and includes unique vegetation communities, blending mountain physiography with sandy soils from more pine-associated ecoregions and supporting a rich diversity of Piedmont and Coastal Plain ecotone species. Some of these unique species include the mountain chorus frog, stripe-neck musk turtle, common map turtle, northern pine snake, eastern slender glass lizard, Chattahoochee salamander, and eastern hellbender. Nantahala National Forest covers a significant portion of this PARCA, along with the Hiwassee River and its many dams and reservoirs. This area is impacted by habitat degradation, sedimentation, erosion, and water quality issues from surrounding agricultural land and rural roads. Researchers should work with producers to establish best management practices to reduce negative effects of land use changes on aquatic systems.

Jackson Mountains
Jackson Mountains is the most northeast PARCA in the state, and it's largely made up of oak-hickory habitats along the sandstone plateaus and ridges with carved limestone from the Cumberland Plateau. With its unique geology, this important habitat for species like the mole kingsnake and green salamander is connected to the large South Cumberland PARCA of Tennessee. Almost none of this large PARCA has federal or state land protection, making collaboration with private landowners critical.

Northern Blue Ridge
The Northern Blue Ridge PARCA occurs in the Blue Ridge Mountain ecoregion. It is largely made up of public lands, such as Hampton Creek Cove State Natural Area, Roan Mountain State Park, and Rocky Fork State Park. These all aid in the conservation of several focal species like the eastern hellbender and bog turtle. The limestone valleys and coves area is the smallest subregion in the Blue Ridge Mountains of Tennessee, but contains one of the most diverse and ecologically important habitats–bogs. Threats to these species and the bogs and surrounding habitats within this PARCA include sedimentation, water pollution, woody succession, hydrology changes in bogs, dams and impoundments, and illegal poaching. Recent conservation efforts of bogs and focal species have focused on improving habitat through removal of invasive species and halting the encroachment of woody succession to keep these bogs open.

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

South Cumberland
The South Cumberland PARCA occurs within the Southwestern Appalachians ecoregion and includes portions of the Southern Cumberland Plateau, Plateau Escarpment, and Sequatchie Valley. The Cumberland Plateau is diverse in habitat, ranging from predominantly acidic, well-drained soils where hardwood forests thrive to diverse boulder fields, rock outcrops, vertical rock faces, and cliffs along the Plateau Escarpment. The Sequatchie Valley is generally open, rolling terrain drained by the Sequatchie River with mixed oak-hickory, maple forest, pastureland, and cropland. The unique habitat diversity throughout this region includes species of conservation concern like the eastern pine snake. They are often associated with well-drained, sandy soils in pine or mixed pine-hardwood forests, which are common throughout this region. However, unsustainable timber management, urban encroachment, and persecution by humans are just some of the threats that have led to their decline.

Southern Blue Ridge
The Southern Blue Ridge PARCA occurs in the Blue Ridge Mountains ecoregion and is most diverse PARCA in Tennessee. It consists of narrow, forested mountain ridges that are highly dissected with elevation ranging from 300-1,500 m and primary vegetation consisting of oak forests with some mixed mesic and northern hardwood forests. Streams are high-gradient with clear, cool water with bedrock and boulder substrates and are drained by the Ocoee, Hiwassee, Tellico, and Little Tennessee Rivers that feed into the Tennessee River. The Conasauga River briefly flows through the PARCA along the Georgia-Tennessee state

line before ultimately flowing into the Coosa River. Due to the diversity of habitat within this region, the PARCA contains more than 80 different species of herpetofauna. Some threats include dams and impoundments, sedimentation/water pollution, unsustainable timber practices, bait bucket invasives, illegal poaching, and direct persecution of hellbenders, eastern pine snakes, and timber rattlesnakes.

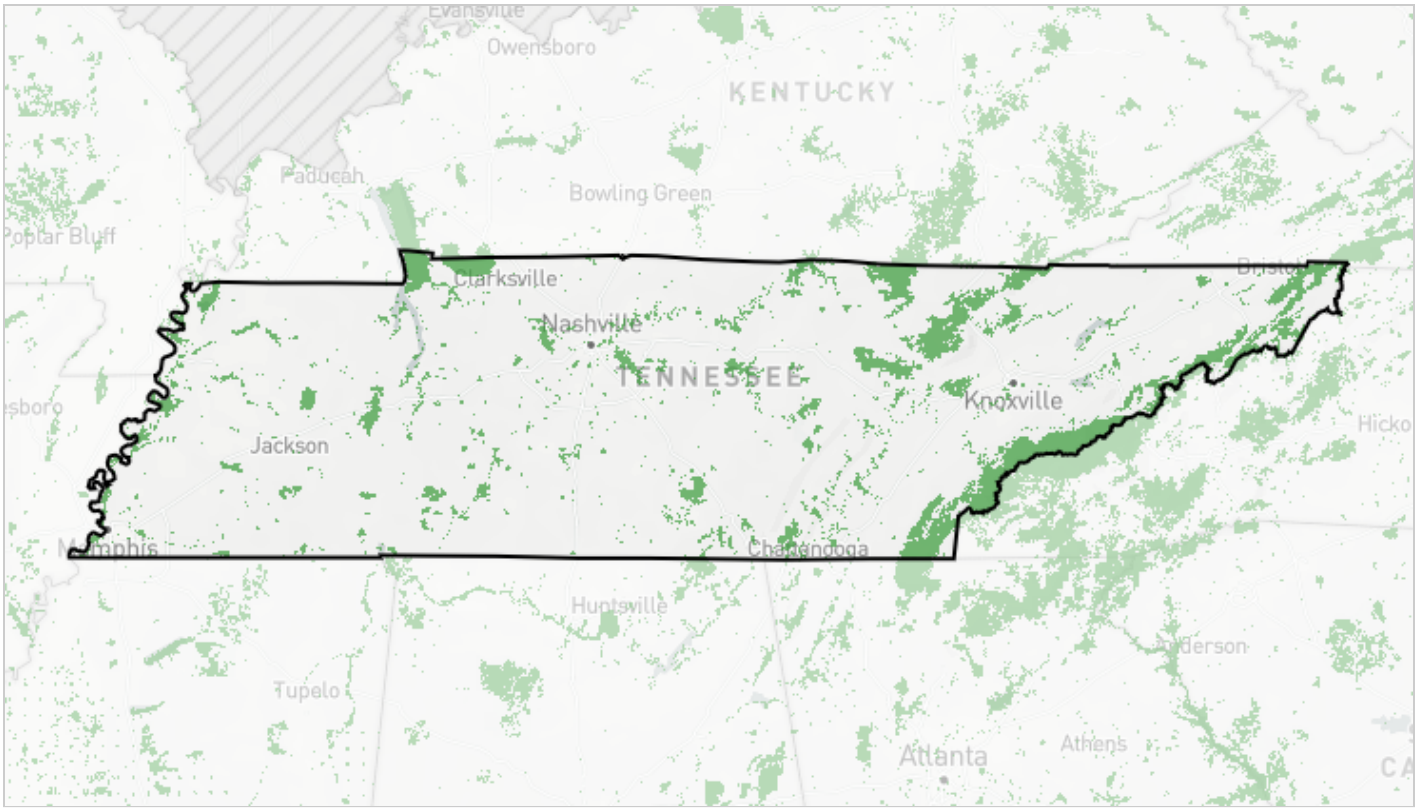
Tishomingo
The Tishomingo PARCA, located in the northeastern corner of Mississippi, is a unique ecological region due to its position at the southwestern reach of the Appalachian foothills. This area, part of the Cumberland Plateau, features rugged topography and distinct geological formations that merge into the Fall Line Hills and Blackbelt Prairie. The mixed hardwood and pine forests provide critical habitats for species like the eastern hellbender, green salamander, and northern pine snake. Threats to this region include non-compatible timber practices, river sedimentation, and agricultural runoff. Conservation efforts can be bolstered through partnerships with regional authorities, state parks, and local universities. Key research needs include expanded surveys for hellbenders and studies on the impacts of quarry operations.

Western Tennessee River Valley
The Western Tennessee River Valley PARCA is an ecologically diverse region characterized by its rich alluvial soils and a mix of hardwood forests, wetlands, and riverine habitats. This area, which stretches along the Tennessee River, supports a variety of plant and animal life adapted to its moist, fertile environment. The floodplains and riverbanks are home to lush bottomland forests with species such as oak, cypress, and tupelo trees, while the wetlands host a range of amphibians, fish, and migratory birds. This valley is also critical for maintaining water quality and providing essential ecosystem services, such as flood regulation and nutrient cycling.

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

Protected Areas

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



Basemap credits: © Mapbox © OpenStreetMap Improve this basemap

55 110 219 miles

Within a protected area

Not within a protected area

Table 26: Extent of protected areas within Tennessee.

Protected area status	Acres	Percent of Area
Not within a protected area	24,017,087	89.1%
Within a protected area	2,945,684	10.9%
Total area	**26,962,771**	**100%**

Protected areas at this location:

- Cherokee National Forest (USDA Forest Service; 661,138 acres)
- North Cherokee National Forest & Wildlife Management Area (Forest Service; 340,125 acres)
- Great Smoky Mountains National Park (National Park Service; 241,081 acres)
- North Cumberland Wildlife Management Area (Tennessee Wildlife Resources Agency; 155,223 acres)
- Tennessee Valley Authority (TVA) (142,575 acres)
- South Cherokee National Forest & Wildlife Management Area (129,082 acres)
- Big South Fork National River and Recreation Area (National Park Service; 83,326 acres)
- Catoosa Wildlife Management Area (Tennessee Wildlife Resources Agency; 79,207 acres)
- Fort Campbell (67,526 acres)
- Land Between The Lakes Wildlife Management Area (Forest Service; 64,040 acres)
- Land Between the Lakes Other (USDA Forest Service; 63,694 acres)
- Land Between The Lakes National Recreation Area (63,694 acres)
- Tackett Creek Wildlife Management Area (Corrigan TLP/Molpus Timberland; 45,542 acres)
- Dale Hollow Recreation Area (44,125 acres)
- Center Hill Recreation Area (40,398 acres)
- Arnold Air Force Base (38,892 acres)
- Natchez Trace State Forest (State Department of Agriculture, Division of Forestry; 36,644 acres)
- Natchez Trace State Forest & Wildlife Management Area (State Department of Agriculture, Division of Forestry; 34,931 acres)
- J. Percy Priest Recreation Area (33,737 acres)
- Old Hickory Recreation Area (29,862 acres)
- Oak Ridge Wildlife Management Area (Oak Ridge; 29,323 acres)
- Cordell Hull Recreation Area (29,264 acres)
- Prentice Cooper State Forest & Wildlife Management Area (24,392 acres)
- Chuck Swan State Forest (State Department of Agriculture, Division of Forestry; 24,363 acres)
- Chuck Swan Wildlife Management Area & State Forest (State Department of Agriculture, Division of Forestry; 23,925 acres)
- ... and 2,764 more protected areas ...

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

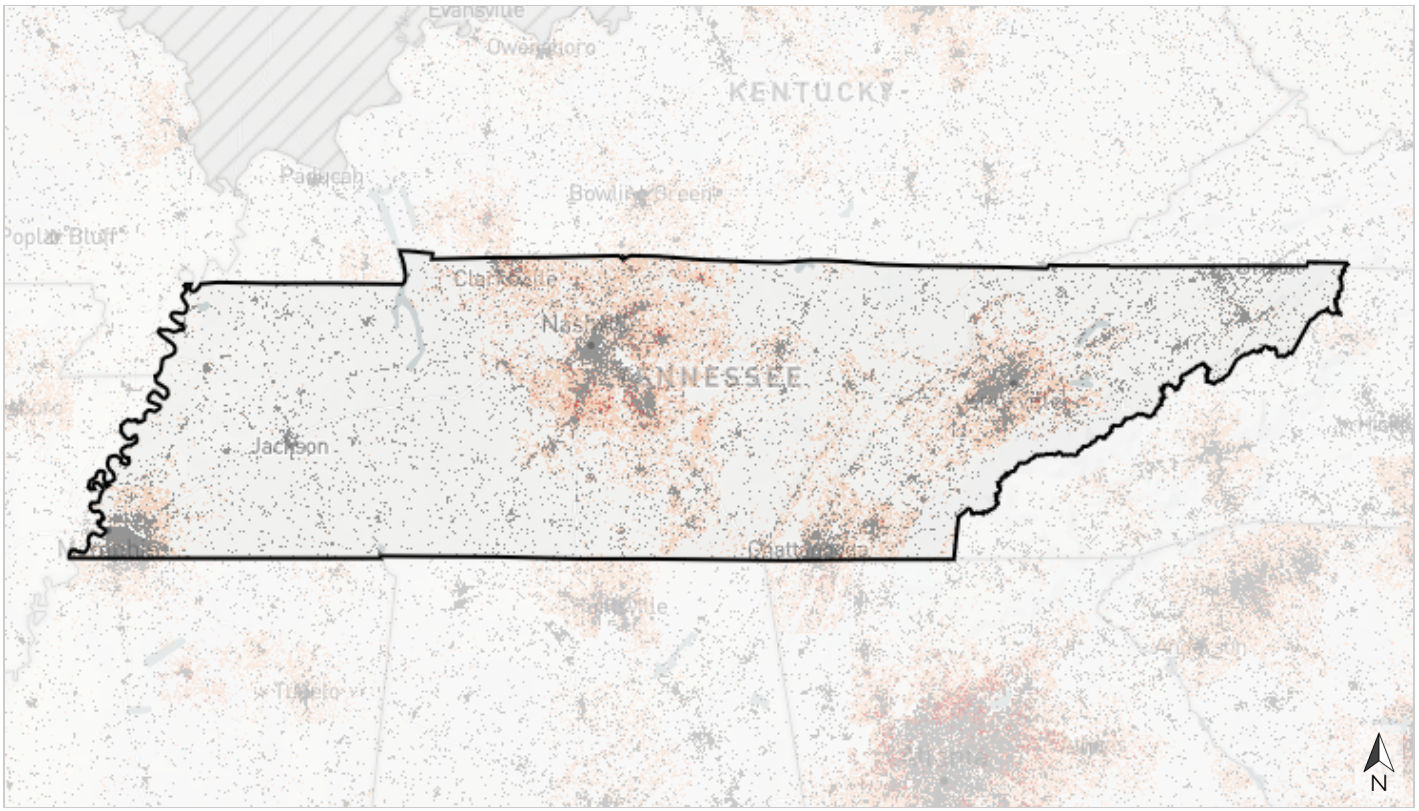
Sea-level Rise

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

Urban Growth

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

To explore maps for additional time periods, click here.



Basemap credits: © Mapbox © OpenStreetMap Improve this basemap

219 miles
55
110

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

Table 27: Extent of projected urbanization by decade within Tennessee. 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.

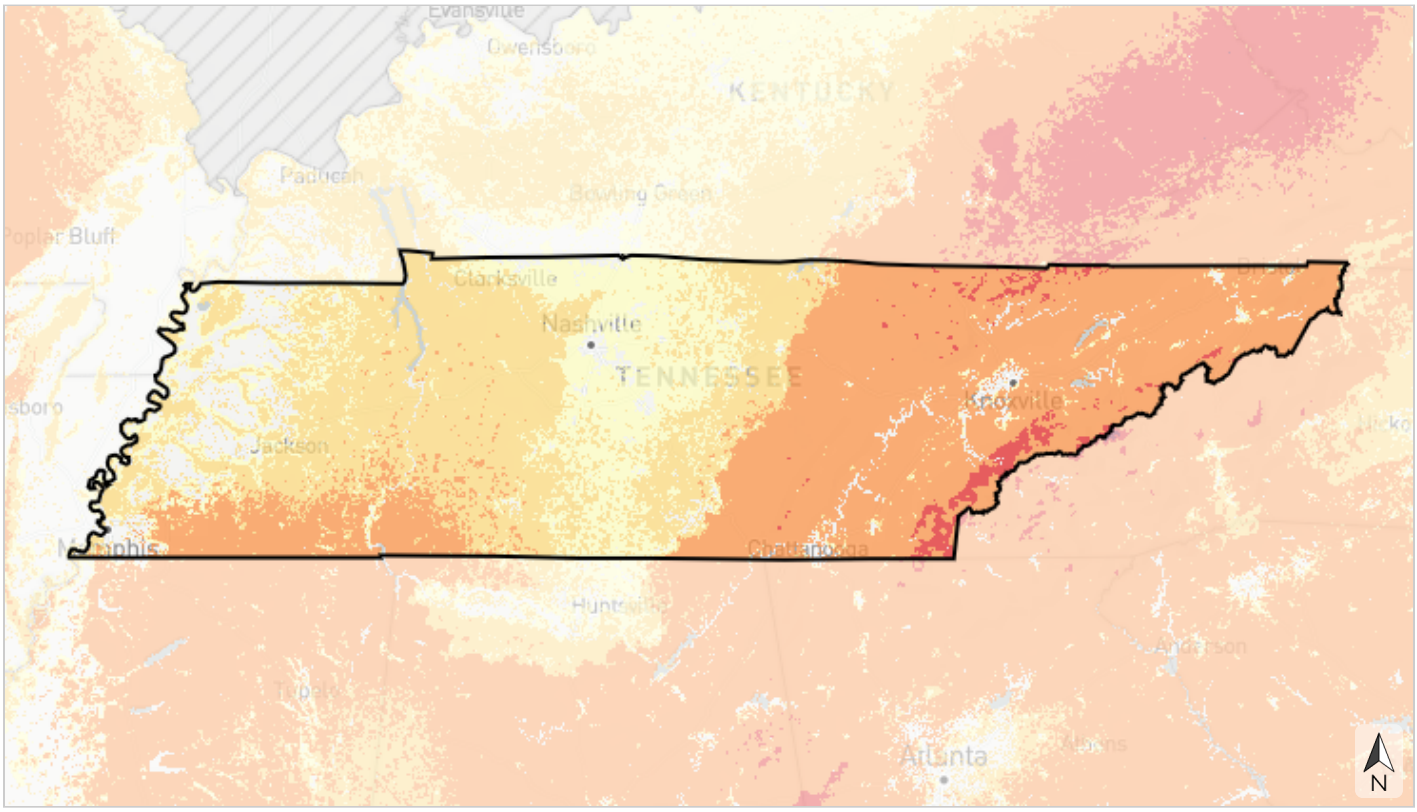
Decade	Acres	Percent of Area
Urban in 2021	2,929,043	10.9%
2030 projected extent	3,010,273	11.2%
2040 projected extent	3,064,798	11.4%
2050 projected extent	3,108,233	11.5%
2060 projected extent	3,147,049	11.7%
2070 projected extent	3,183,736	11.8%
2080 projected extent	3,212,516	11.9%
2090 projected extent	3,232,129	12.0%
2100 projected extent	3,246,209	12.0%
Not projected to urbanize by 2100	*23,716,562*	*88.0%*
Total area	**26,962,771**	**100%**

10.9% of this area is already urban in 2021, and an additional 12.3% has at least a moderate probability of urbanizing by 2060.

By 2060, the size of the urban footprint is projected to increase **7.4%** over 2021 levels.

Wildfire Likelihood

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



Basemap credits: © Mapbox © OpenStreetMap Improve this basemap

55 110 219 miles

Wildfire likelihood (annual burn probability)

- High
- Moderate-high
- Moderate
- Low-moderate
- Low
- Not predicted to experience wildfire

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

Wildfire likelihood (annual burn probability)	Acres	Percent of Area
Not predicted to experience wildfire (0% probability)	2,154,381	8.0%
Low (>0 - 0.01% probability)	4,521,413	16.8%
Low-moderate (>0.01 - 0.02154% probability)	3,843,116	14.3%
Low-moderate (>0.02154 - 0.04642% probability)	4,987,469	18.5%
Moderate (>0.04642 - 0.1% probability)	2,655,525	9.8%
Moderate (>0.1 - 0.21544% probability)	5,282,795	19.6%
Moderate (>0.21544 - 0.46416% probability)	3,043,432	11.3%
Moderate-high (>0.46416 - 1% probability)	413,423	1.5%
Moderate-high (>1 - 2.15443% probability)	58,478	0.2%
High (>2.15443 - 4.64159% probability)	2,739	<0.1%
High (>4.64159% probability)	0	0%
Total area	**26,962,771**	**100%**