Southeast Conservation Blueprint Summary

for North Carolina

Created 03/31/2025

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The Southeast Conservation Blueprint 2024

Southeast Conservation Adaptation Strategy

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About the Southeast Blueprint

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

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

For more information:

- Visit the Blueprint webpage
- Review the Blueprint 2024 Development Process
- View and download the Blueprint data and make maps on the Blueprint page of the SECAS Atlas

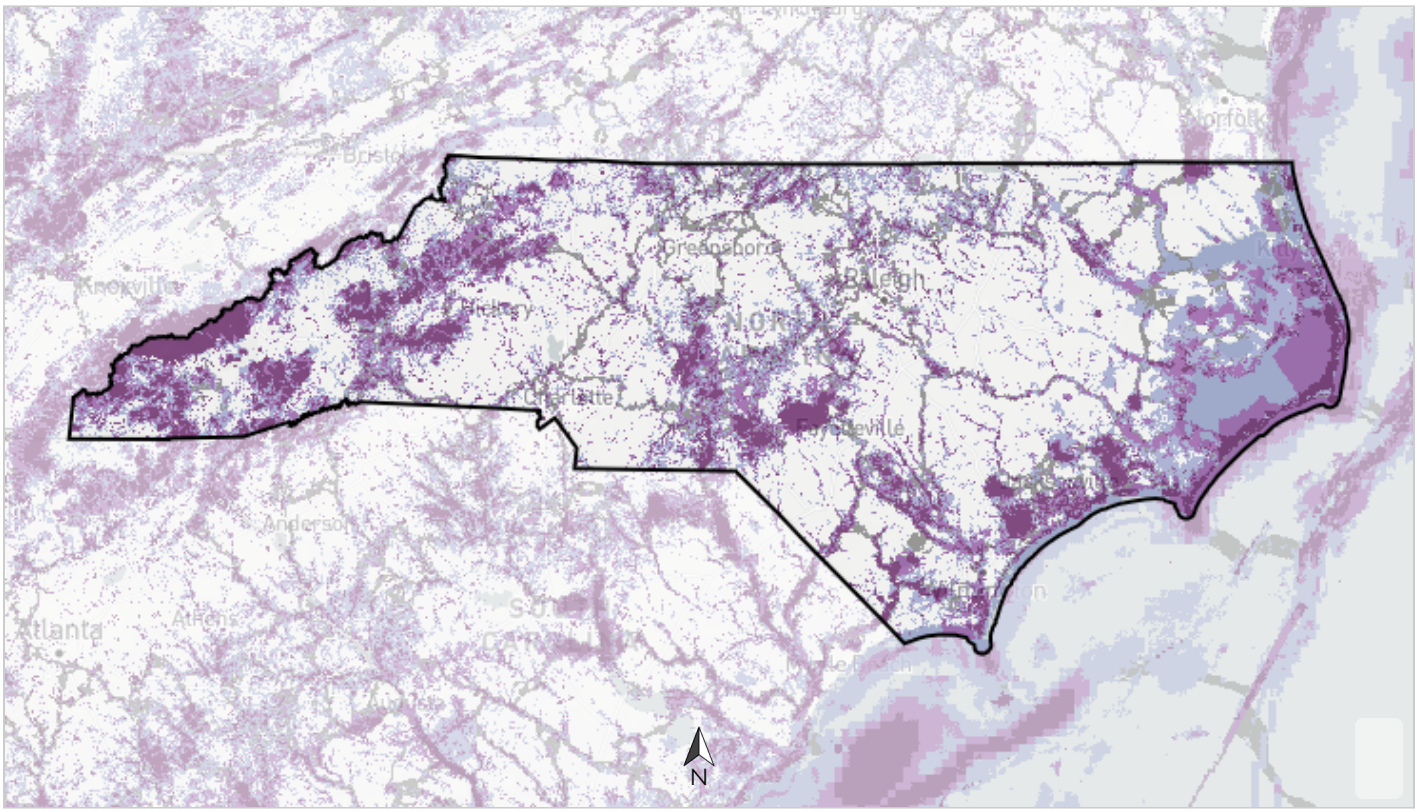
We're here to help!

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

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

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

Southeast Blueprint Priorities



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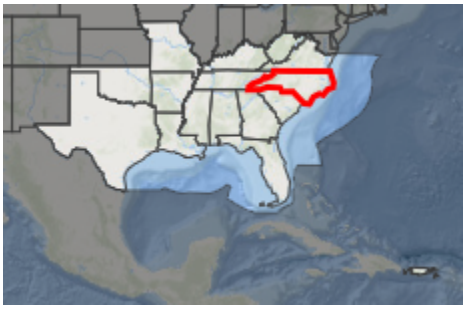


Priorities for a connected network of lands and waters

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

Priority Categories

For a connected network of lands and waters

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

Highest priority

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

High priority

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

Medium priority

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

Priority connections

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

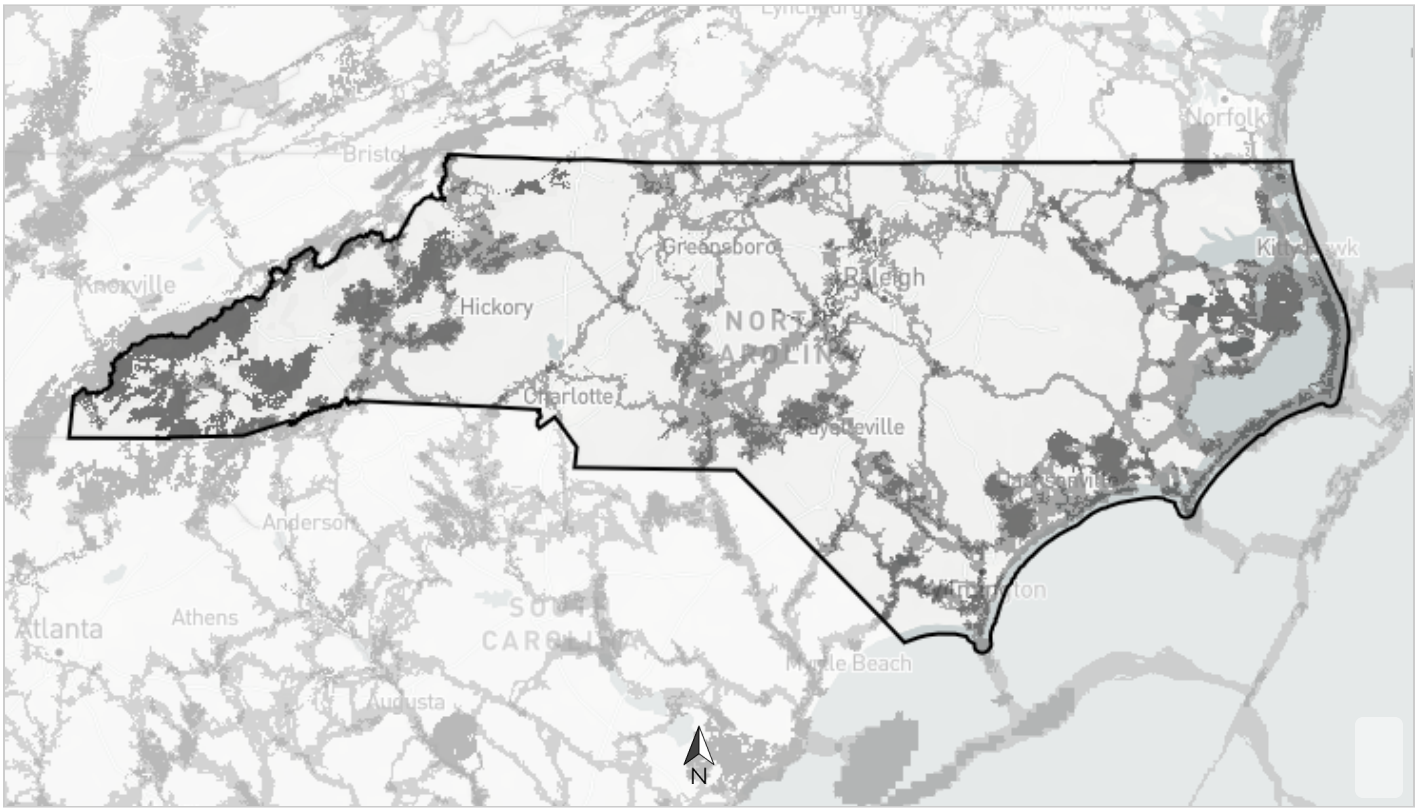
Table 1: Extent of each Blueprint priority category within North Carolina.

Priority Category	Acres	Percent of Area
Highest priority	3,744,058	10.9%
High priority	5,363,472	15.6%
Medium priority	6,738,022	19.6%
Priority connections	2,130,432	6.2%
Lower priority	16,467,847	47.8%
Total area	**34,443,831**	**100%**

Hubs and Corridors

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

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



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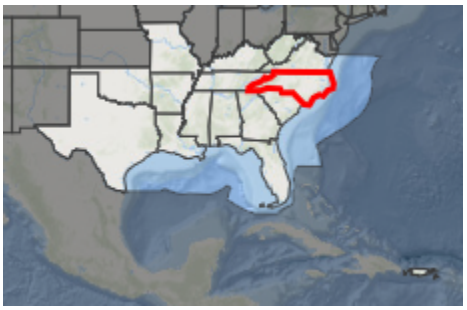


Hubs
Corridors

Table 2: Extent of hubs and corridors within North Carolina.

Type	Acres	Percent of Area
Hubs	4,408,870	12.8%
Corridors	7,395,516	21.5%
Not a hub or corridor	22,639,445	65.7%
Total area	**34,443,831**	**100%**

Indicator Summary

Table 3: Terrestrial indicators.

Indicator	Present
Amphibian & reptile areas	✓
East Coastal Plain open pine birds	✓
Fire frequency	✓
Grasslands and savannas	✓
Greenways & trails	✓
Intact habitat cores	✓
Landscape condition	✓
Potential access to parks	✓
Resilient terrestrial sites	✓
South Atlantic forest birds	✓
South Atlantic low-urban historic landscapes	✓
Urban park size	✓

Table 4: Freshwater indicators.

Indicator	Present
Atlantic migratory fish habitat	✓
Gulf migratory fish connectivity	-
Imperiled aquatic species	✓
Natural landcover in floodplains	✓
Network complexity	✓
Permeable surface	✓

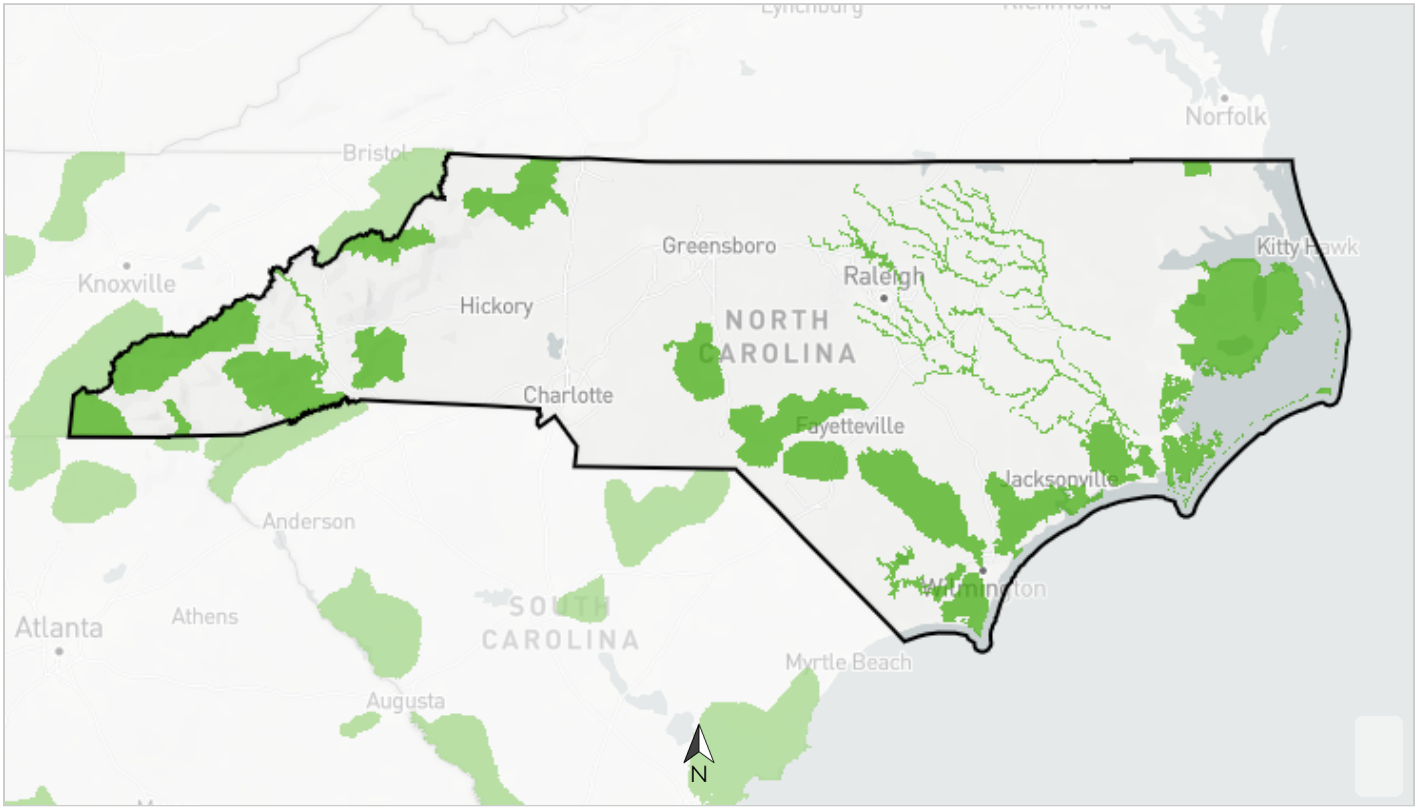
Table 5: Coastal & marine indicators.

Indicator	Present
Atlantic coral & hardbottom	✓
Atlantic deep-sea coral richness	-
Atlantic estuarine fish habitat	✓
Atlantic marine birds	✓
Atlantic marine mammals	✓
Coastal shoreline condition	✓
Estuarine coastal condition	✓
Island habitat	✓
Marine highly migratory fish	✓
Resilient coastal sites	✓
Seagrass	✓
South Atlantic beach birds	✓
South Atlantic maritime forest	✓
Stable coastal wetlands	✓

Terrestrial

Amphibian & reptile areas

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



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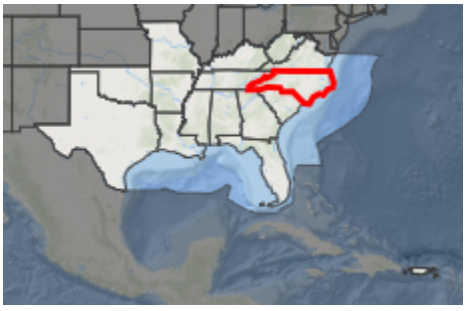


Priority Amphibian and Reptile Conservation Area (PARCA)

Not a PARCA (excluding Kentucky and Virginia)

Table 6: Indicator values for amphibian & reptile areas within North Carolina. A good condition threshold is not yet defined for this indicator.

	Indicator Values	Acres	Percent of Area
↑ High	Priority Amphibian and Reptile Conservation Area (PARCA)	6,640,472	19.3%
↓ Low	Not a PARCA (excluding Kentucky and Virginia)	27,803,359	80.7%
	Area not evaluated for this indicator	*0.67*	*<0.1%*
	Total area	**34,443,831**	**100%**

Priority Amphibian and Reptile Conservation Areas:

Balsam/Pisgah

Balsam/Pisgah is a large PARCA that encompasses five counties in the Blue Ridge Mountains of North Carolina. Included in this area is a portion of Pisgah National Forest, the most visited national forest in the United States. This region boasts some of the highest elevation peaks east of the Mississippi, pristine headwater streams, hardwood forests, and countless waterfalls. Several species occupy this PARCA, including the eastern hellbender, timber rattlesnake, green salamander, coal skink, and southern pygmy salamander. Threats to the Balsam/Pisgah PARCA include increased flooding and drought periods due to climate change, impacts from heavy recreation such as habitat destruction and water pollution, and logging, which may affect sensitive habitats.

Bladen Lakes

The Bladen Lakes PARCA includes a mosaic of public and private lands in rural southeast North Carolina. The 33,500 acre Bladen Lakes State Forest is contained in this PARCA, the largest state-owned forest in North Carolina. The area is managed for recreation, timber harvest, pine straw, and charcoal. Agricultural lands are also present within and surrounding this PARCA. Habitat types include longleaf forests, Carolina bays, "sugar sand" ridges, pocosins, and wooded wetlands. Several species of concern occupy the Bladen Lakes PARCA, such as the southern hognose snake, mimic glass lizard, ornate chorus frog, and the pine barrens tree frog. Harmful algal blooms from excessive nutrient runoff have become a recent concern in this region, as well as development pressure. Working with private landowners to conserve unprotected areas and create wildlife corridors and ensuring proper forest management will provide these species with the best chance of future protection and survival.

Blue Ridge Escarpment

South Carolina’s Blue Ridge Escarpment is a region where the Blue Ridge Mountains meet the Atlantic Piedmont ecoregion. This region is characterized by high rainfall, lush cove forests, bare rocky cliffs and numerous small streams and rivers. This is the southern extent of the distribution for a wide variety of rare salamanders that find refuge in the cool and moist conditions provided by the Appalachian Mountains. These populations are increasingly fragmented from development.

Carolina Bays

Located in the upper Coastal Plain, the Carolina Bays PARCA encompasses a particularly dense

concentration of unique Carolina Bay wetlands. The bays in this PARCA are known to have supported exceptionally large numbers of rare pond-breeding amphibians. Though some species have likely been lost from this area, priority species known to remain include the eastern tiger salamander, oak toad, dwarf salamander, eastern chicken turtle, southern chorus frog and Mabee's salamander. Only very small areas of the PARCA are currently managed as natural habitat, though a high potential for conservation exists with future habitat restoration and management.

Croatan
The Croatan PARCA is a hotspot for amphibian and reptile diversity. Dominated by the Croatan National Forest, multiple ecoregions, including Carolinian barrier islands, coastal marshes, Chesapeake-Pamlico lowlands, tidal marshes, nonriverine swamps, and peatlands, provide habitat for rare species such as the pygmy rattlesnake, gopher frog, and many others. Fire during drought periods, logging, and construction of drainage ditches have affected natural vegetation patterns, and several areas of mineral and shallow organic soils have been drained and cultivated for crops like corn, soybeans, and wheat. Conservation measures should focus on reducing maritime forest conversion, preserving natural hydrology in estuaries and bays, and restoring floodplain, wetland, pine, and wiregrass native vegetation.

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 Dismal Swamp South
The Great Dismal Swamp South PARCA consists of the North Carolina portion of the Great Dismal Swamp. This area is the last remaining intact tract of what was once one million acres of forested wetland, and it holds immense cultural value. Extensive efforts were made from the late 1700's to mid 1900's to drain the swamp and much of the forest was clearcut for timber. The now-protected area is a refuge for remnant populations of priority species such as the timber rattlesnake and pine barrens tree frog. This PARCA is

threatened from the effects of climate change and human development, such as increased flood and drought periods and urban sprawl. Continued conservation efforts to restore hydrology, reduce pollution into wetlands, and prevent habitat destruction will be needed to preserve this delicate ecosystem.

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.

Hickory Nut Gorge
The Hickory Nut Gorge is a 20,000-acre, 14-mile-long canyon in the Blue Ridge Mountains of North Carolina. For several species, this gorge is genetically disjunct from populations in the Blue Ridge Escarpment, leading to the speciation of microendemics like the Hickory Nut Gorge green salamander, crevice salamander, and the Blue Ridge grey-cheeked salamander, as well as a huge biodiversity of regional species. Most of these populations have very low population densities with only a few individuals, and genetic analyses indicate low genetic diversity in these populations, suggesting a high level of inbreeding. The top threat to the species is habitat loss and fragmentation from tourism, real estate development, and the construction of transportation and energy infrastructure in the Hickory Nut Gorge. Efforts are currently in place to ensure greater buffer zones are created surrounding their current and potential habitats in rock outcrops, as well as work to increase connectivity between known populations. Each square mile in this PARCA is of great significance to these species who call the Hickory Nut Gorge their home, and there is still much work needed to ensure they are not only able to survive, but thrive here.

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.

Holly Shelter
Largely comprising Angola Bay, Stone's Creek, and Holly Shelter Game Lands along with Marine Corps Base Camp Lejeune, the Holly Shelter PARCA supports an extremely high diversity of reptiles and amphibians located along the North Carolina coast. The coastal marsh, peatlands, and barrier islands provide habitat for focal species like the gopher frog, oak toad, and eastern diamondback rattlesnake, as well as nesting habitat for the endangered loggerhead sea turtle. Although much of this PARCA is composed of protected public land, potential exists for acquiring private lands to join adjacent parcels and create contiguous habitat. Coastal development, habitat destruction, and wildfires threaten these ecosystems. Work should be done to create buffer zones and increase habitat connectivity to ensure protection of this PARCA and its inhabitants.

Nantahala
The Nantahala PARCA is nestled in the heart of the Southern Appalachians, an area that is a hotspot for some of the world's highest salamander, fish and mussel biodiversity. Many of the endemic species here rely on disappearing habitats such as rock outcrops, grassy balds, and bogs, which are experiencing region-wide threats from fragmentation, water pollution, and wetland draining. Important work is taking place to restore forest and wetlands to their natural conditions while we continue learning about the habitat requirements of the area's rare focal species.

Nantahala South
Located in the middle of some of the most continuous patches of forest in the Southeast, this PARCA is made up of steep mountains and high ridges. The forests in this region are predominantly hardwood with conifers intermingled on rocky ridges and in cool, moist stream valleys. This region receives abundant rainfall throughout the year and stays cool in the hotter summer months. Mountain coves form the high-gradient, rocky headwaters of the Tennessee and Savannah Rivers. This PARCA is home to high salamander diversity, including multiple species of the genus (group) Desmognathus.

Neuse Tar River
The Neuse Tar River PARCA follows the flows of the Neuse and Tar Rivers. Flowing from the Piedmont to the Coastal Plain, these two long rivers make up the entire known range of the Neuse River waterdog, a salamander endemic to North Carolina. Other priority species found within this PARCA include lesser siren and rainbow snake.

North Carolina Green Swamp
The North Carolina Green Swamp PARCA encompasses large tracts of protected land, including the Green Swamp Preserve and Juniper Lake Game Lands. This area is characterized by longleaf pine savannas and pocosins, which support small populations of priority conservation species such as the northern pine snake, mimic glass lizard, southern gopher frog, and eastern chicken turtle. This area is currently managed to restore longleaf pine ecosystems and maintain ecotones through prescribed fire. There is also high conservation potential for the restoration of degraded, undeveloped land within this PARCA.

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.

Northern Sandhills
This region comprises much of the Fall Line sandhill habitat in South Carolina between the Wateree River and the North Carolina state line. This area is characterized by deep, droughty sands dissected by small blackwater streams that typically support pocosin habitats along their margins. Historically, the uplands would have supported longleaf pine, and periodic fire would have played a role in maintaining this forest. Within the existing forest, there are areas of bare sand in addition to sandstone and ironstone outcrops. This region contains many threatened and endangered sandhill species.

Pam Albemarle
The Pam Albemarle PARCA is situated between the Pamlico and Albemarle Sounds, at the outlet of the Neuse and Tar Rivers. These two long rivers make up the entire known range of the Neuse River waterdog, a salamander endemic to North Carolina. Other priority species found within this PARCA include the lesser siren and rainbow snake. National wildlife refuges make up a good portion of the Pam Albemarle; however, habitat is still fragmented and impacted by human use. Conservation efforts should focus on streambank stabilization, restricting recreational access to sensitive habitats, reducing sedimentation and water pollution, and restoring natural streamflow conditions.

Pamlico Outerbanks
The Pamlico Outerbanks PARCA covers a very large area of the Pamlico Sound along with a large landmass in the Alligator River area. This PARCA is especially important for both fresh and saltwater turtles. The barrier islands and beaches provide nesting habitat for many sea turtle species, while the creeks support populations of diamondback terrapins. Spotted turtles can also be found in freshwater ecosystems inland of the sound. Cooler temperatures in this region may produce the least female-biased sex ratio of hatchlings. This, in turn, may become increasingly important in the face of climate change and projected warming in the region. Sea-level rise, more intense storms, and coastal erosion are all predicted to negatively affect the Pamlico Outerbanks. Protecting turtle nests, restoring coastal habitat, and incorporating turtle-friendly fishing gear will help mediate the negative effects of climate change and human impacts on this PARCA.

Sandhills
The Sandhills PARCA was once a fire-maintained longleaf pine-wiregrass community that supported an incredible diversity of unique plant and animal species. It still supports the largest and most intact remnants of the longleaf pine ecosystem in North Carolina. However, due to historic fire suppression and habitat loss, it is now just a small fragment of what once was. Located in south-central North Carolina, the Sandhills PARCA is characterized by unique topographical features like hillside seeps, dry sandy ridges, and coarse, well-draining soils. Priority conservation species, including the southern hognose snake, northern pine snake, eastern chicken turtle, eastern tiger salamander, pine barrens tree frog, and gopher

frog, still occur in limited numbers in the Sandhills PARCA. Habitat fragmentation and succession are the major threats to this region. Conservation measures that prioritize acquiring and protecting adjacent parcels to reestablish connectivity, and maintaining natural fire regimes, will greatly benefit the rare species that inhabit this PARCA.

South Brunswick
The South Brunswick PARCA is located in the very southeast corner of North Carolina, a region that is a significant center of endemic biota, with high biological diversity and many rare species. Pine flatwoods, pine savannas, freshwater marshes, pond pine woodlands, pocosins, and some sandhill communities were once common. Like many coastal areas, this PARCA has been impacted by development and land use changes, but a few small areas of high-quality lands are managed with public resources. To conserve remaining habitat and species, management techniques like restoring native vegetation, natural fire regimes, hydrological flow patterns, and shoreline integrity, as well as protecting and buffering remaining natural areas and wetlands, should be employed.

South Fork New River
The South Fork New River PARCA in Northwest North Carolina includes the most ecologically intact Southern Appalachian mountain bog complex, one of the rarest wetland habitat types in the state. These mountain bogs are home to the elusive bog turtle, North America's smallest turtle species and one of the most endangered turtles in the world. Both mountain bogs and bog turtles have seen drastic declines due to habitat loss and fragmentation, mostly due to ditching and draining wetlands for conversion to agricultural fields, and ecological succession. Habitat restorations that restore hydrology by streambank repair, filling ditches, removing invasive species, and clearing large woody debris will have the greatest conservation benefit for this PARCA. In addition, identifying remnant populations and acquiring land to reestablish metapopulation connectivity will safeguard populations from future development and declines.

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.

Upper Chattooga
Situated within the Blue Ridge, the Upper Chattooga PARCA is a sanctuary of hardwoods covering rugged terrain. The Chattooga River, carving its way south, is a high-quality watershed. The area is home to some of the highest peaks within the state and is notably cooler than other areas at the same latitude. The region has high salamander diversity, including multiple species found nowhere else in Georgia.

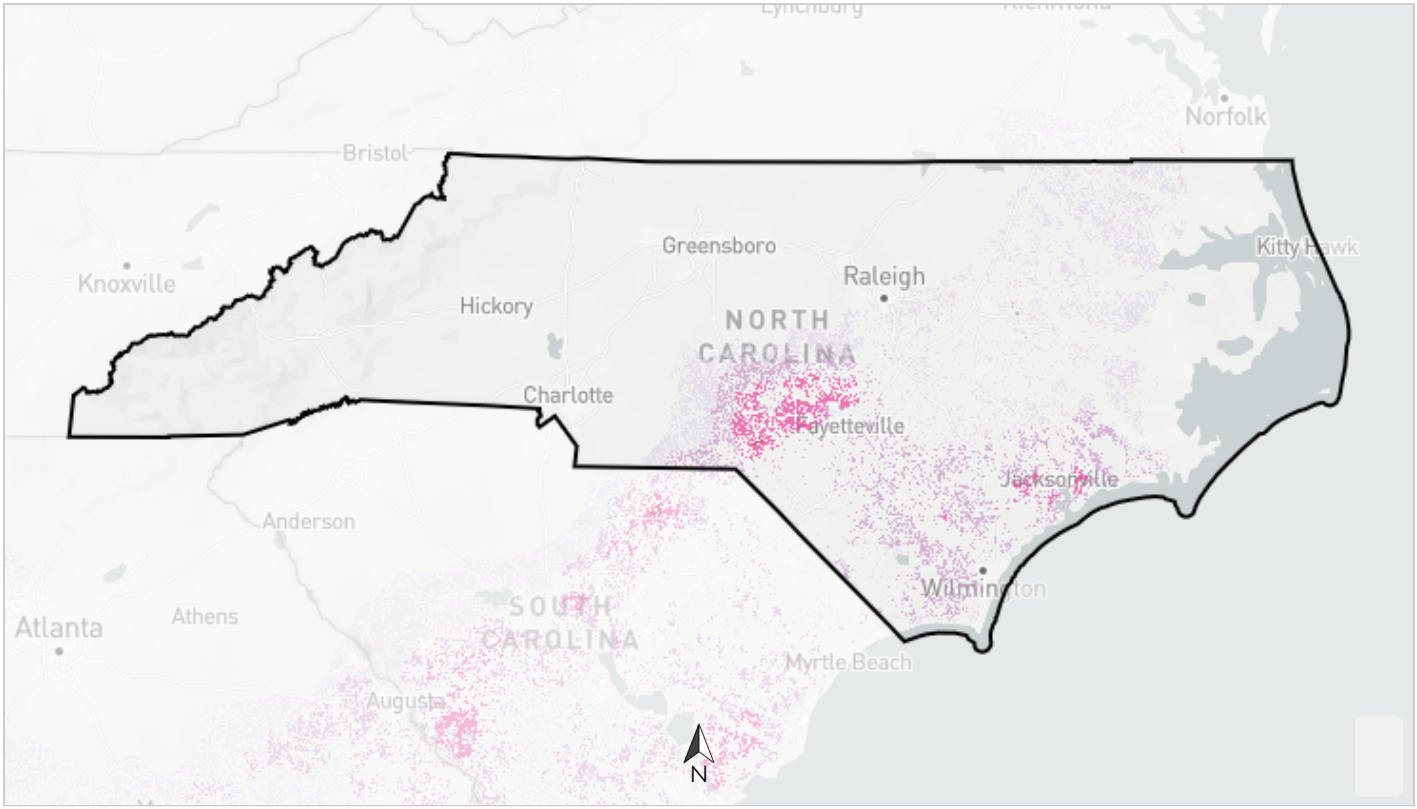
Uwharrie Mountains
The Uwharrie Mountains PARCA contains some of the largest remaining tracts of wildlife and rare plant habitat in the North Carolina Piedmont and includes much of the Uwharrie Mountains, among the oldest mountain ranges in North America. Species of conservation concern known to occur in this PARCA include the mole salamander, four-toed salamander, and timber rattlesnake. This area was historically used for gold mining, hunting, and timber farming, and was entirely clearcut at one point. There is also a system of roads and trails left behind from these activities that see heavy use from off-road vehicles and other recreational activities. Conservation strategies should focus on restoring native vegetative communities through planting and invasive species removal, protecting rare species by closing trails that could harm sensitive habitat, and creating a buffer zone around Uwharrie National Forest to prevent future development.

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

Terrestrial

East Coastal Plain open pine birds

This indicator identifies areas within the historic longleaf pine range east of the Mississippi River where creating or maintaining open pine habitat would most benefit six focal species of birds (Bachman's sparrow, red-cockaded woodpecker, Henslow's sparrow, red-headed woodpecker, Northern bobwhite, brown-headed nuthatch). It prioritizes areas for open pine conservation based on suitability for longleaf pine, feasibility of prescribed burning, proximity to protected lands, habitat suitability for focal bird species, and proximity to bird source populations. It originates from the East Gulf Coastal Plain Joint Venture's prioritization of areas for open pine ecosystem restoration.



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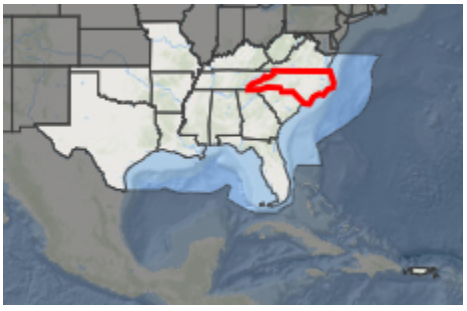


Priority for open pine conservation for focal bird species

- High priority (score >80-100)
- Medium-high priority (score >60-80)
- Medium priority (score >40-60)
- Medium-low priority (score >20-40)
- Low priority (score 0-20)
- Not a priority (not identified as upland pine)

Table 7: Indicator values for East Coastal Plain open pine birds within North Carolina. A good condition threshold is not yet defined for this indicator.

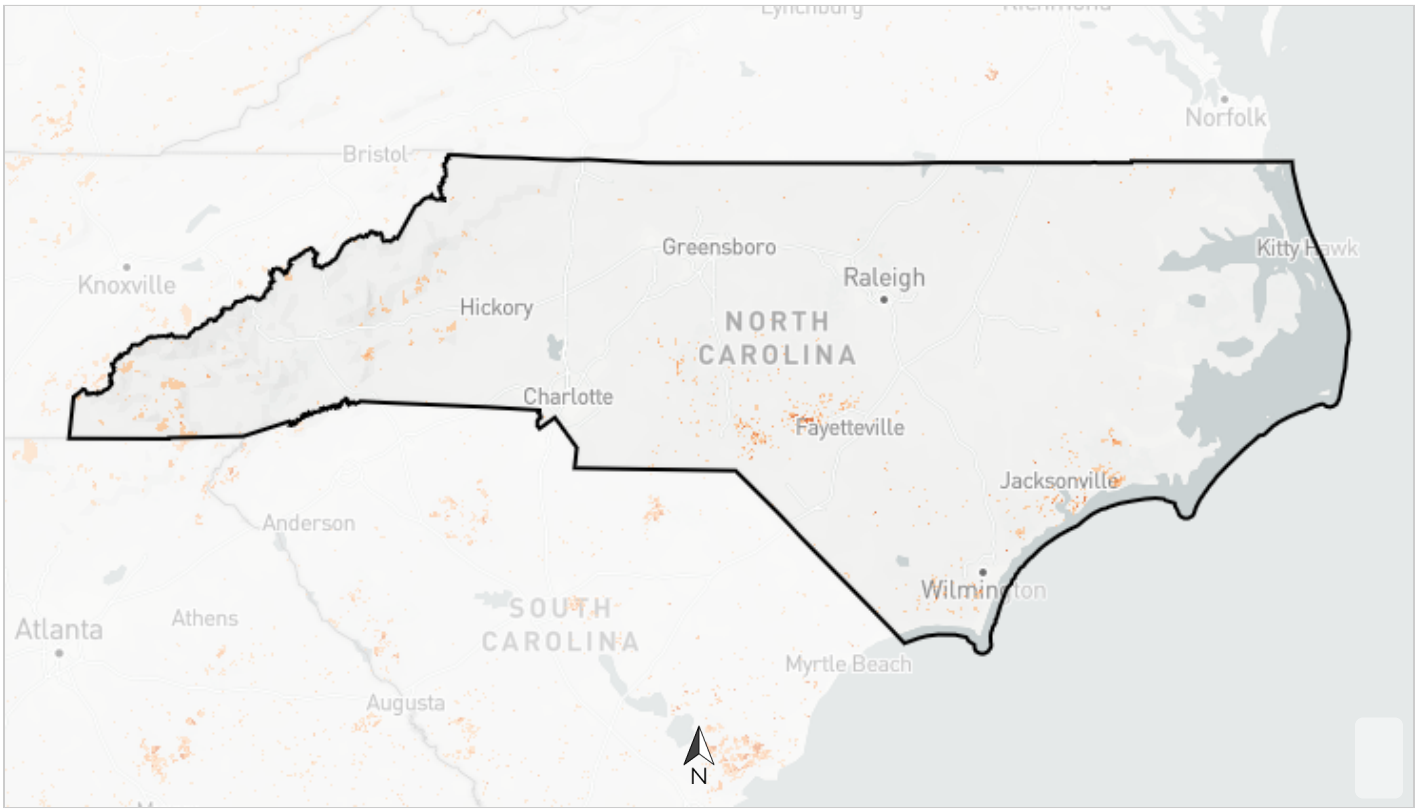
	Indicator Values: Priority for open pine conservation for focal bird species	Acres	Percent of Area
↑ High	High priority (score >80-100)	0	0%
	Medium-high priority (score >60-80)	2,223	<0.1%
	Medium priority (score >40-60)	328,341	1.0%
	Medium-low priority (score >20-40)	1,207,941	3.5%
	Low priority (score 0-20)	1,870,062	5.4%
↓ Low	Not a priority (not identified as upland pine)	10,392,890	30.2%
	Area not evaluated for this indicator	*20,642,373*	*59.9%*
	Total area	**34,443,831**	**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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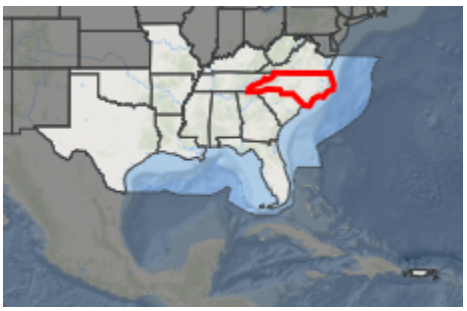


- Burned 3+ times from 2013-2021
- Burned 2 times from 2013-2021
- Burned 1 time from 2013-2021
- Not burned from 2013-2021 or row crop

Table 8: Indicator values for fire frequency within North Carolina. Good condition thresholds reflect the range of indicator values that occur in healthy, functioning ecosystems.

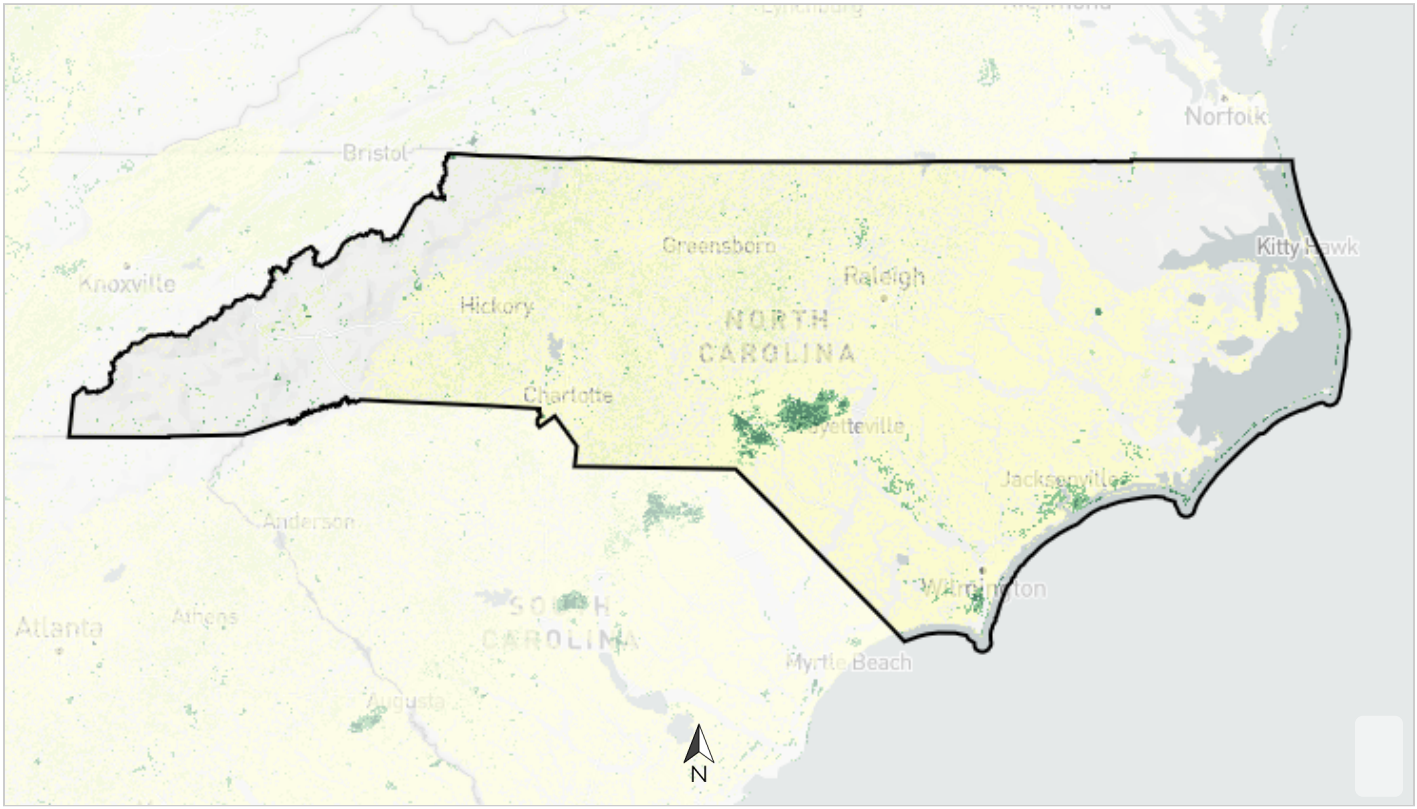
	Indicator Values	Acres	Percent of Area	
↑ High	Burned 3+ times from 2013-2021	12,470	<0.1%	
	Burned 2 times from 2013-2021	54,036	0.2%	↑ In good condition
	Burned 1 time from 2013-2021	420,556	1.2%	↓ Not in good condition
↓ Low	Not burned from 2013-2021 or row crop	33,944,884	98.6%	
	Area not evaluated for this indicator	*11,885*	*<0.1%*	
	Total area	**34,443,831**	**100%**	

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

Terrestrial

Grasslands and savannas

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



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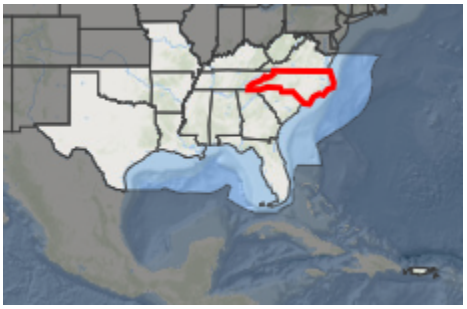

- Known grassland/savanna
- Likely grassland/savanna >10 acres
- Likely grassland/savanna ≤10 acres
- Pollinator buffer around known or likely grassland/savanna
- Potential grassland/savanna in mostly natural landscape
- Potential grassland/savanna in more altered landscape
- Historic grassland/savanna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

Table 9: Indicator values for grasslands and savannas within North Carolina. 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	2,841	<0.1%	
	Likely grassland/savanna >10 acres	167,199	0.5%	
	Likely grassland/savanna ≤10 acres	35,799	0.1%	↑ In good condition
	Pollinator buffer around known or likely grassland/savanna	471,252	1.4%	↓ Not in good condition
	Potential grassland/savanna in mostly natural landscape	253,623	0.7%	
	Potential grassland/savanna in more altered landscape	3,464,154	10.1%	
	Historic grassland/savanna	14,380,329	41.8%	
↓ Low	Not identified as grassland/savanna	12,999,578	37.7%	
	Area not evaluated for this indicator	*2,669,054*	*7.7%*	
	Total area	**34,443,831**	**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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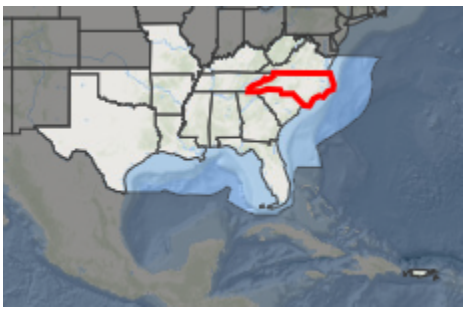


- Mostly natural and connected for ≥40 km
- Mostly natural and connected for 5 to <40 km or partly natural and connected for ≥40 km
- Mostly natural and connected for 1.9 to <5 km, partly natural and connected for 5 to <40 km, or developed and connected for ≥40 km
- Mostly natural and connected for <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 10: Indicator values for greenways & trails within North Carolina. Good condition thresholds reflect the range of indicator values that occur in healthy, functioning ecosystems.

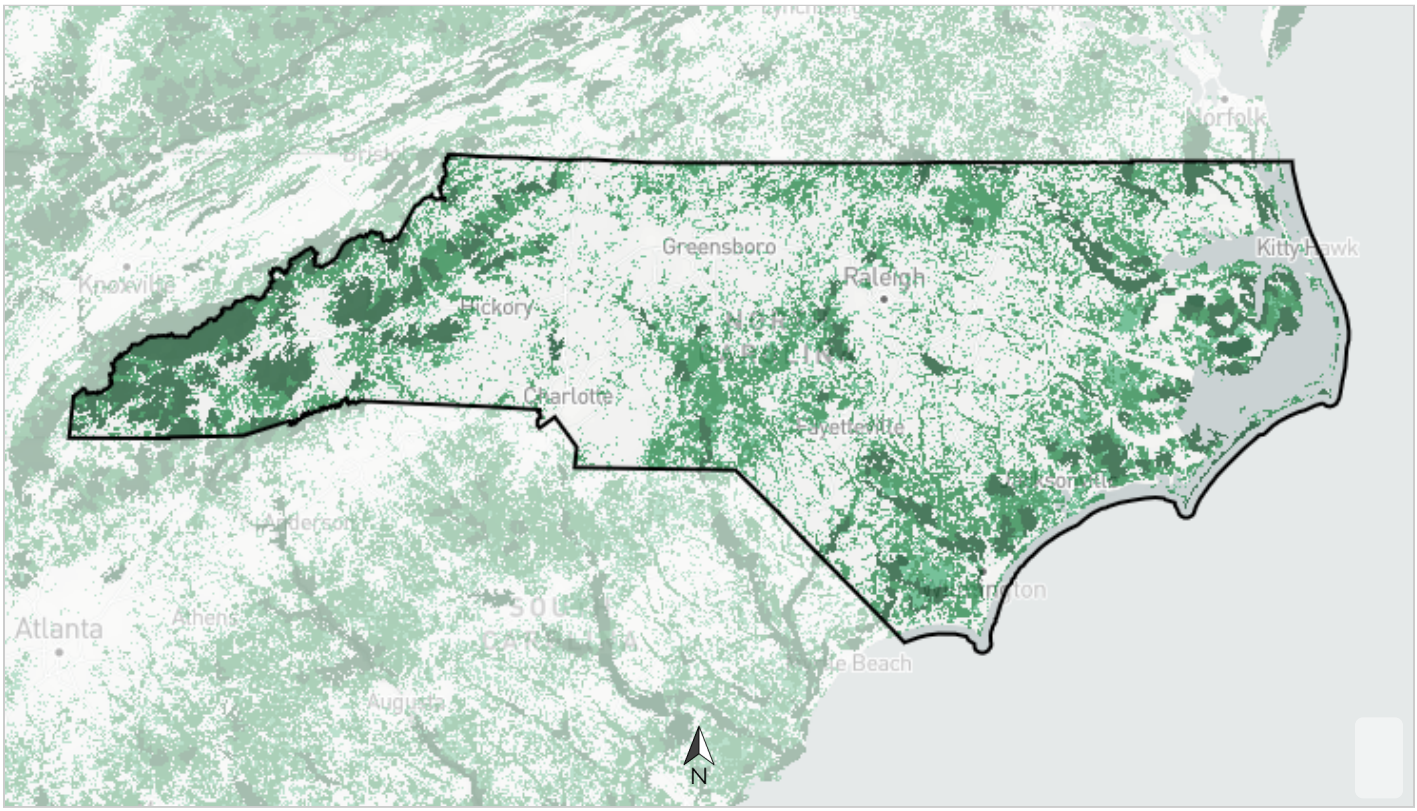
	Indicator Values	Acres	Percent of Area	
↑ High	Mostly natural and connected for ≥40 km	18,822	<0.1%	
	Mostly natural and connected for 5 to <40 km or partly natural and connected for ≥40 km	25,184	<0.1%	
	Mostly natural and connected for 1.9 to <5 km, partly natural and connected for 5 to <40 km, or developed and connected for ≥40 km	20,040	<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	13,257	<0.1%	↑ In good condition
	Partly natural and connected for <1.9 km or developed and connected for 1.9 to <5 km	6,508	<0.1%	↓ Not in good condition
	Developed and connected for <1.9 km	7,991	<0.1%	
	Sidewalk	79,488	0.2%	
↓ Low	Not identified as a trail, sidewalk, or other path	34,270,901	99.5%	
	Area not evaluated for this indicator	*1,640*	*<0.1%*	
	Total area	**34,443,831**	**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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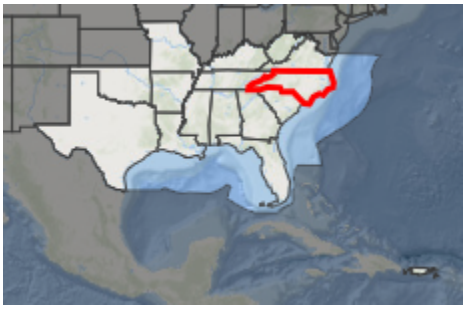


- Large core (>10,000 acres)
- Medium core (>1,000-10,000 acres)
- Small core (>100-1,000 acres)
- Not a core

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

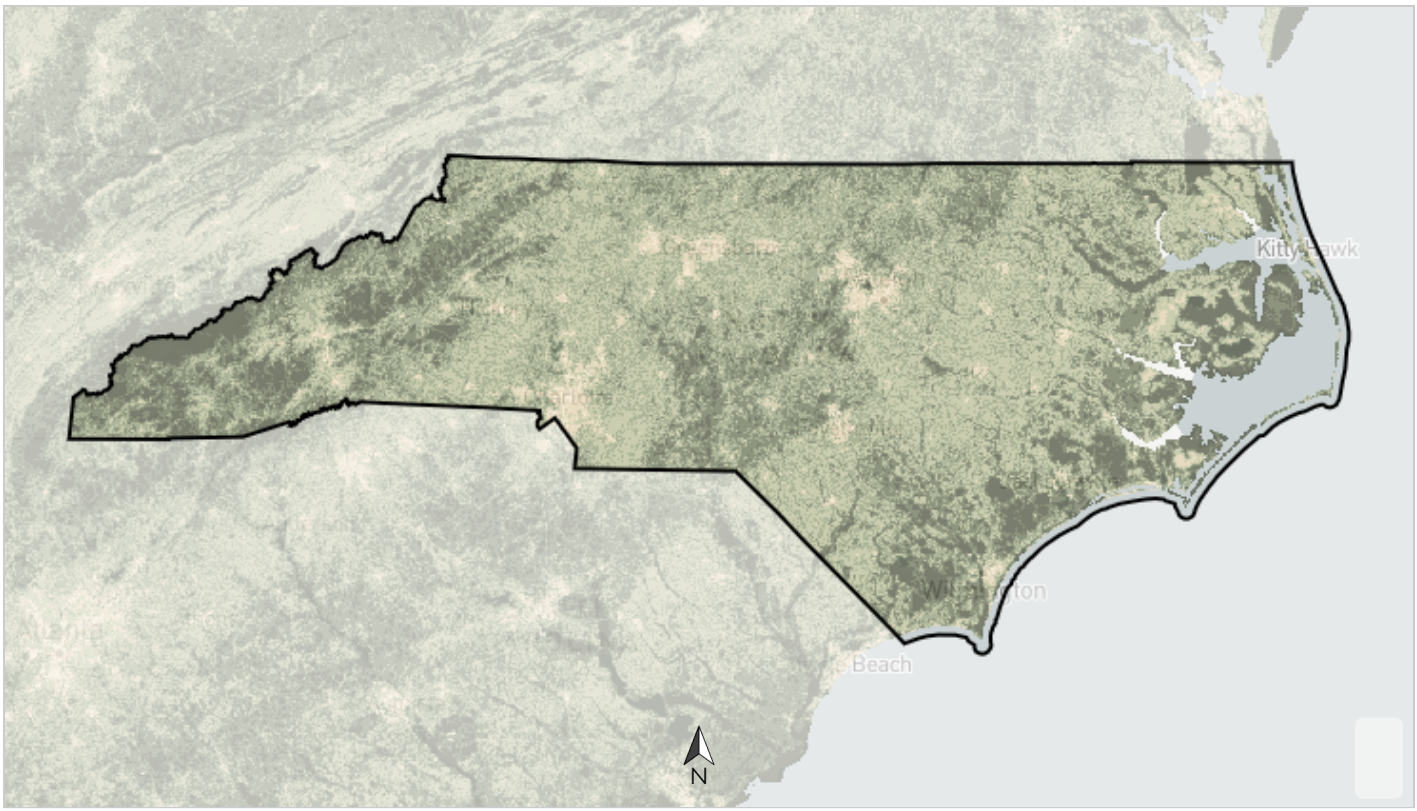
	Indicator Values	Acres	Percent of Area	
↑ High	Large core (>10,000 acres)	3,792,692	11.0%	
	Medium core (>1,000-10,000 acres)	6,408,406	18.6%	
	Small core (>100-1,000 acres)	3,737,302	10.9%	↑ In good condition
↓ Low	Not a core	20,503,791	59.5%	↓ Not in good condition
	Area not evaluated for this indicator	*1,640*	*<0.1%*	
	Total area	**34,443,831**	**100%**	

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

Terrestrial

Landscape condition

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



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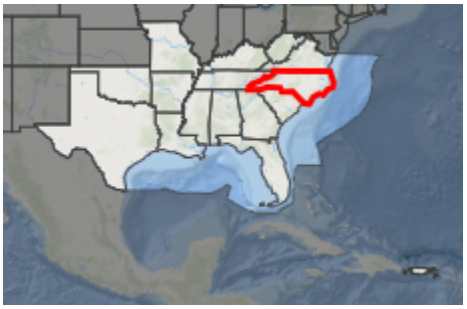


- Very natural landscape
- Natural landscape
- Mostly natural landscape
- Partly natural landscape
- Altered landscape
- Heavily altered landscape

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

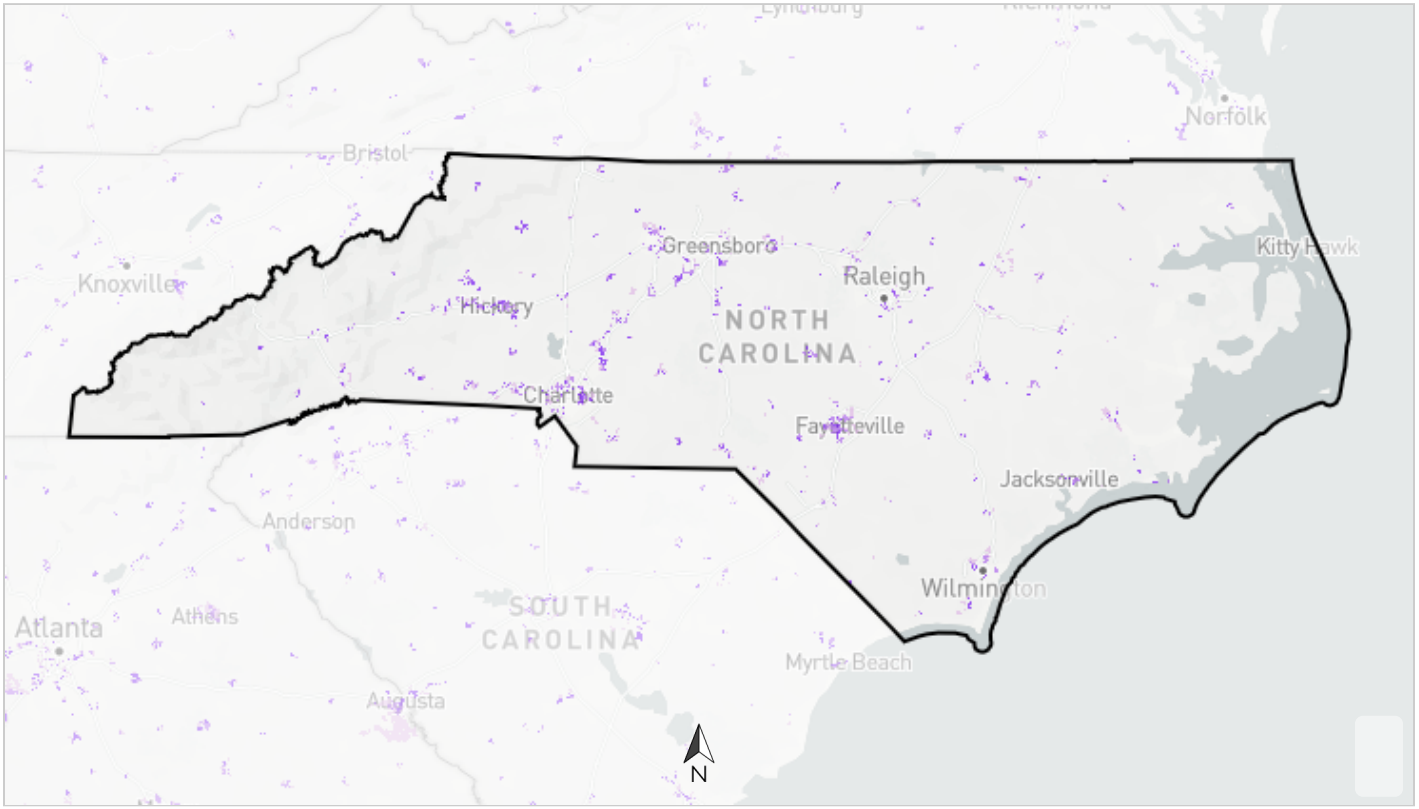
	Indicator Values	Acres	Percent of Area	
↑ High	Very natural landscape	3,337,297	9.7%	
	Natural landscape	7,212,181	20.9%	
	Mostly natural landscape	10,774,041	31.3%	↑ In good condition
	Partly natural landscape	9,139,083	26.5%	↓ Not in good condition
	Altered landscape	1,104,595	3.2%	
↓ Low	Heavily altered landscape	207,579	0.6%	
	Area not evaluated for this indicator	*2,669,054*	*7.7%*	
	Total area	**34,443,831**	**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 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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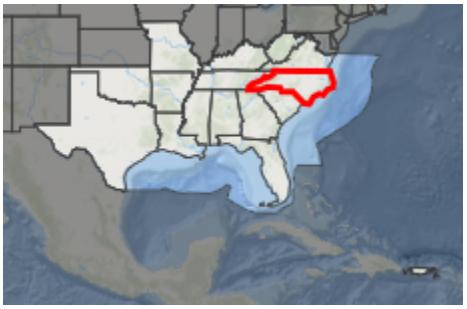


Priority for a new park that would create nearby equitable access

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

Table 13: Indicator values for potential access to parks within North Carolina. A good condition threshold is not yet defined for this indicator.

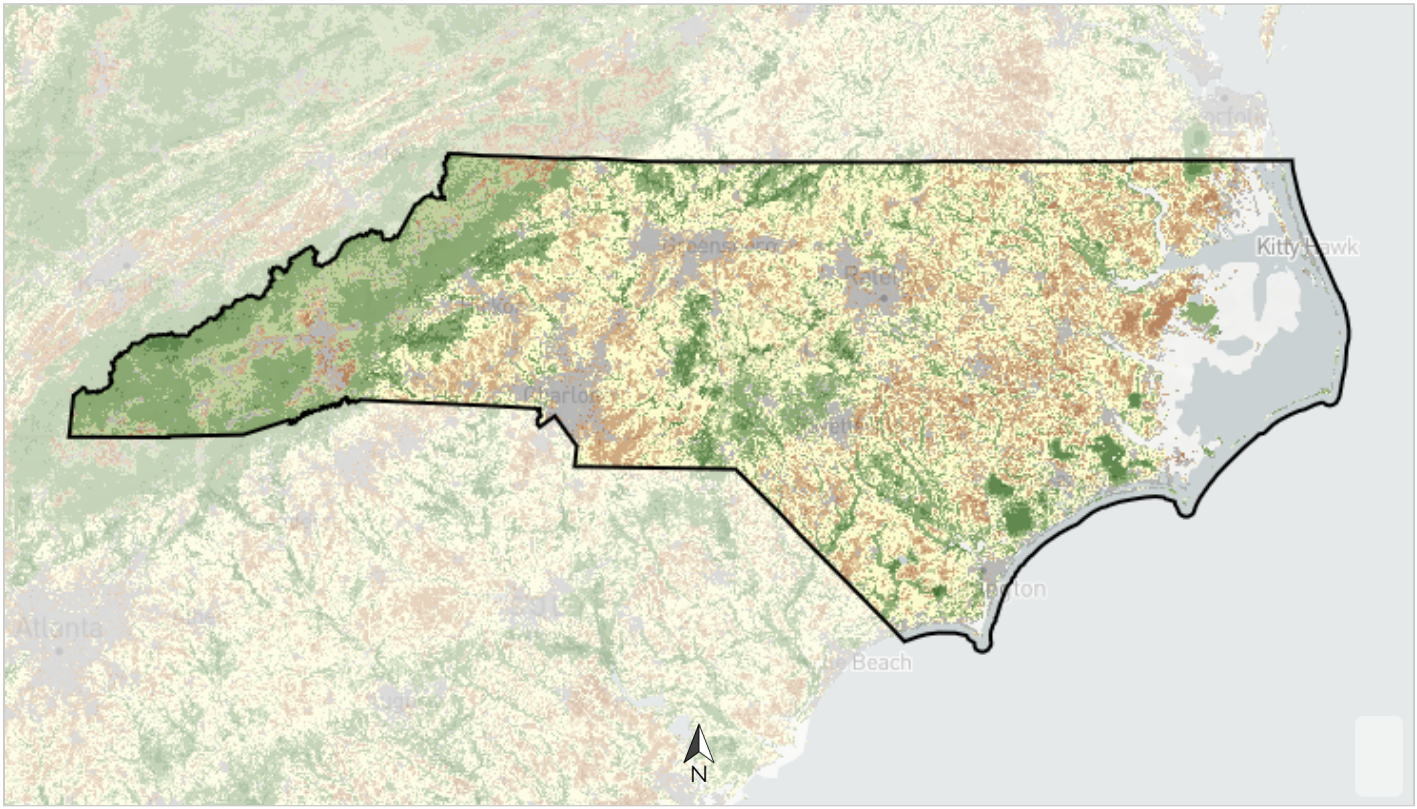
	Indicator Values: Priority for a new park that would create nearby equitable access	Acres	Percent of Area
↑ High	Very high priority	168,102	0.5%
	High priority	223,385	0.6%
	Moderate priority	180,159	0.5%
↓ Low	Not identified as a priority (within urban areas)	31,205,755	90.6%
	Area not evaluated for this indicator	*2,666,429*	*7.7%*
	Total area	**34,443,831**	**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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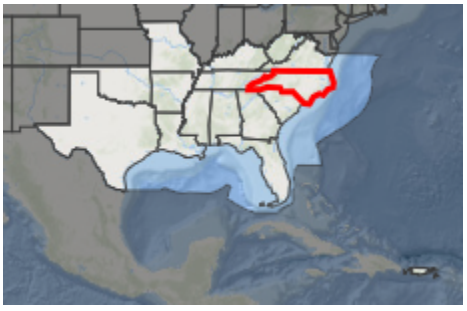


- Most resilient
- More resilient
- Slightly more resilient
- Average/median resilience
- Slightly less resilient
- Less resilient
- Least resilient
- Developed

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

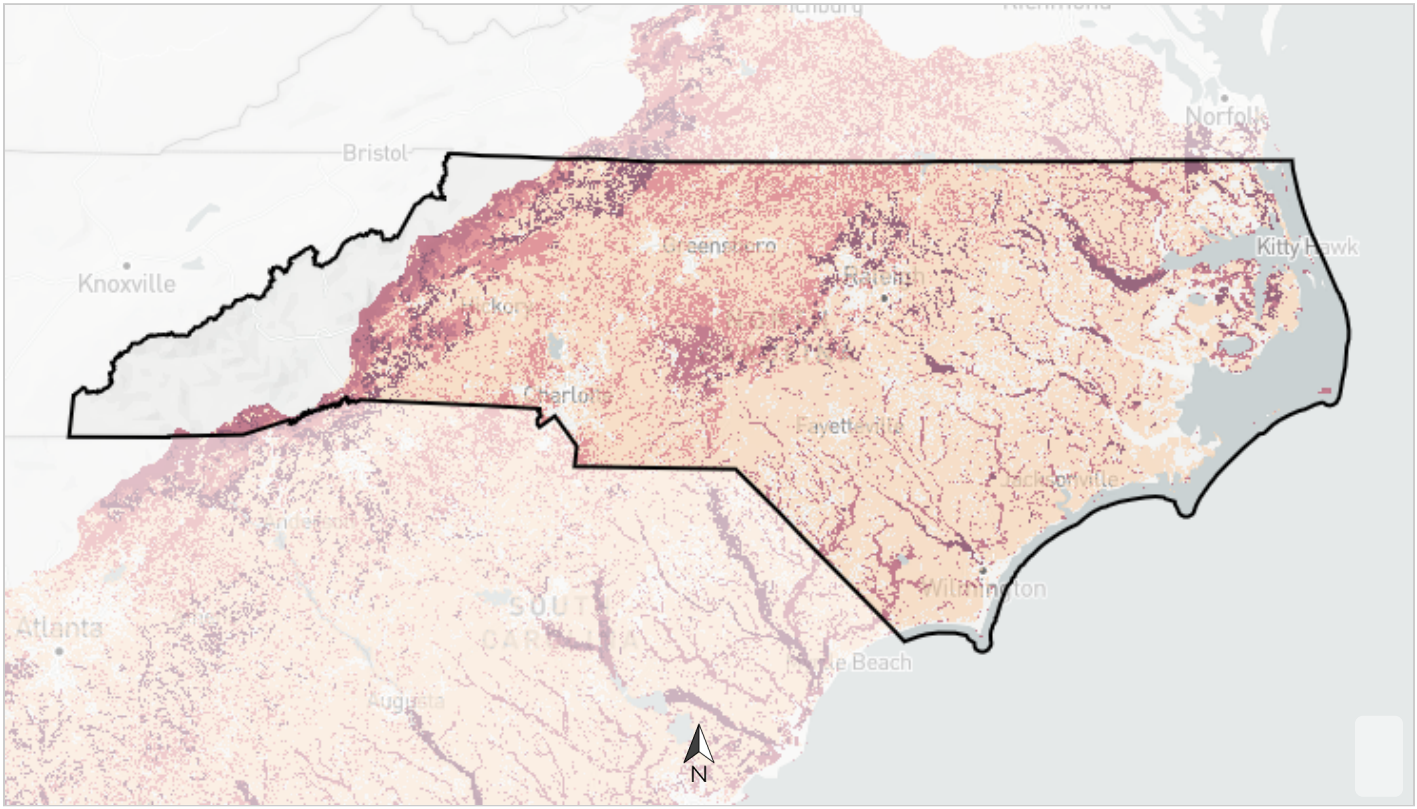
	Indicator Values	Acres	Percent of Area
↑ High	Most resilient	897,721	2.6%
	More resilient	5,385,116	15.6%
	Slightly more resilient	3,980,535	11.6%
	Average/median resilience	7,267,817	21.1%
	Slightly less resilient	3,317,387	9.6%
	Less resilient	3,143,594	9.1%
	Least resilient	667,530	1.9%
↓ Low	Developed	4,155,850	12.1%
	Area not evaluated for this indicator	*5,628,281*	*16.3%*
	Total area	**34,443,831**	**100%**

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

Terrestrial

South Atlantic forest birds

This indicator is an index of habitat suitability for twelve upland hardwood and forested wetland bird species (wood thrush, whip-poor-will, American woodcock, red-headed woodpecker, Chuck-will's widow, hooded warbler, Kentucky warbler, Acadian flycatcher, Northern parula, black-throated green warbler, prothonotary warbler, Swainson's warbler) based on patch size and other ecosystem characteristics such as proximity to water and proximity to forest and ecotone edge. The needs of these species are increasingly restrictive at higher index values, reflecting better quality habitat. It originates from Southeast Gap Analysis Program and Designing Sustainable Landscapes bird habitat models.



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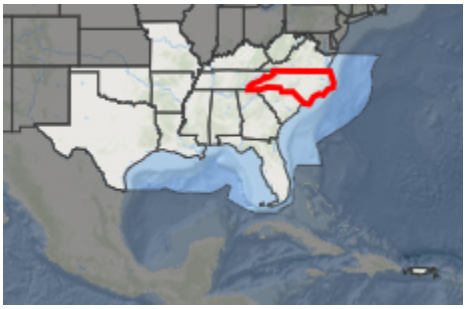


Potential for presence of forest bird index species

- Very large patches near water (potential for Swainson's warbler)
- Large patches often near water (potential for Northern parula, black-throated green warbler, or Prothonotary warbler)
- Medium patches (potential for Acadian flycatcher)
- Small patches often near water (potential for hooded warbler or Kentucky warbler)
- Very small patches or near open areas (potential for wood thrush, whip-poor-will, red-headed woodpecker, Chuck-will's widow, or American woodcock)
- Less potential

Table 15: Indicator values for South Atlantic forest birds within North Carolina. Good condition thresholds reflect the range of indicator values that occur in healthy, functioning ecosystems.

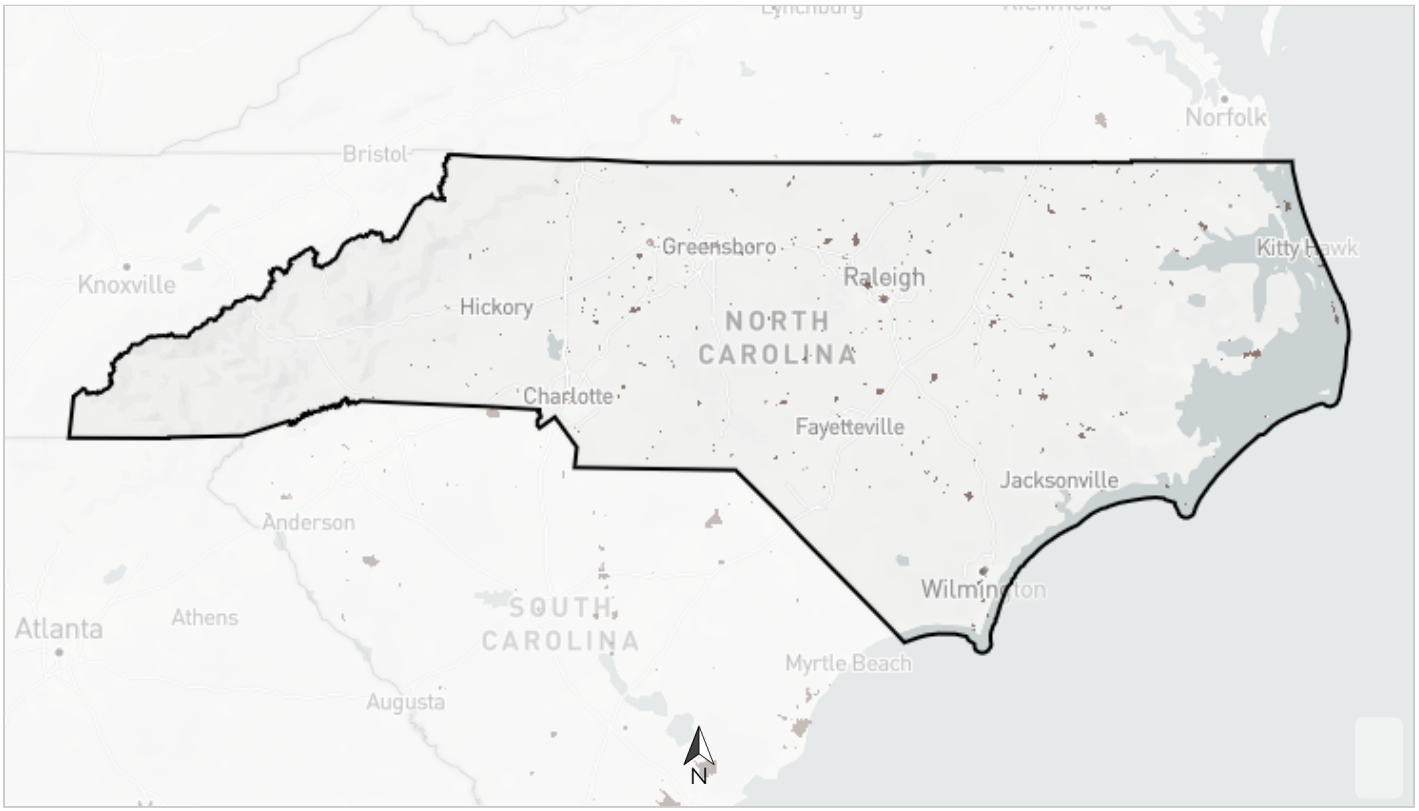
	Indicator Values: Potential for presence of forest bird index species	Acres	Percent of Area	
↑ High	Very large patches near water (potential for Swainson's warbler)	1,133,642	3.3%	
	Large patches often near water (potential for Northern parula, black-throated green warbler, or Prothonotary warbler)	2,363,212	6.9%	
	Medium patches (potential for Acadian flycatcher)	3,282,344	9.5%	
	Small patches often near water (potential for hooded warbler or Kentucky warbler)	1,192,294	3.5%	↑ In good condition
	Very small patches or near open areas (potential for wood thrush, whip-poor-will, red-headed woodpecker, Chuck-will's widow, or American woodcock)	14,628,914	42.5%	↓ Not in good condition
↓ Low	Less potential	7,958,810	23.1%	
	Area not evaluated for this indicator	*3,884,615*	*11.3%*	
	Total area	**34,443,831**	**100%**	

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

Terrestrial

South Atlantic low-urban historic landscapes

This cultural resource indicator is an index of sites on the National Register of Historic Places surrounded by limited urban development. It identifies significant historic places that remain connected to their context in the natural world. It uses the National Land Cover Database and historic places data from the National Park Service and various state historic resource agencies.



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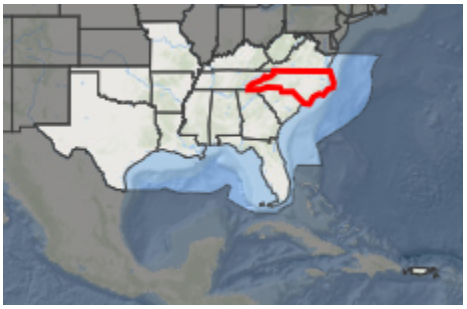


- Historic place with nearby low-urban buffer
- Historic place with nearby high-urban buffer
- Not in the National Register of Historic Places

Table 16: Indicator values for South Atlantic low-urban historic landscapes within North Carolina. A good condition threshold is not yet defined for this indicator.

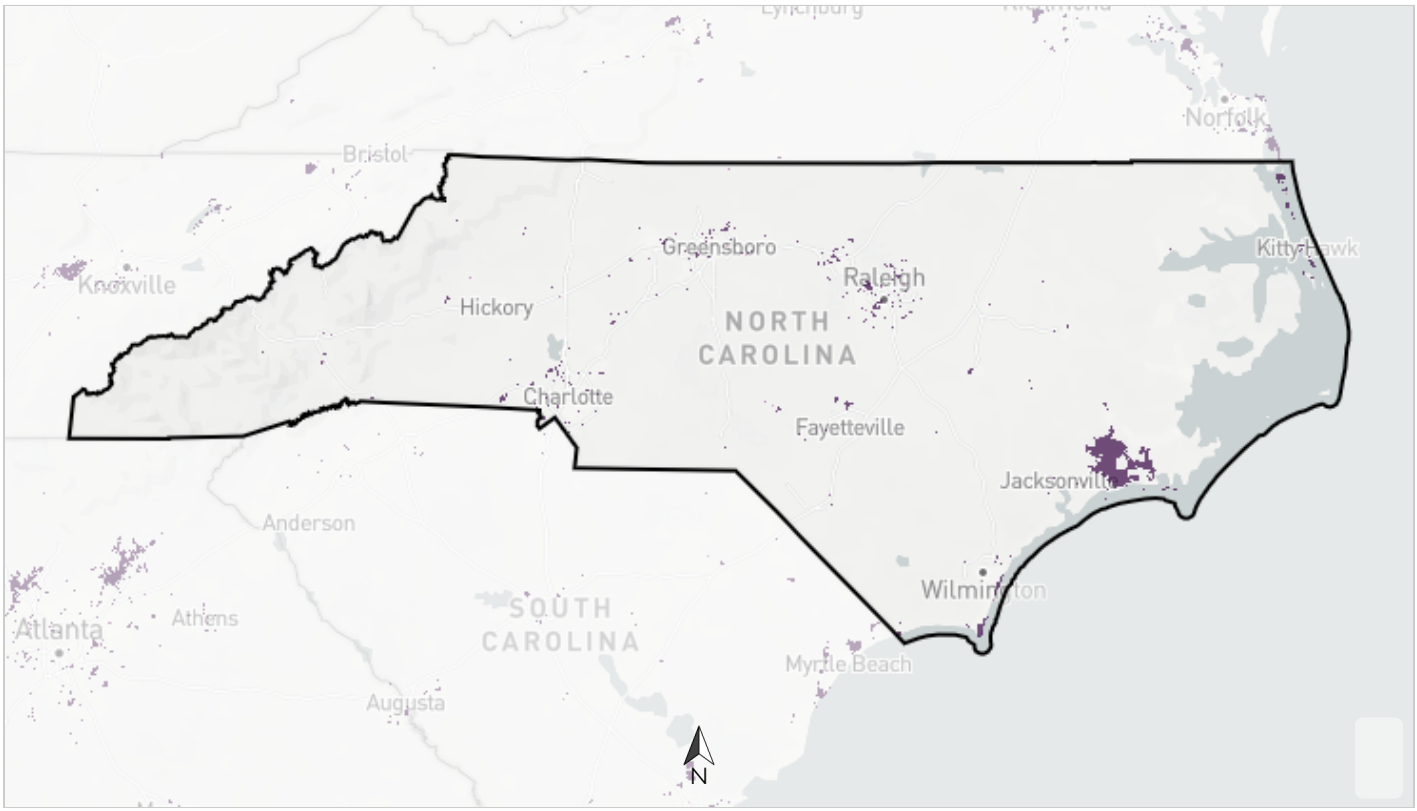
	Indicator Values	Acres	Percent of Area
↑ High	Historic place with nearby low-urban buffer	217,931	0.6%
	Historic place with nearby high-urban buffer	82,674	0.2%
↓ Low	Not in the National Register of Historic Places	29,262,478	85.0%
	Area not evaluated for this indicator	*4,880,748*	*14.2%*
	Total area	**34,443,831**	**100%**

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

Terrestrial

Urban park size

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



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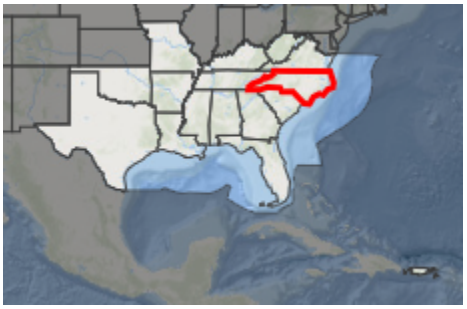


- 75+ acre urban park
- 50 to <75 acre urban park
- 30 to <50 acre urban park
- 10 to <30 acre urban park
- 5 to <10 acre urban park
- <5 acre urban park
- Not identified as an urban park

Table 17: Indicator values for urban park size within North Carolina. A good condition threshold is not yet defined for this indicator.

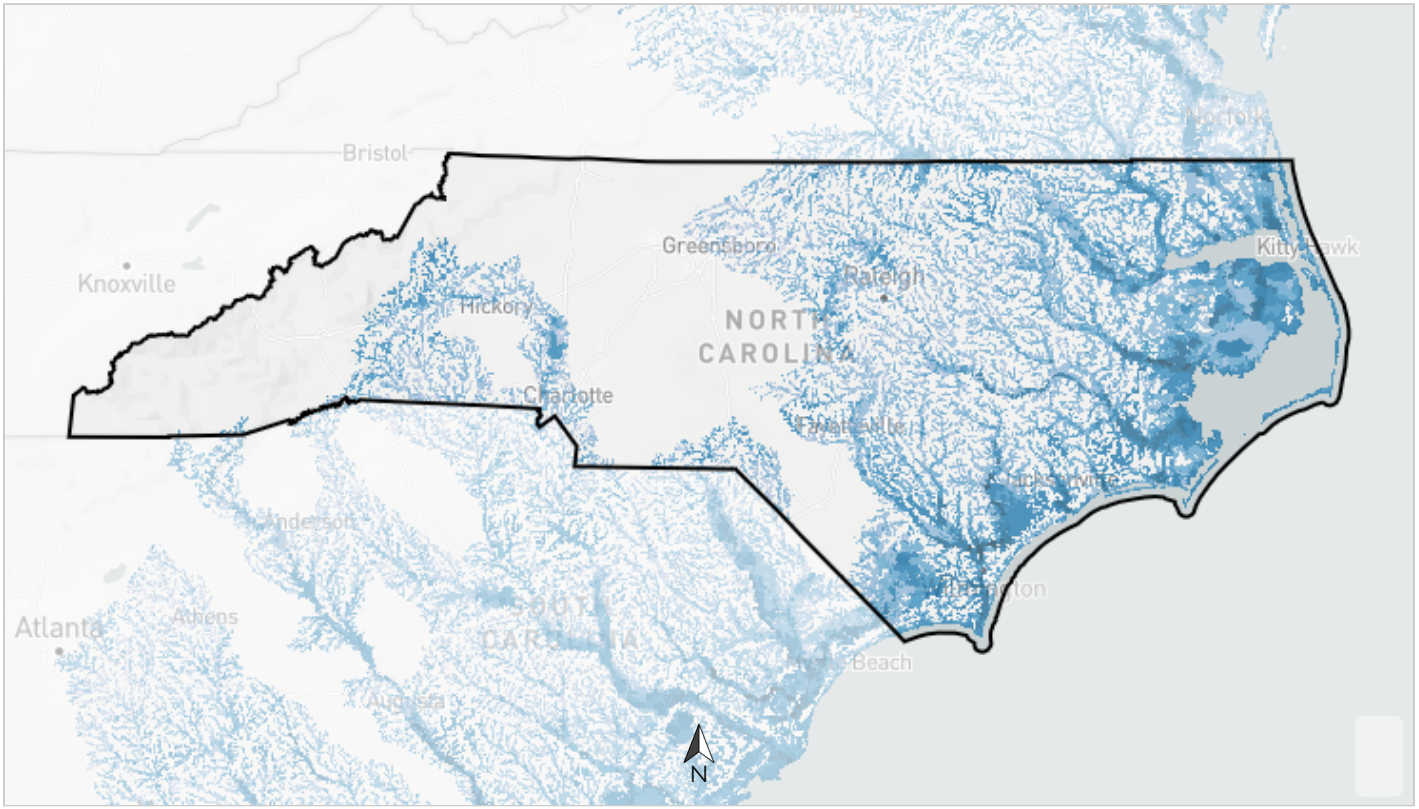
	Indicator Values	Acres	Percent of Area
↑ High	75+ acre urban park	326,331	0.9%
	50 to <75 acre urban park	11,139	<0.1%
	30 to <50 acre urban park	14,167	<0.1%
	10 to <30 acre urban park	19,567	<0.1%
	5 to <10 acre urban park	6,898	<0.1%
	<5 acre urban park	7,911	<0.1%
↓ Low	Not identified as an urban park	33,495,038	97.2%
	Area not evaluated for this indicator	*562,778*	*1.6%*
	Total area	**34,443,831**	**100%**

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

Freshwater

Atlantic migratory fish habitat

This indicator measures the condition of migratory fish habitat along the Atlantic coast within each catchment, using metrics of water quality, aquatic connectivity, habitat fragmentation, flow alteration, and more. Areas of excellent fish habitat are already in good condition and face few threats. Restoration opportunity areas are doing well in some respects, but restoration projects could significantly improve them. Degraded areas of opportunity face many challenges, and restoration projects are unlikely to increase available fish habitat unless particularly large in scope and scale. This indicator originates from the Atlantic Coast Fish Habitat Partnership's fish habitat conservation area mapping and prioritization project.



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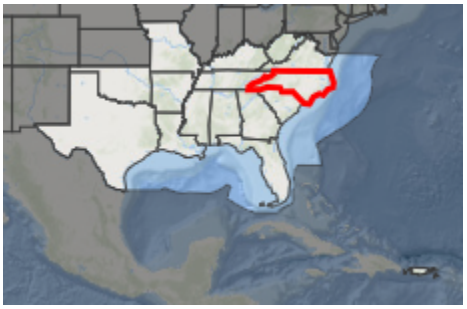


- Final score of 80 (areas of excellent fish habitat)
- Final score of 70 (areas of excellent fish habitat)
- Final score of 60 (restoration opportunity areas)
- Final score of 50 (restoration opportunity areas)
- Final score of 40 (restoration opportunity areas)
- Final score of 30 (restoration opportunity areas)
- Final score of 20 (restoration opportunity areas)
- Final score of 10 (degraded areas of opportunity)
- Final score of 0 (degraded areas of opportunity)

Table 18: Indicator values for Atlantic migratory fish habitat within North Carolina. Good condition thresholds reflect the range of indicator values that occur in healthy, functioning ecosystems.

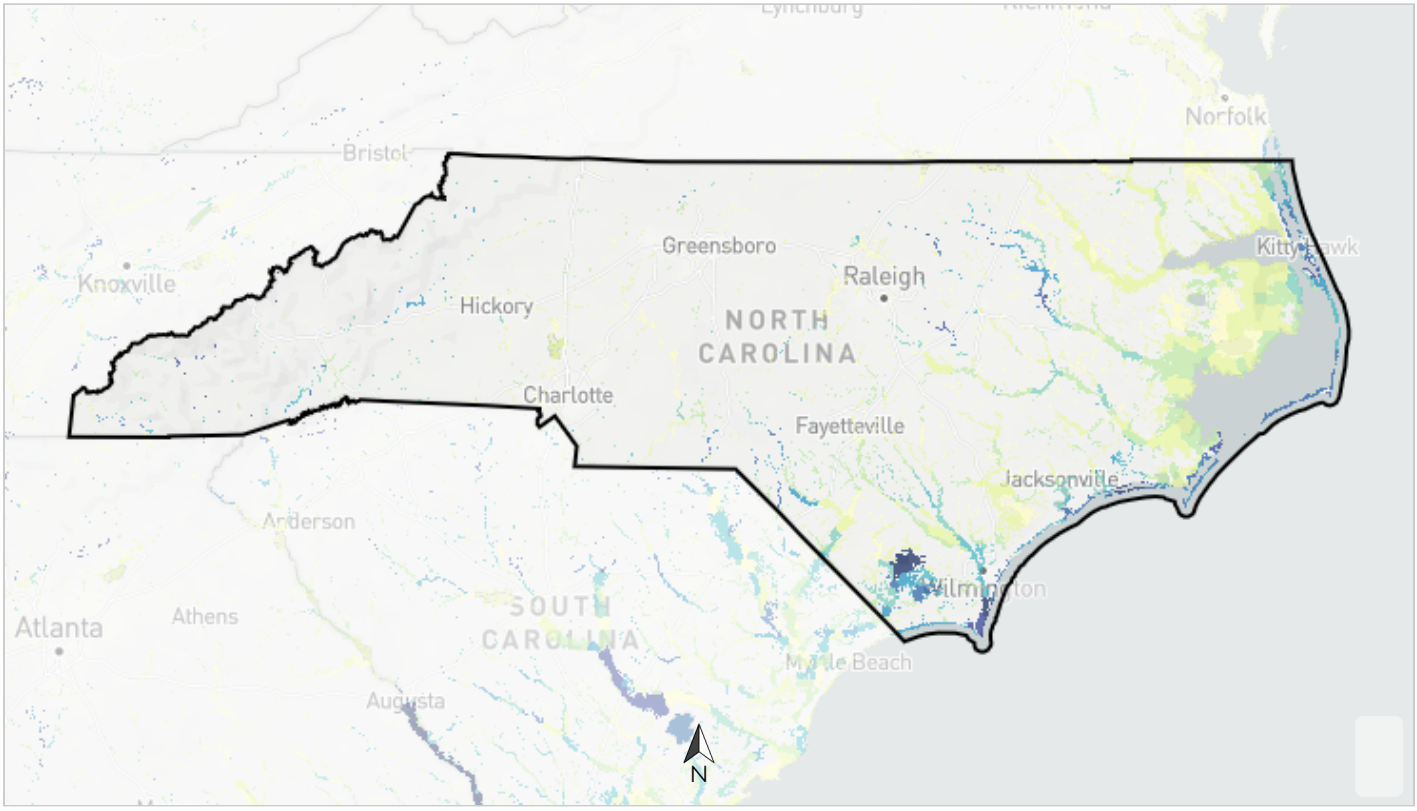
	Indicator Values	Acres	Percent of Area	
↑ High	Final score of 80 (areas of excellent fish habitat)	38,152	0.1%	
	Final score of 70 (areas of excellent fish habitat)	466,907	1.4%	↑ In good condition
	Final score of 60 (restoration opportunity areas)	1,057,215	3.1%	↓ Not in good condition
	Final score of 50 (restoration opportunity areas)	700,781	2.0%	
	Final score of 40 (restoration opportunity areas)	1,043,183	3.0%	
	Final score of 30 (restoration opportunity areas)	945,435	2.7%	
	Final score of 20 (restoration opportunity areas)	152,569	0.4%	
	Final score of 10 (degraded areas of opportunity)	21,870	<0.1%	
↓ Low	Final score of 0 (degraded areas of opportunity)	2,366	<0.1%	
	Area not evaluated for this indicator	*30,015,353*	*87.1%*	
	Total area	**34,443,831**	**100%**	

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

Freshwater

Imperiled aquatic species

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



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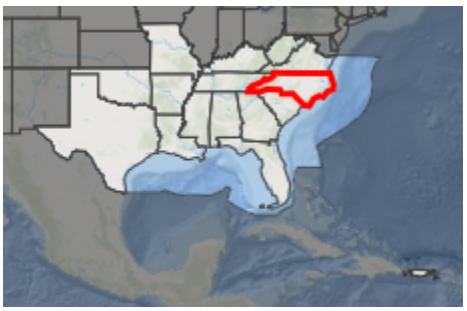


Number of aquatic animal Regional Species of Greatest Conservation Need (RSGCN) observed

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

Table 19: Indicator values for imperiled aquatic species within North Carolina. A good condition threshold is not yet defined for this indicator.

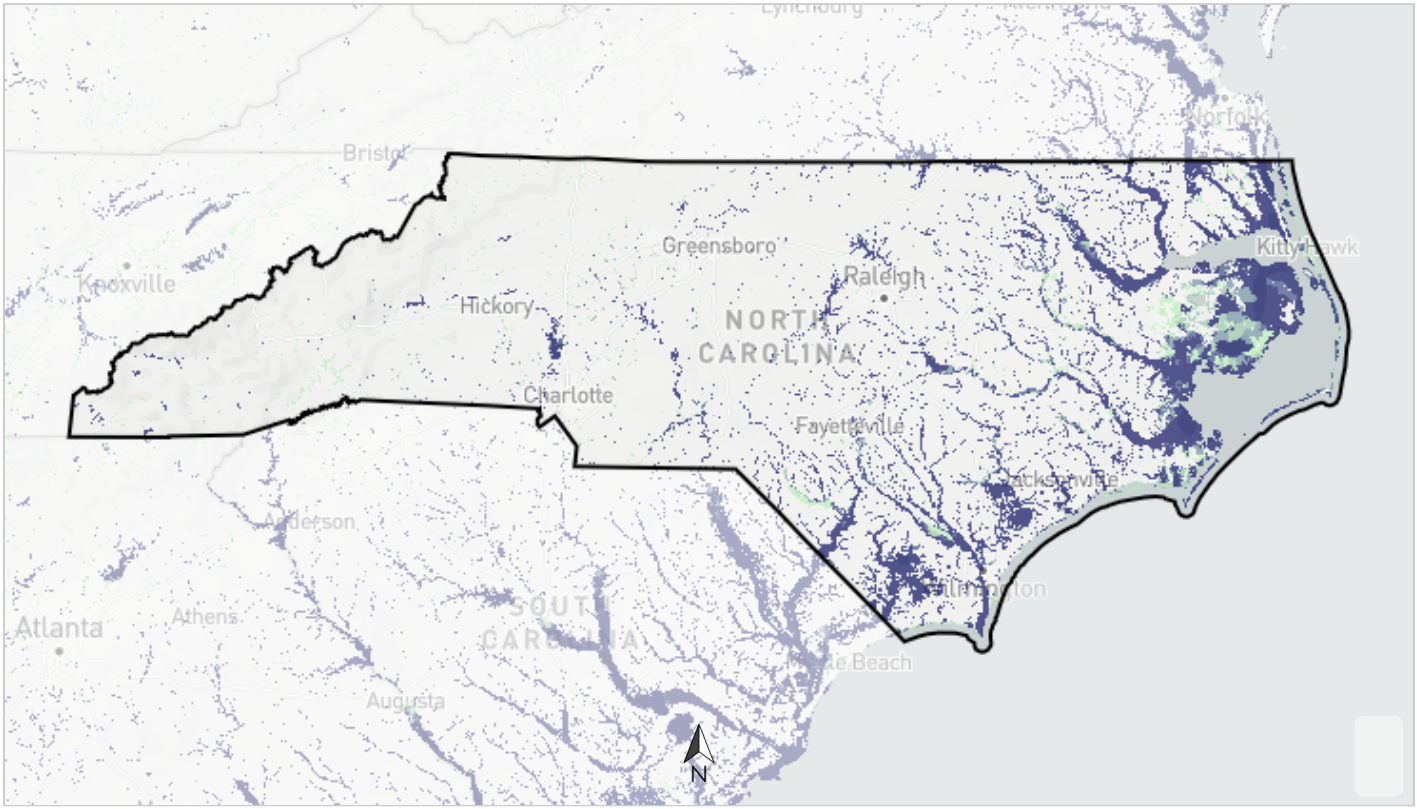
	Indicator Values: Number of aquatic animal Regional Species of Greatest Conservation Need (RSGCN) observed	Acres	Percent of Area
↑ High	8+ species	70,789	0.2%
	7 species	49,766	0.1%
	6 species	136,675	0.4%
	5 species	196,944	0.6%
	4 species	217,814	0.6%
	3 species	415,615	1.2%
	2 species	1,078,759	3.1%
	1 species	1,908,385	5.5%
	0 species	1,106,904	3.2%
↓ Low	Not identified as a floodplain	26,830,655	77.9%
	Area not evaluated for this indicator	*2,431,524*	*7.1%*
	Total area	**34,443,831**	**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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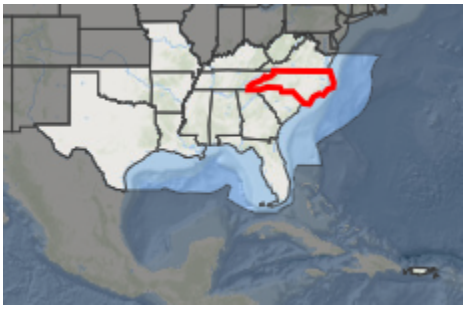


Percent natural landcover within the estimated floodplain, by catchment

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

Table 20: Indicator values for natural landcover in floodplains within North Carolina. Good condition thresholds reflect the range of indicator values that occur in healthy, functioning ecosystems.

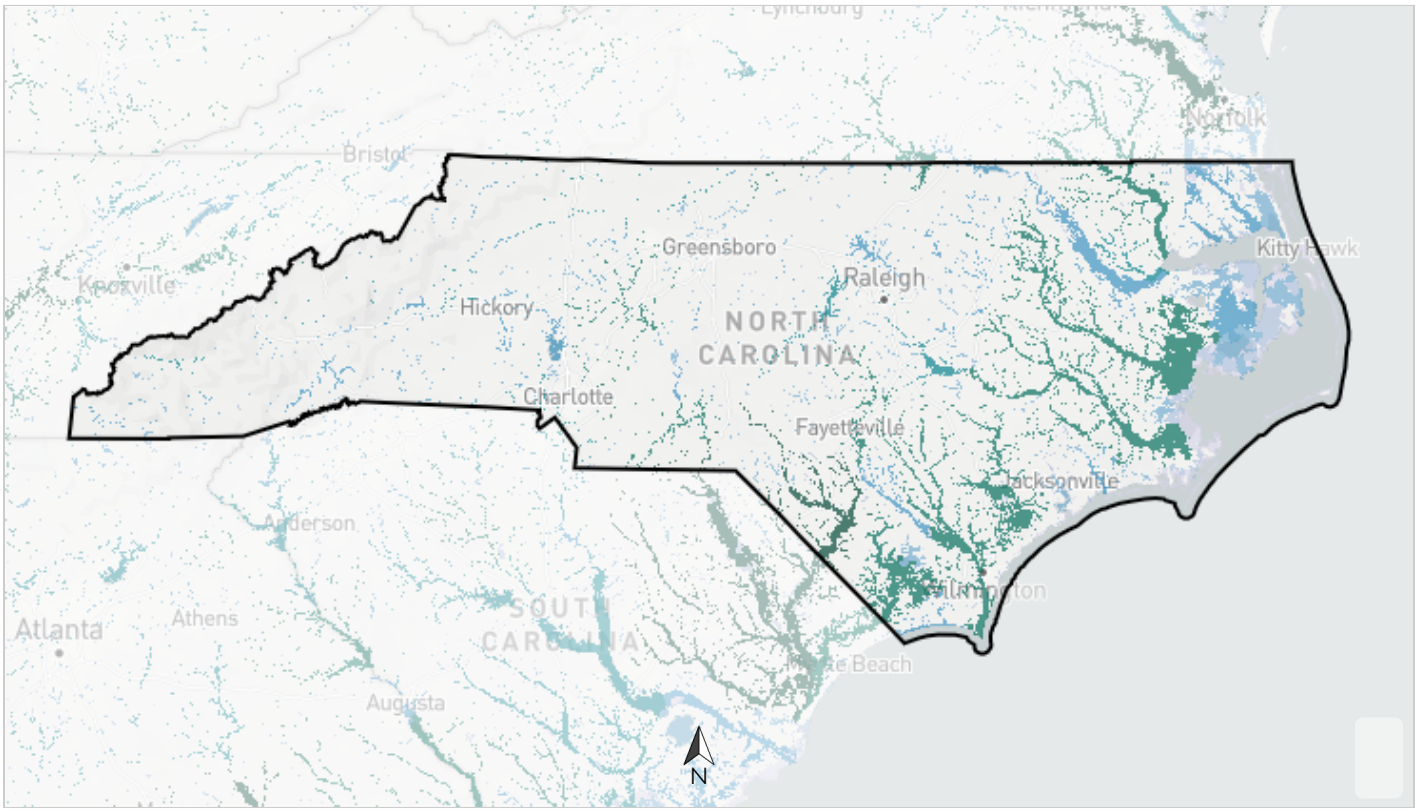
	Indicator Values: Percent natural landcover within the estimated floodplain, by catchment	Acres	Percent of Area	
↑ High	>90% natural landcover	3,499,002	10.2%	
	>80-90% natural landcover	508,283	1.5%	↑ In good condition
	>70-80% natural landcover	330,974	1.0%	↓ Not in good condition
	>60-70% natural landcover	280,186	0.8%	
	≤60% natural landcover	563,206	1.6%	
↓ Low	Not identified as a floodplain	26,832,381	77.9%	
	Area not evaluated for this indicator	*2,429,799*	*7.1%*	
	Total area	**34,443,831**	**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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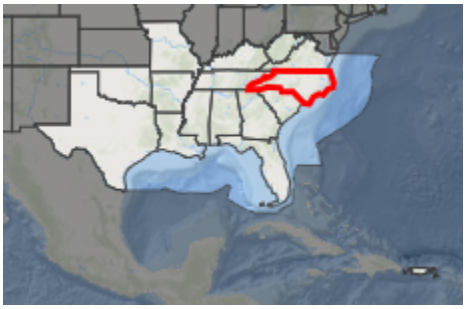


Number of connected stream size classes

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

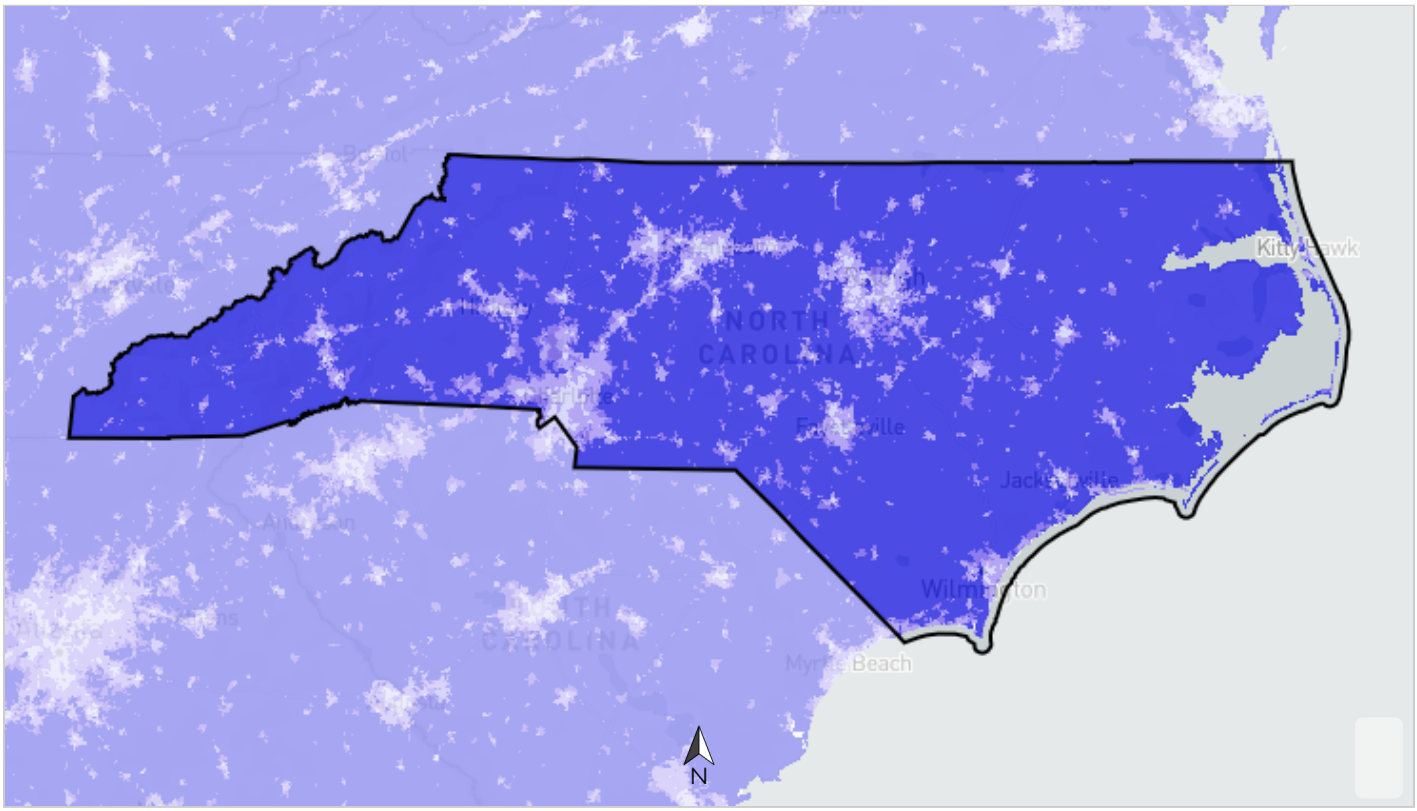
	Indicator Values: Number of connected stream size classes	Acres	Percent of Area	
↑ High	7 size classes	196,302	0.6%	
	6 size classes	2,042,687	5.9%	
	5 size classes	294,876	0.9%	
	4 size classes	913,779	2.7%	↑ In good condition
	3 size classes	783,245	2.3%	↓ Not in good condition
	2 size classes	434,121	1.3%	
	1 size class	402,719	1.2%	
↓ Low	Not identified as a floodplain	26,828,689	77.9%	
	Area not evaluated for this indicator	*2,547,411*	*7.4%*	
	Total area	**34,443,831**	**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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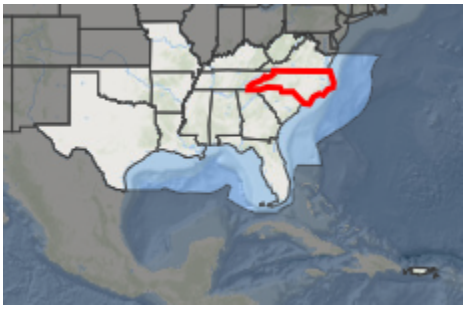


Percent of catchment permeable

- >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 22: Indicator values for permeable surface within North Carolina. Good condition thresholds reflect the range of indicator values that occur in healthy, functioning ecosystems.

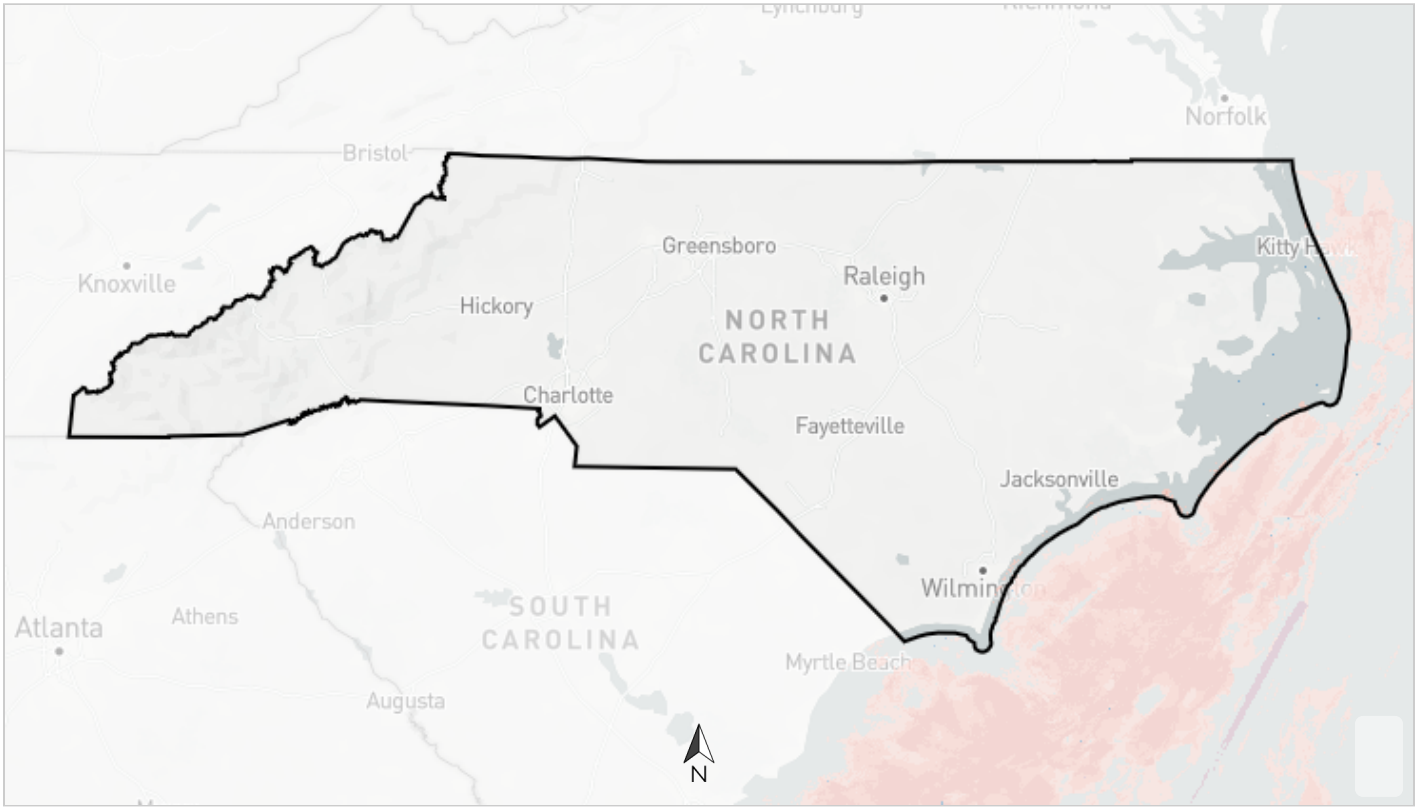
	Indicator Values: Percent of catchment permeable	Acres	Percent of Area	
↑ High	>95% permeable (likely high water quality and supporting most sensitive aquatic species)	27,486,027	79.8%	↑ In good condition
	>90-95% permeable (likely declining water quality and supporting most aquatic species)	1,874,853	5.4%	↓ Not in good condition
	>70-90% permeable (likely degraded water quality and not supporting many aquatic species)	2,119,911	6.2%	
↓ Low	≤70% permeable (likely degraded instream flow, water quality, and aquatic species communities)	531,516	1.5%	
	Area not evaluated for this indicator	*2,431,524*	*7.1%*	
	Total area	**34,443,831**	**100%**	

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

Coastal & marine

Atlantic coral & hardbottom

This indicator predicts the presence of coral and hardbottom in the Atlantic Ocean based on direct observations, distribution models, and known locations of artificial reefs and shipwrecks. The models use hardbottom observations and a suite of environmental predictors including measures of depth, seafloor topography and substrate, oceanography, and geography. Hardbottom provides an anchor for important seafloor habitats such as deep-sea corals, plants, and sponges, providing valuable structure that supports a wide range of invertebrate and fish species. This indicator combines data from multiple sources, including The Nature Conservancy's South Atlantic Bight Marine Assessment, several National Oceanic and Atmospheric Administration datasets, Florida state data, and more.



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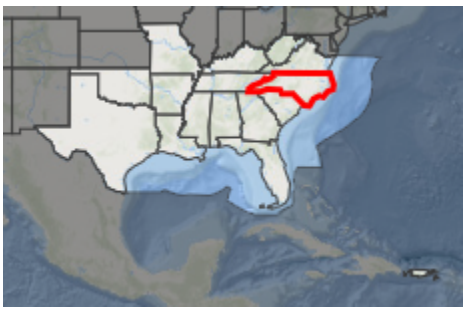

- Confirmed hardbottom-associated species (corals, sponges)
- Confirmed natural hardbottom
- Artificial reefs
- Shipwrecks
- Predicted cold-water coral mounds (Blake Plateau)
- Highest probability of hardbottom (>80th percentile)
- High probability of hardbottom (>60th-80th percentile)
- Medium probability of hardbottom (>40th-60th percentile)
- Not identified as hardbottom

Table 23: Indicator values for Atlantic coral & hardbottom within North Carolina. A good condition threshold is not yet defined for this indicator.

	Indicator Values	Acres	Percent of Area
↑ High	Confirmed hardbottom-associated species (corals, sponges)	25	<0.1%
	Confirmed natural hardbottom	0	0%
	Artificial reefs	3,208	<0.1%
	Shipwrecks	579	<0.1%
	Predicted cold-water coral mounds (Blake Plateau)	0	0%
	Highest probability of hardbottom (>80th percentile)	4.4	<0.1%
	High probability of hardbottom (>60th-80th percentile)	1,691	<0.1%
	Medium probability of hardbottom (>40th-60th percentile)	66,015	0.2%
↓ Low	Not identified as hardbottom	4,459,638	12.9%
	Area not evaluated for this indicator	*29,912,671*	*86.8%*
	Total area	**34,443,831**	**100%**

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

Coastal & marine

Atlantic estuarine fish habitat

This indicator measures the condition of estuarine fish habitat along the Atlantic coast using metrics of water quality, marsh edges, seagrass and oyster reefs, fragmentation, human development, and more. Areas of excellent fish habitat are already in good condition and face few threats. Restoration opportunity areas are doing well in some respects, but restoration projects could significantly improve them. Degraded areas of opportunity face many challenges, and restoration projects are unlikely to increase available fish habitat unless particularly large in scope and scale. This indicator originates from the Atlantic Coast Fish Habitat Partnership's fish habitat conservation area mapping and prioritization project.

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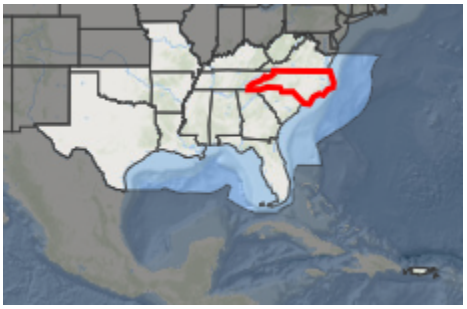


- Final score of 80 (areas of excellent fish habitat)
- Final score of 70 (areas of excellent fish habitat)
- Final score of 60 (restoration opportunity areas)
- Final score of 50 (restoration opportunity areas)
- Final score of 40 (restoration opportunity areas)
- Final score of 30 (restoration opportunity areas)
- Final score of 20 (restoration opportunity areas)
- Final score of 10 (degraded areas of opportunity)
- Final score of 0 (degraded areas of opportunity)

Table 24: Indicator values for Atlantic estuarine fish habitat within North Carolina. Good condition thresholds reflect the range of indicator values that occur in healthy, functioning ecosystems.

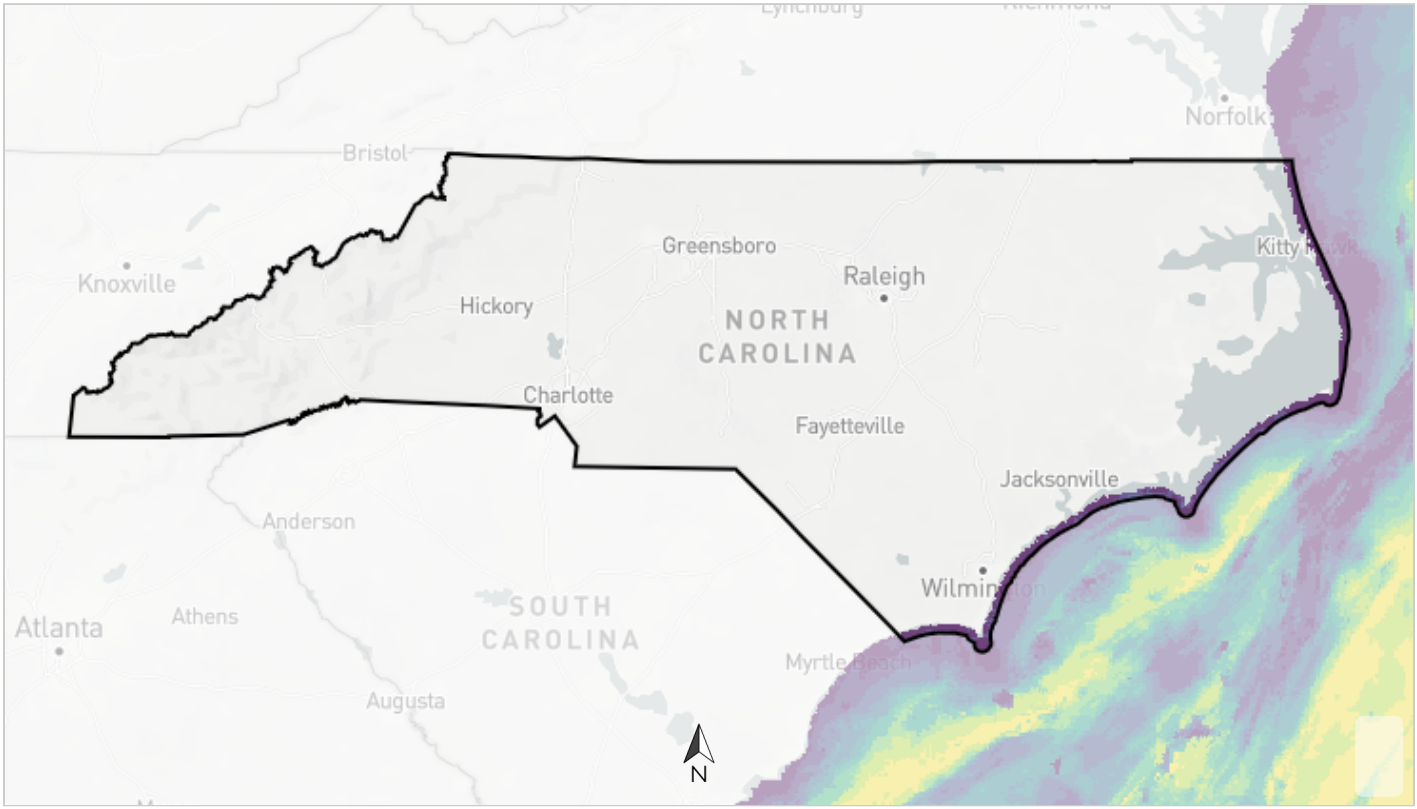
	Indicator Values	Acres	Percent of Area	
↑ High	Final score of 80 (areas of excellent fish habitat)	2,227	<0.1%	
	Final score of 70 (areas of excellent fish habitat)	33,810	<0.1%	↑ In good condition
	Final score of 60 (restoration opportunity areas)	286,155	0.8%	↓ Not in good condition
	Final score of 50 (restoration opportunity areas)	1,002,203	2.9%	
	Final score of 40 (restoration opportunity areas)	1,266,886	3.7%	
	Final score of 30 (restoration opportunity areas)	435,706	1.3%	
	Final score of 20 (restoration opportunity areas)	97,999	0.3%	
	Final score of 10 (degraded areas of opportunity)	8,161	<0.1%	
↓ Low	Final score of 0 (degraded areas of opportunity)	0	0%	
	Area not evaluated for this indicator	*31,310,683*	*90.9%*	
	Total area	**34,443,831**	**100%**	

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

Coastal & marine

Atlantic marine birds

This indicator identifies important areas in the Atlantic Ocean for birds that feed exclusively or mainly at sea. It uses seasonal predictions of relative abundance for 19 species of marine birds (Audubon's shearwater, band-rumped storm petrel, black-capped petrel, black scoter, Bonaparte's gull, bridled tern, brown pelican, common loon, common tern, Cory's shearwater, great shearwater, Manx shearwater, Northern gannet, parasitic jaeger, red-throated loon, royal tern, sooty shearwater, sooty tern, white-winged scoter) based on sightings from boat-based surveys and marine environmental data like fronts, primary productivity, and ocean currents. This indicator originates from Duke University's Marine-life Data and Analysis Team marine bird models.



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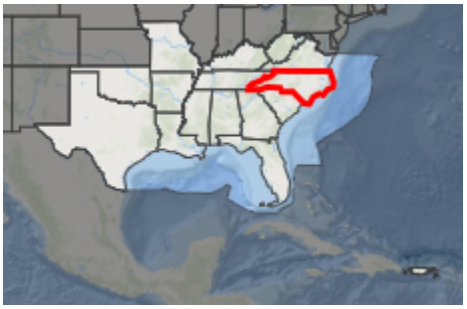


Percentile of importance for marine bird index species (across the full East Coast study area)

- >90th percentile
- >80th-90th percentile
- >70th-80th percentile
- >60th-70th percentile
- >50th-60th percentile
- >40th-50th percentile
- >30th-40th percentile
- >20th-30th percentile
- >10th-20th percentile
- ≤10th percentile
- Land

Table 25: Indicator values for Atlantic marine birds within North Carolina. A good condition threshold is not yet defined for this indicator.

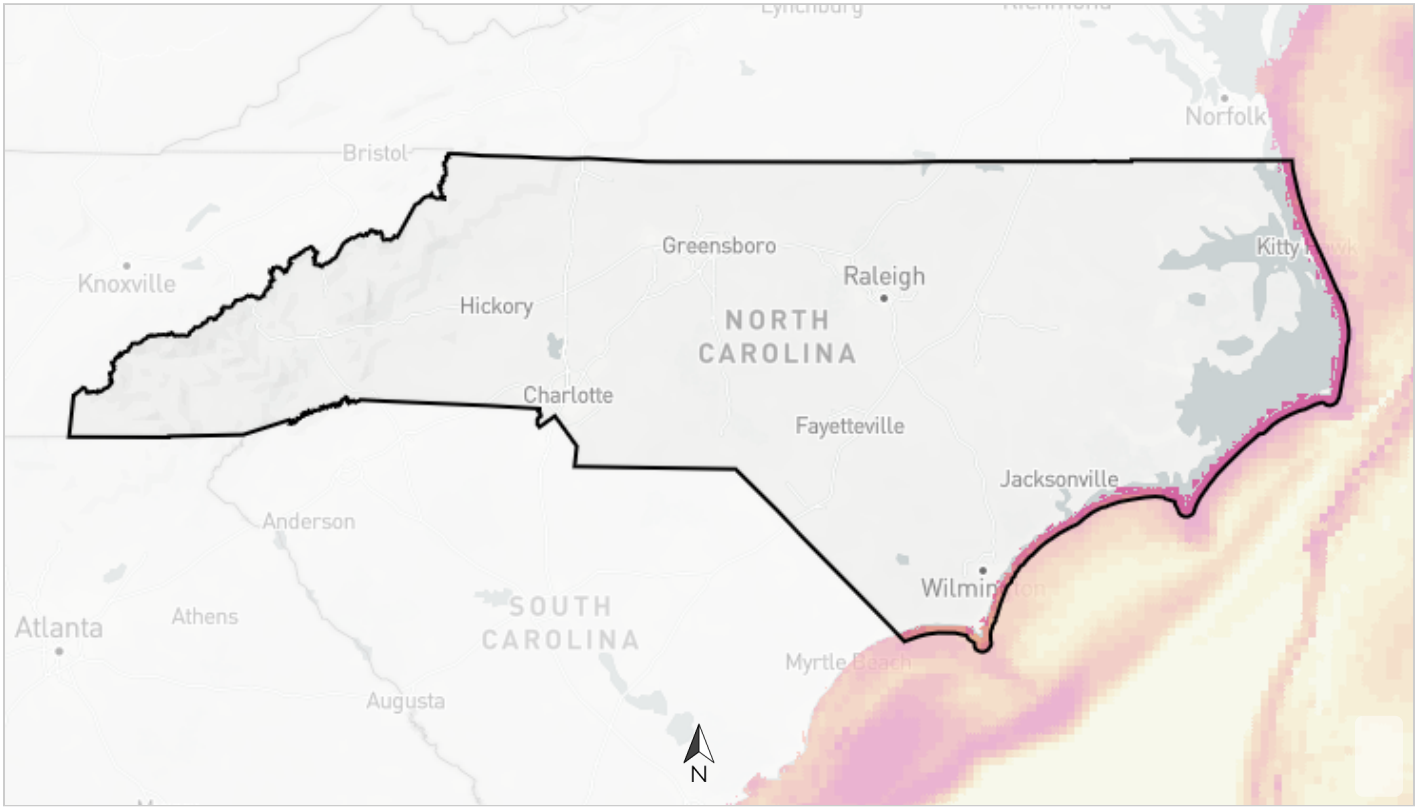
	Indicator Values: Percentile of importance for marine bird index species (across the full East Coast study area)	Acres	Percent of Area
↑ High	>90th percentile	453,365	1.3%
	>80th-90th percentile	163,285	0.5%
	>70th-80th percentile	16,342	<0.1%
	>60th-70th percentile	0	0%
	>50th-60th percentile	0	0%
	>40th-50th percentile	0	0%
	>30th-40th percentile	0	0%
	>20th-30th percentile	0	0%
	>10th-20th percentile	0	0%
	≤10th percentile	0	0%
↓ Low	Land	3,984	<0.1%
	Area not evaluated for this indicator	*33,806,855*	*98.2%*
	Total area	**34,443,831**	**100%**

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

Coastal & marine

Atlantic marine mammals

This indicator identifies important areas in the Atlantic Ocean for dolphins, whales, and seals. It incorporates density predictions for 20 marine mammals species or species groups (Atlantic spotted dolphin, Atlantic white-sided dolphin, Clymene dolphin, common bottlenose dolphin, Cuvier's beaked whale, dwarf and pygmy sperm whales, fin whale, harbor porpoise, humpback whale, mesoplodont beaked whales, North Atlantic right whale, pantropical spotted dolphin, pilot whales, Risso's dolphin, rough-toothed dolphin, seals, short-beaked common dolphin, sperm whale, striped dolphin, unidentified beaked whales) based on sightings from boat-based and aerial surveys and data on oceanographic conditions. It uses marine mammal models developed by the Duke Marine Lab.



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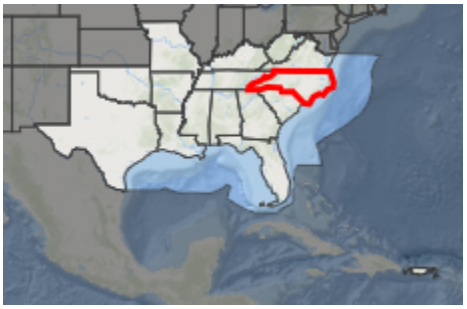


Percentile of importance for marine mammal index species (across the full East Coast study area)

- >90th percentile
- >80th-90th percentile
- >70th-80th percentile
- >60th-70th percentile
- >50th-60th percentile
- >40th-50th percentile
- >30th-40th percentile
- >20th-30th percentile
- >10th-20th percentile
- ≤10th percentile
- Land

Table 26: Indicator values for Atlantic marine mammals within North Carolina. A good condition threshold is not yet defined for this indicator.

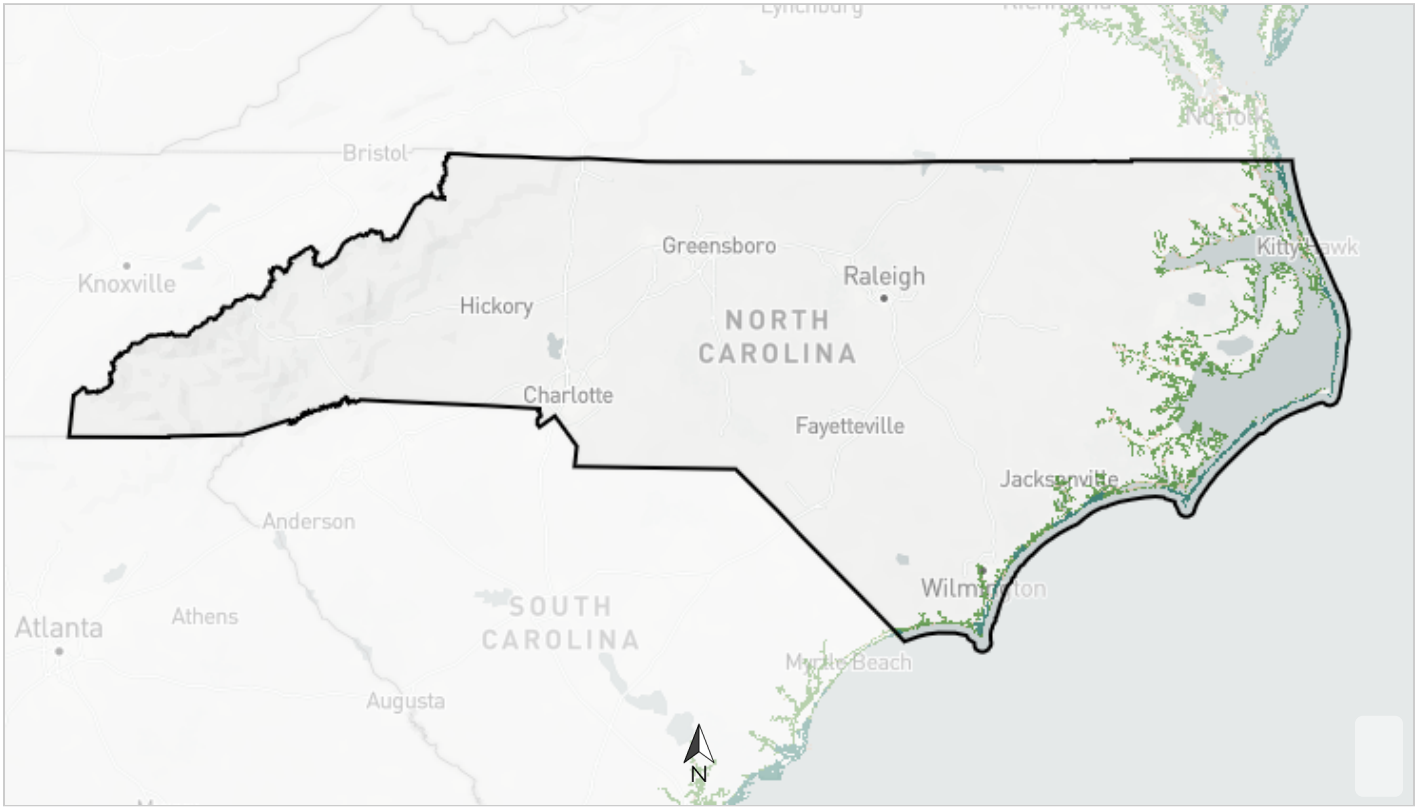
	Indicator Values: Percentile of importance for marine mammal index species (across the full East Coast study area)	Acres	Percent of Area
↑ High	>90th percentile	416,121	1.2%
	>80th-90th percentile	174,818	0.5%
	>70th-80th percentile	98,572	0.3%
	>60th-70th percentile	66,975	0.2%
	>50th-60th percentile	19,884	<0.1%
	>40th-50th percentile	0	0%
	>30th-40th percentile	0	0%
	>20th-30th percentile	0	0%
	>10th-20th percentile	0	0%
	≤10th percentile	0	0%
↓ Low	Land	79,587	0.2%
	Area not evaluated for this indicator	*33,587,872*	*97.5%*
	Total area	**34,443,831**	**100%**

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

Coastal & marine

Coastal shoreline condition

This indicator assesses shoreline condition based on the presence of hardened structures like jetties, groins, and riprap, as well as other human development. By restricting the natural movement of sediment, shoreline armoring increases erosion, prevents the inland migration of coastal ecosystems in response to sea-level rise, and degrades habitat for birds, sea turtles, fish, plants, and other species both on and offshore. Natural shorelines in harder-to-develop coastal areas receive the highest shoreline condition scores, while hardened shorelines receive the lowest scores. This indicator originates from the National Oceanic and Atmospheric Administration's Environmental Sensitivity Index dataset.



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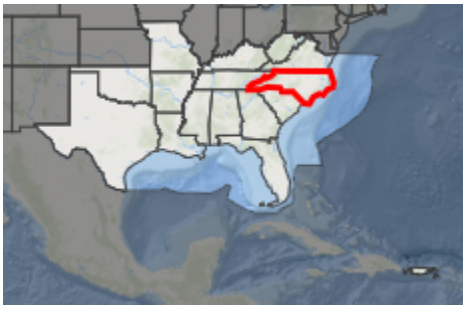

- Natural and harder to develop
- Natural
- Partially armored and harder to develop
- Partially armored
- Armored

Table 27: Indicator values for coastal shoreline condition within North Carolina. Good condition thresholds reflect the range of indicator values that occur in healthy, functioning ecosystems.

	Indicator Values	Acres	Percent of Area	
↑ High	Natural and harder to develop	25,189	<0.1%	
	Natural	81,562	0.2%	↑ In good condition
	Partially armored and harder to develop	77	<0.1%	↓ Not in good condition
	Partially armored	2,889	<0.1%	
↓ Low	Armored	10,763	<0.1%	
	Area not evaluated for this indicator	*34,323,351*	*99.7%*	
	Total area	**34,443,831**	**100%**	

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

Coastal & marine

Estuarine coastal condition

This indicator combines measures of water quality, sediment quality, contaminants in fish tissue, and benthic community condition to create an overall index of coastal estuarine condition. Estuaries serve as important nursery habitat for wildlife, including many species of fish and shellfish eaten as seafood. They also improve water quality by filtering out sediments and pollutants, provide recreational opportunities, and support coastal economies. This indicator originates from the Environmental Protection Agency's National Coastal Condition Assessment data.

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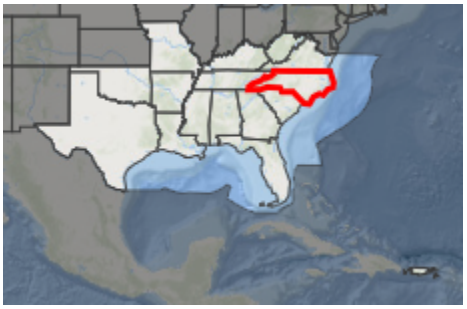


- Good
- Fair to good
- Fair
- Poor to fair
- Poor
- Shallow estuary not assessed for condition

Table 28: Indicator values for estuarine coastal condition within North Carolina. Good condition thresholds reflect the range of indicator values that occur in healthy, functioning ecosystems.

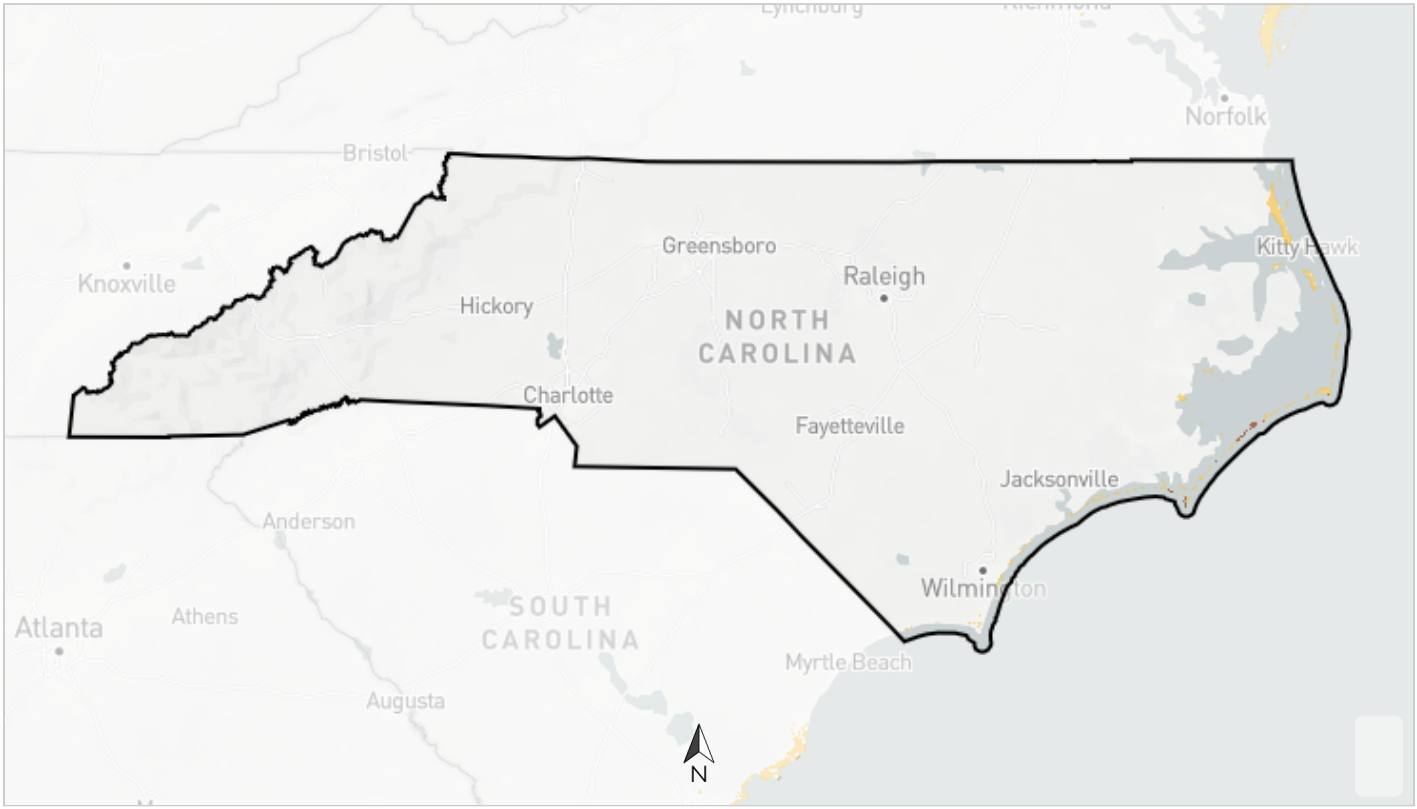
	Indicator Values	Acres	Percent of Area	
↑ High	Good	710,296	2.1%	
	Fair to good	588,199	1.7%	↑ In good condition
	Fair	1,053,796	3.1%	↓ Not in good condition
	Poor to fair	35,034	0.1%	
	Poor	3,449	<0.1%	
↓ Low	Shallow estuary not assessed for condition	91,818	0.3%	
	Area not evaluated for this indicator	*31,961,238*	*92.8%*	
	Total area	**34,443,831**	**100%**	

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

Coastal & marine

Island habitat

This indicator represents important habitat for coastal island-dependent species across the Southeast. Because the isolation of islands can make them ecologically unique and protect them from disturbance and mainland predators, they often serve as important habitat for many species of mammals, plants, and insects, as well as breeding coastal birds and sea turtles. The highest scores go to island critical habitat for six threatened and endangered animal and plant species: piping plover, loggerhead sea turtle, Cape Sable thoroughwort, Florida semaphore cactus, silver rice rat, and Bartram's hairstreak butterfly. This indicator uses U.S. Fish and Wildlife Service critical habitat data and island boundaries from the U.S. Geological Survey and Esri.



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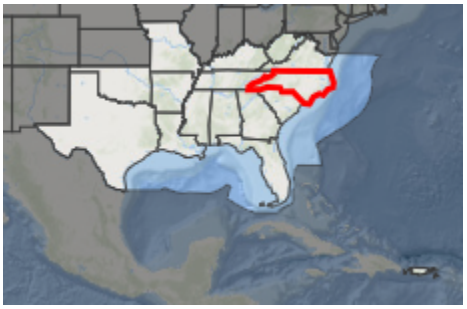


- Island critical habitat for any of six threatened and endangered species (piping plover, loggerhead sea turtle, Cape Sable thoroughwort, Florida semaphore cactus, silver rice rat, or Bartram's hairstreak butterfly)
- Other island area
- Not a coastal island

Table 29: Indicator values for island habitat within North Carolina. A good condition threshold is not yet defined for this indicator.

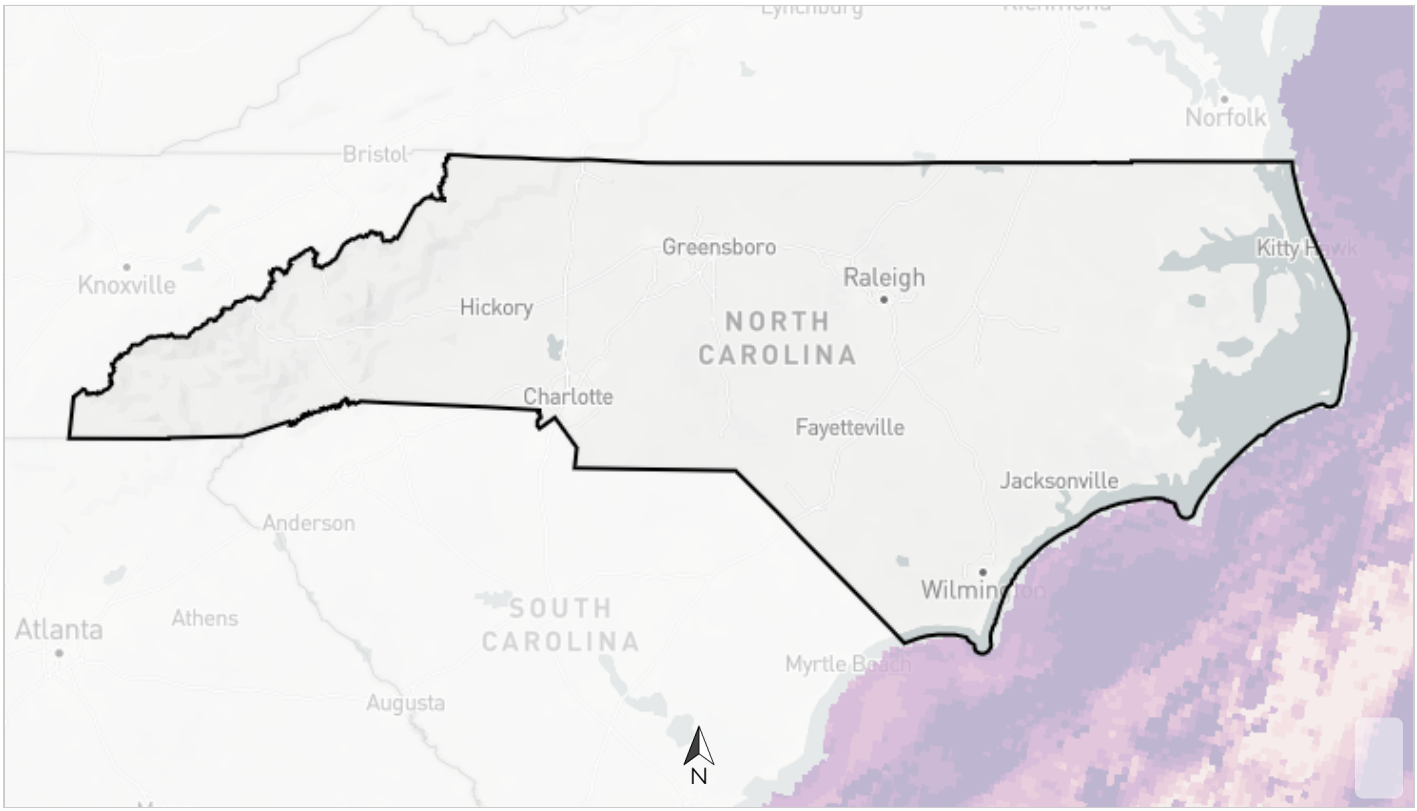
	Indicator Values	Acres	Percent of Area
↑ High	Island critical habitat for any of six threatened and endangered species (piping plover, loggerhead sea turtle, Cape Sable thoroughwort, Florida semaphore cactus, silver rice rat, or Bartram's hairstreak butterfly)	13,202	<0.1%
	Other island area	137,408	0.4%
↓ Low	Not a coastal island	9,875,297	28.7%
	Area not evaluated for this indicator	*24,417,924*	*70.9%*
	Total area	**34,443,831**	**100%**

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

Coastal & marine

Marine highly migratory fish

This indicator identifies important foraging and spawning areas for highly migratory fish in the Atlantic Ocean and Gulf of America. It uses physical capture and satellite tag observations, remote sensing of environmental variables, and physical oceanographic data to analyze the habitat preferences of three species (skipjack tuna, bluefin tuna, and blue shark) at various life stages. It originates from European Commission Joint Research Centre global fish models.



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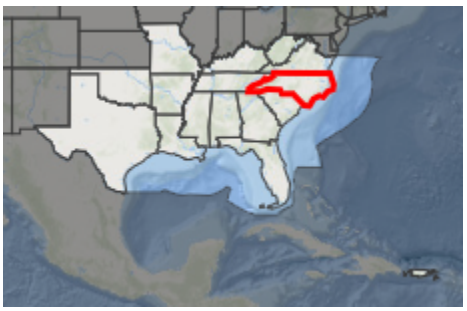


Percentile of importance for bluefin and skipjack tuna or blue shark

- >90th percentile
- >80th-90th percentile
- >70th-80th percentile
- >60th-70th percentile
- >50th-60th percentile
- >40th-50th percentile
- >30th-40th percentile
- ≤30th percentile

Table 30: Indicator values for marine highly migratory fish within North Carolina. A good condition threshold is not yet defined for this indicator.

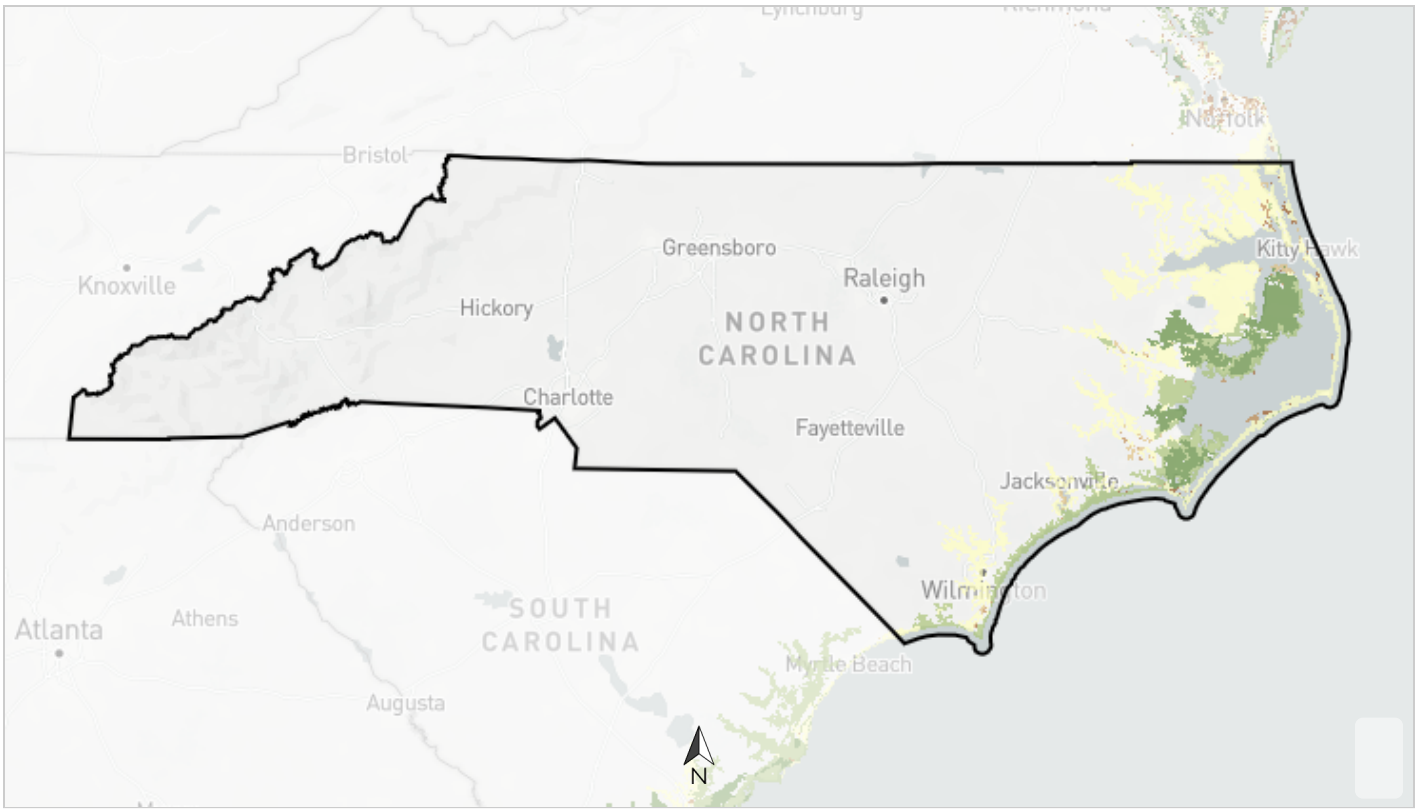
	Indicator Values: Percentile of importance for bluefin and skipjack tuna or blue shark	Acres	Percent of Area
↑ High	>90th percentile	0	0%
	>80th-90th percentile	1,640	<0.1%
	>70th-80th percentile	1,064	<0.1%
	>60th-70th percentile	0	0%
	>50th-60th percentile	0	0%
	>40th-50th percentile	0	0%
	>30th-40th percentile	0	0%
↓ Low	≤30th percentile	0	0%
	Area not evaluated for this indicator	*34,441,126*	*100.0%*
	Total area	**34,443,831**	**100%**

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

Coastal & marine

Resilient coastal sites

This indicator depicts the capacity of coastal habitats to migrate to adjacent lowlands in order to sustain biodiversity and natural services under increasing inundation from sea-level rise. It is based on the physical and condition characteristics of current tidal complexes, their predicted migration space, and surrounding buffer areas. These characteristics include marsh complex size, shared edge with migration space, sediment balance, water quality, natural landcover, landform diversity, and more. This indicator originates from The Nature Conservancy's Resilient Coastal Sites project.



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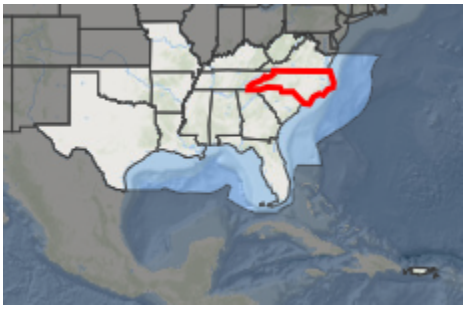


- Most resilient
- More resilient
- Slightly more resilient
- Average/median resilience
- Slightly less resilient
- Less resilient
- Least resilient

Table 31: Indicator values for resilient coastal sites within North Carolina. A good condition threshold is not yet defined for this indicator.

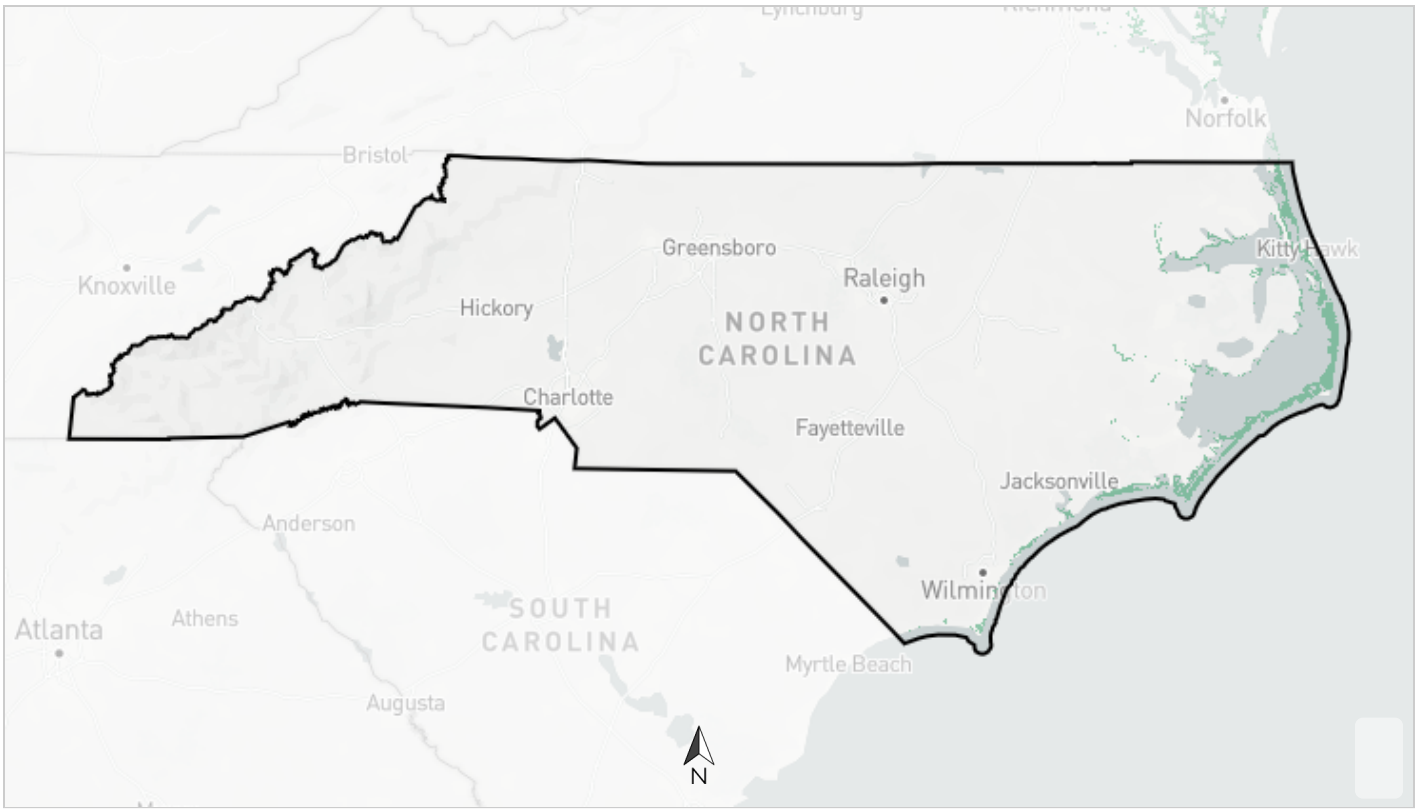
	Indicator Values	Acres	Percent of Area
↑ High	Most resilient	0	0%
	More resilient	368,999	1.1%
	Slightly more resilient	303,702	0.9%
	Average/median resilience	687,523	2.0%
	Slightly less resilient	9,506	<0.1%
	Less resilient	6,410	<0.1%
↓ Low	Least resilient	3,632	<0.1%
	Area not evaluated for this indicator	*33,064,060*	*96.0%*
	Total area	**34,443,831**	**100%**

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

Coastal & marine

Seagrass

This indicator represents the presence of seagrass in the Atlantic Ocean and Gulf of America. Seagrasses provide food and habitat for a range of marine and estuarine wildlife, including fish, sea turtles, shrimp, crabs, oysters, and more. They also produce oxygen, filter water, control erosion, and buffer storms. Seagrasses serve as an important indicator of the overall health of coastal ecosystems because they are sensitive to water quality and require sufficiently clear water for sunlight to penetrate. This indicator originates from the National Oceanic and Atmospheric Administration's Marine Cadastre.



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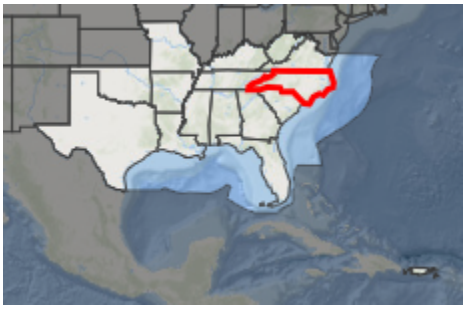

Seagrass present

Table 32: Indicator values for seagrass within North Carolina. A good condition threshold is not yet defined for this indicator.

	Indicator Values	Acres	Percent of Area
↑ High	Seagrass present	138,206	0.4%
	Area not evaluated for this indicator	*34,305,625*	*99.6%*
	Total area	**34,443,831**	**100%**

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

Coastal & marine

South Atlantic beach birds

This indicator is an index of habitat suitability for four shorebird species (American oystercatcher, Wilson's plover, least tern, piping plover) in the South Atlantic, based on observed abundance. It assesses beaches and nearby onshore habitats. Shorebirds' relative use of beaches and neighboring habitats for nesting, foraging, and breeding is an indicator of ecosystem health and quality. This indicator combines bird data from the U.S. Geological Survey and state waterbird biologists in FL, GA, SC, and NC.

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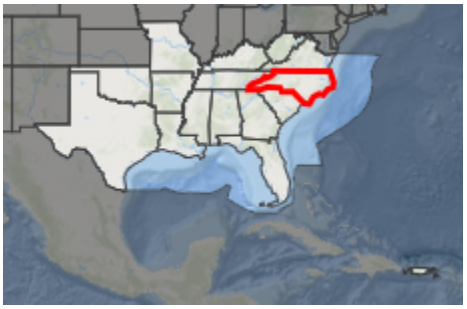


Percentile of importance for beach bird index species

- >80th percentile
- >60th-80th percentile
- >40th-60th percentile
- >20th-40th percentile
- ≤20th percentile
- Open water or not identified as a priority

Table 33: Indicator values for South Atlantic beach birds within North Carolina. A good condition threshold is not yet defined for this indicator.

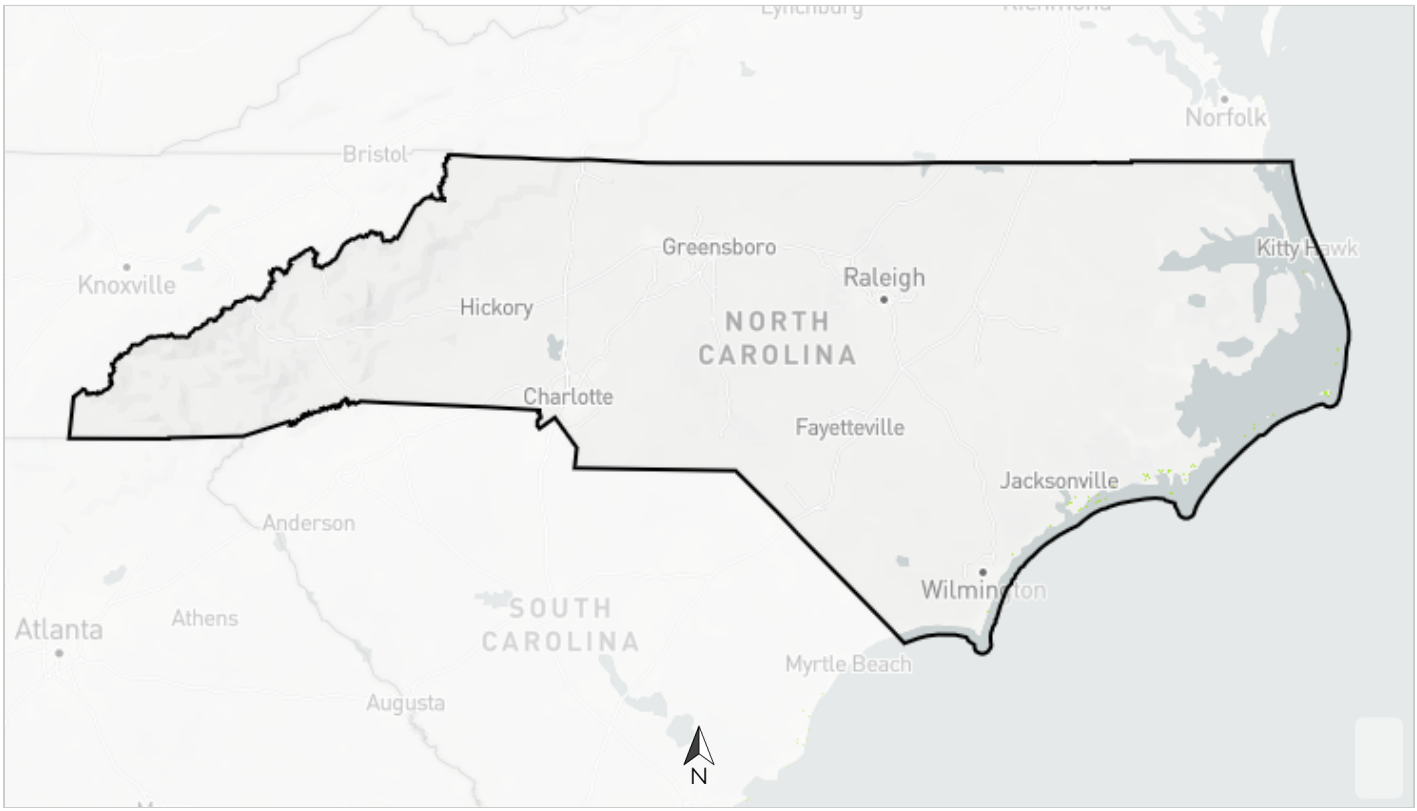
	Indicator Values: Percentile of importance for beach bird index species	Acres	Percent of Area
↑ High	>80th percentile	11,427	<0.1%
	>60th-80th percentile	15,998	<0.1%
	>40th-60th percentile	21,678	<0.1%
	>20th-40th percentile	14,892	<0.1%
	≤20th percentile	19,427	<0.1%
↓ Low	Open water or not identified as a priority	3,985,069	11.6%
	Area not evaluated for this indicator	*30,375,340*	*88.2%*
	Total area	**34,443,831**	**100%**

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

Coastal & marine

South Atlantic maritime forest

This indicator depicts the maritime forest currently present in the South Atlantic. Since maritime forest has been substantially reduced from its historic extent, protecting the remaining acreage is particularly important. This ecosystem supports a unique suite of plants that tolerate wind, salt, and flooding, as well as many species of birds, mammals, and reptiles. It also helps buffer the coastline from storms. This indicator originates from LANDFIRE landcover.



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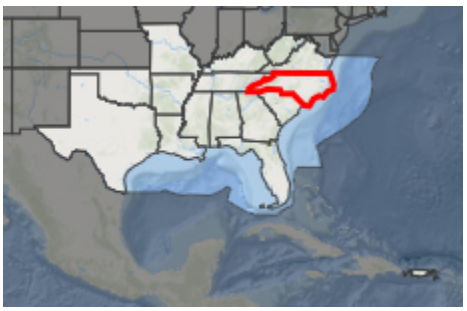

Maritime forest

Not identified as maritime forest

Table 34: Indicator values for South Atlantic maritime forest within North Carolina. A good condition threshold is not yet defined for this indicator.

	Indicator Values	Acres	Percent of Area
↑ High	Maritime forest	43,111	0.1%
↓ Low	Not identified as maritime forest	3,116,589	9.0%
	Area not evaluated for this indicator	*31,284,130*	*90.8%*
	Total area	**34,443,831**	**100%**

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

Coastal & marine

Stable coastal wetlands

This indicator uses remote sensing to calculate the unvegetated-vegetated ratio of tidal wetlands, which compares how much of a wetland is not covered by plants (e.g., sediment, rocks, open water) to how much is covered by plants. Marshes that maintain a higher proportion of vegetation tend to be more stable and resilient to threats like sea-level rise, erosion, and coastal development. This ratio, and how it changes over time, is a good surrogate for salt marsh degradation processes like sediment loss and conversion to open water. This indicator originates from a U.S. Geological Survey project on an unvegetated to vegetated ratio for coastal wetlands.

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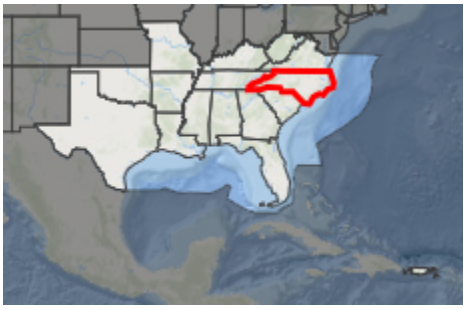


- Stable coastal wetlands
- Other coastal wetlands
- Not identified as coastal wetlands

Table 35: Indicator values for stable coastal wetlands within North Carolina. Good condition thresholds reflect the range of indicator values that occur in healthy, functioning ecosystems.

	Indicator Values	Acres	Percent of Area	
↑ High	Stable coastal wetlands	283,181	0.8%	
	Other coastal wetlands	105,648	0.3%	↑ In good condition
↓ Low	Not identified as coastal wetlands	3,810,337	11.1%	↓ Not in good condition
	Area not evaluated for this indicator	*30,244,666*	*87.8%*	
	Total area	**34,443,831**	**100%**	

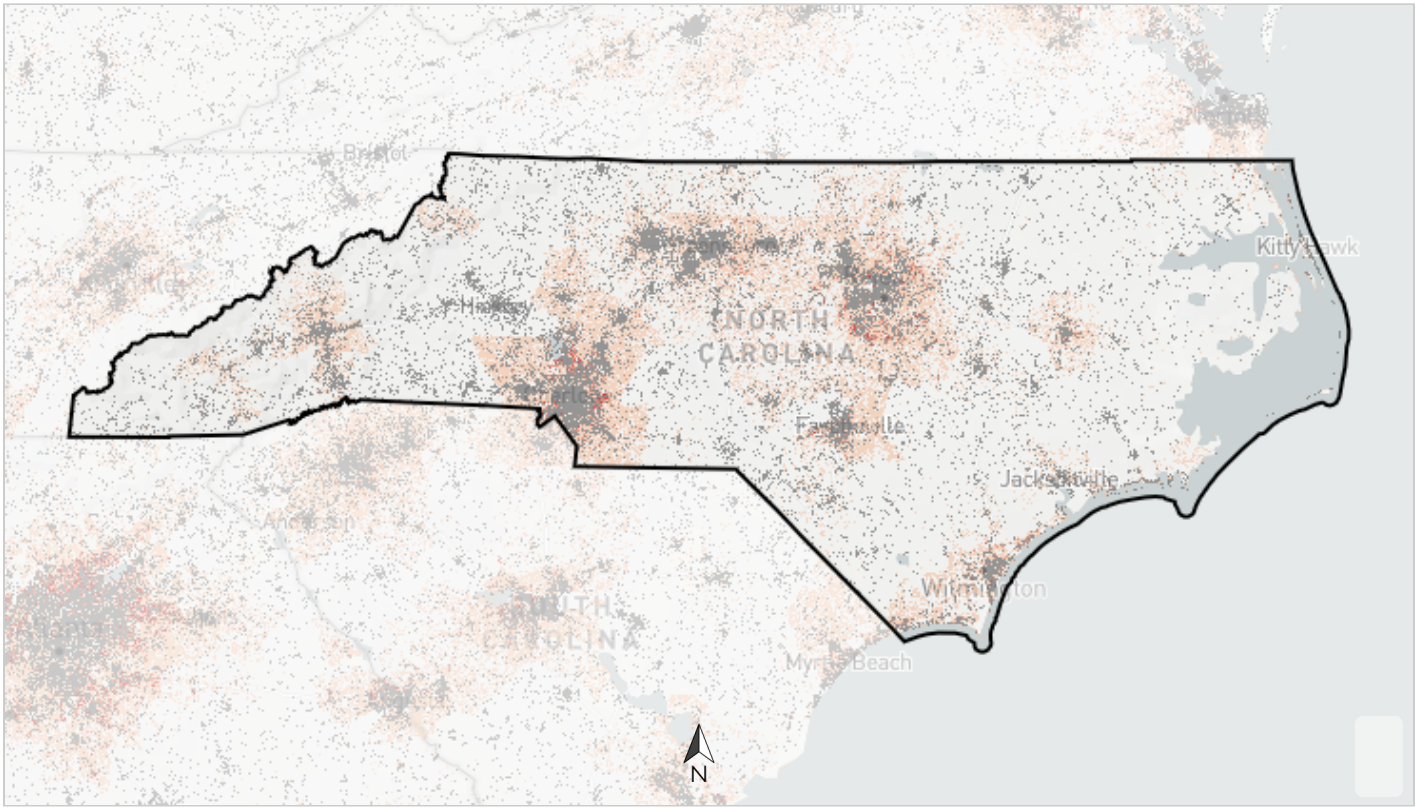
To learn more and explore the GIS data, view this indicator in the SECAS Atlas.

More Information

Urban Growth

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

To explore maps for additional time periods, click here.



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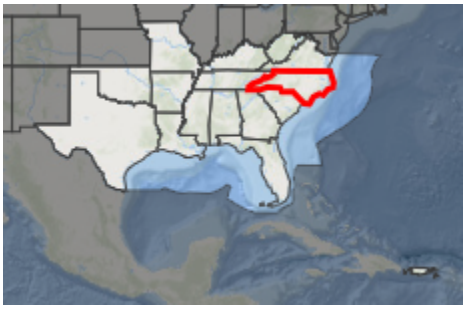

Probability of urbanization by 2060

- 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

Table 36: Extent of projected urbanization by decade within North Carolina. 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	4,123,363	12.0%
2030 projected extent	4,237,836	12.3%
2040 projected extent	4,315,910	12.5%
2050 projected extent	4,377,970	12.7%
2060 projected extent	4,429,992	12.9%
2070 projected extent	4,477,496	13.0%
2080 projected extent	4,516,583	13.1%
2090 projected extent	4,543,343	13.2%
2100 projected extent	4,560,919	13.2%
Not projected to urbanize by 2100	*29,871,027*	*86.7%*
No urbanization data available	*11,885*	*<0.1%*
Total area	**34,443,831**	**100%**

12.0% of this area is already urban in 2021, and an additional 13.4% 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.

Sea-level Rise

NOAA's sea-level rise (SLR) inundation models represent areas likely to experience flooding at high tide based on each foot of SLR above current levels. Darker blue areas will experience flooding first, and at greater depth, compared to lighter blue areas. These models are not linked to a future timeframe; see the projections below. NOAA calculates the inundation footprint at "mean higher high water", or the average highest daily tide. The area covered in each SLR scenario includes areas projected to be inundated at lower levels. For example, the area inundated by 4 ft of SLR also includes areas inundated by 3 ft, 2 ft, 1 ft, and 0 ft of SLR (where 0 ft represents current levels).

To explore additional SLR information, please see NOAA's Sea Level Rise Viewer.

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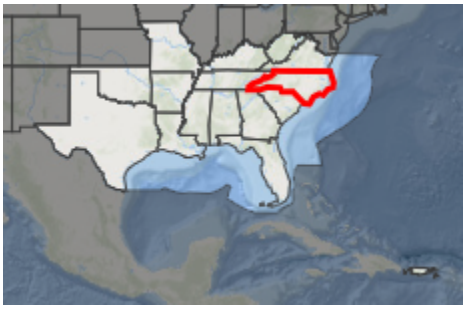


Flooding extent by projected sea-level rise (ft)

0 1 2 3 4 5 6 7 8 9 10

Table 37: Extent of flooding by projected average highest daily tide due to sea level rise within North Carolina. Values from the NOAA sea-level rise inundation data.

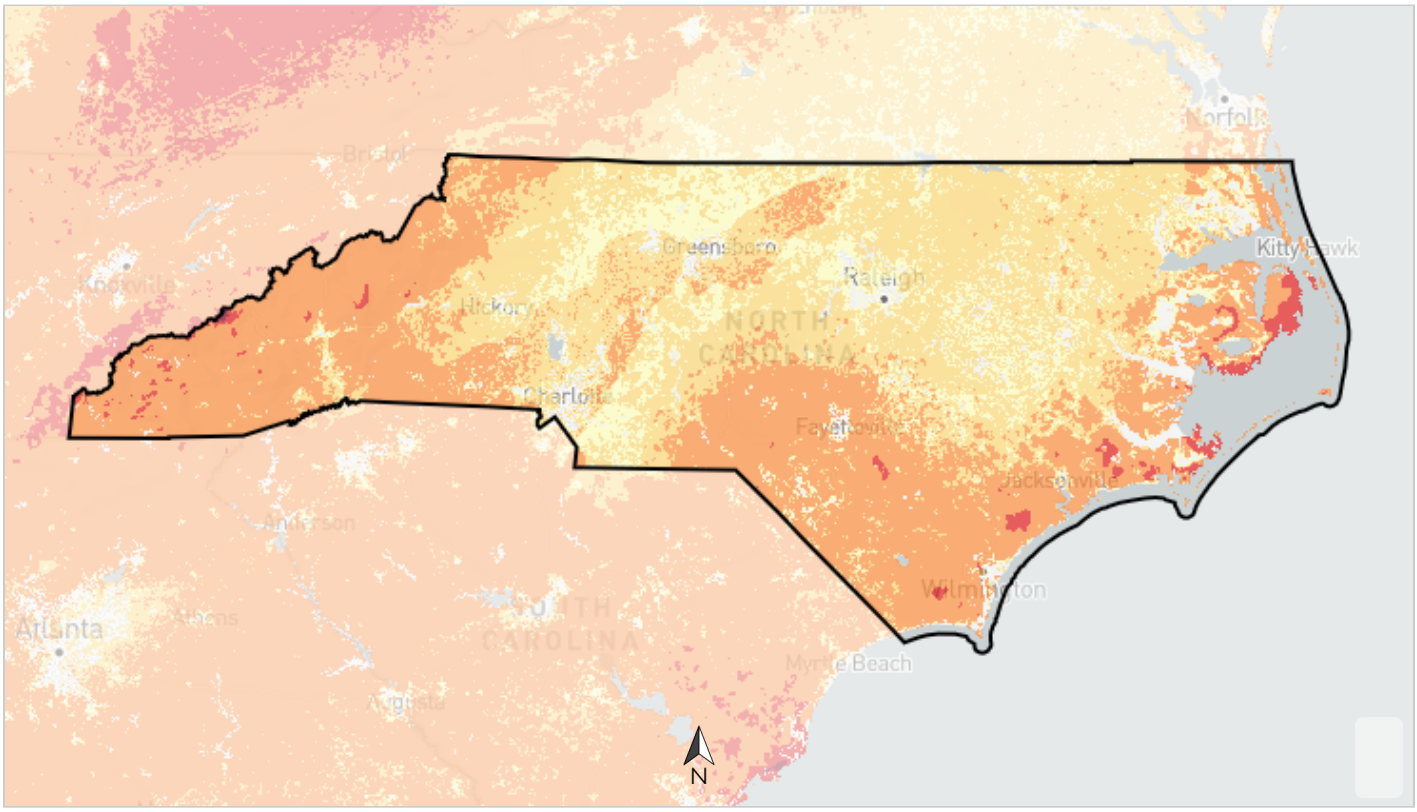
Feet of sea-level rise	Acres	Percent of Area
0 feet	3,031,797	8.8%
1 foot	3,218,091	9.3%
2 feet	3,774,828	11.0%
3 feet	4,109,332	11.9%
4 feet	4,304,195	12.5%
5 feet	4,454,698	12.9%
6 feet	4,609,282	13.4%
7 feet	4,760,701	13.8%
8 feet	4,910,145	14.3%
9 feet	5,040,470	14.6%
10 feet	5,169,379	15.0%
Not projected to be inundated by up to 10 feet	*8,688,365*	*25.2%*
Sea-level rise unlikely to be a threat (inland counties)	*20,586,087*	*59.8%*
Total area	**34,443,831**	**100%**

Table 38: Projected sea level rise by decade within North Carolina. Values are based on area-weighted averages of decadal projections for 1-degree grid cells that overlap this area based on NOAA's 2022 Sea Level Rise Report. 2060 corresponds to the SECAS goal: a 10% or greater improvement in the health, function, and connectivity of Southeastern ecosystems by 2060.

SLR Scenario	2020 (ft)	2030 (ft)	2040 (ft)	2050 (ft)	2060 (ft)	2070 (ft)	2080 (ft)	2090 (ft)	2100 (ft)
Low	0.38	0.6	0.83	1	1.2	1.4	1.5	1.6	1.8
Intermediate-low	0.41	0.65	0.91	1.2	1.4	1.6	1.9	2.1	2.3
Intermediate	0.41	0.68	0.96	1.3	1.6	2	2.5	3.1	3.8
Intermediate-high	0.42	0.71	1	1.5	2	2.7	3.4	4.3	5.2
High	0.42	0.72	1.1	1.6	2.4	3.3	4.4	5.5	6.8

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.



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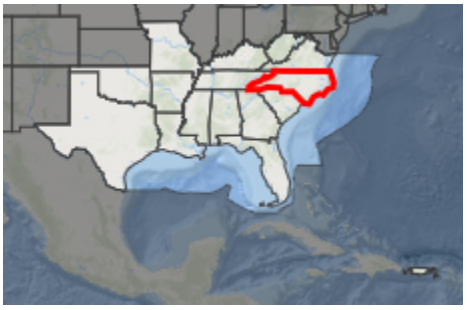


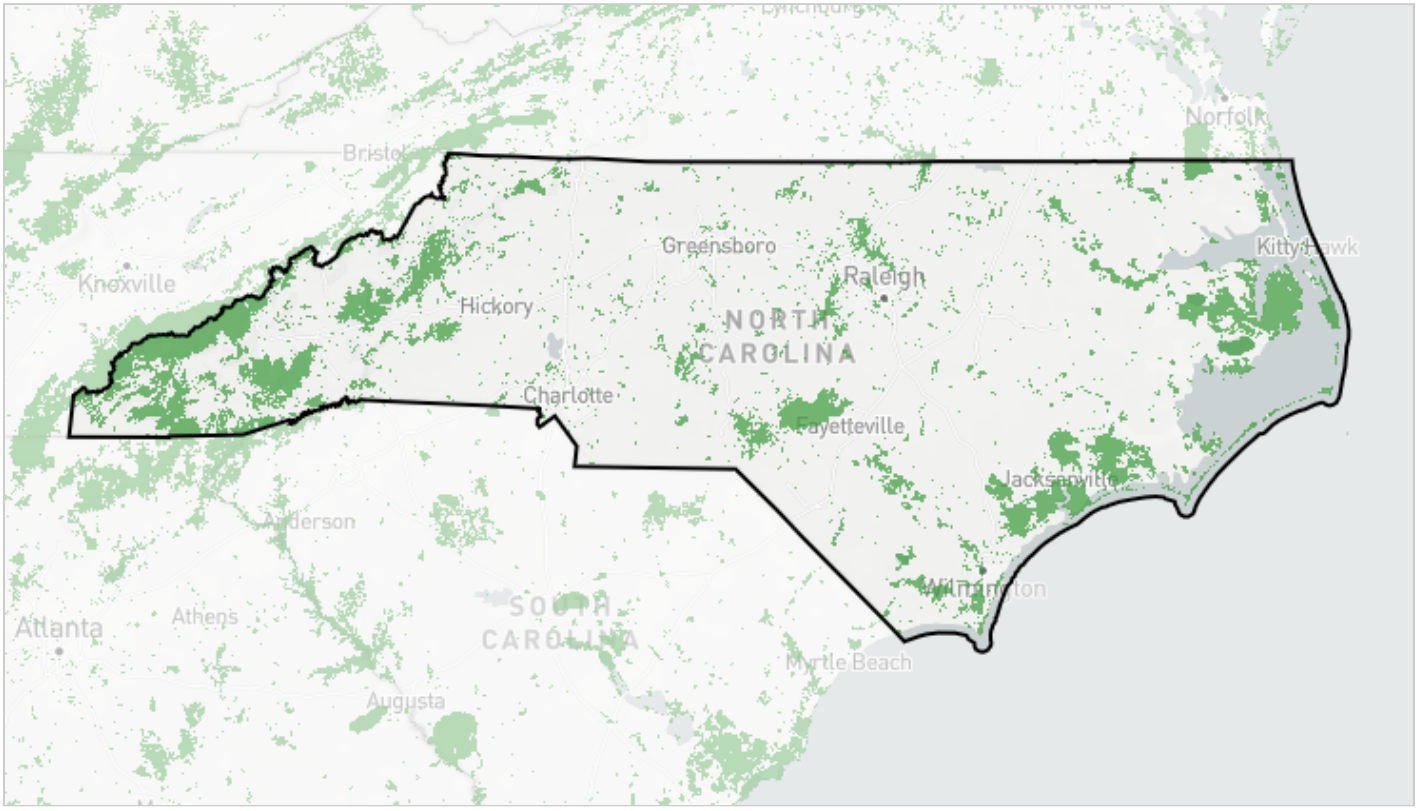
Wildfire likelihood (annual burn probability)

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

Table 39: Area in each wildfire probability category within North Carolina. 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)	4,238,409	12.3%
Low (>0 - 0.01% probability)	4,424,648	12.8%
Low-moderate (>0.01 - 0.02154% probability)	5,437,718	15.8%
Low-moderate (>0.02154 - 0.04642% probability)	6,880,271	20.0%
Moderate (>0.04642 - 0.1% probability)	5,185,460	15.1%
Moderate (>0.1 - 0.21544% probability)	4,920,873	14.3%
Moderate (>0.21544 - 0.46416% probability)	2,812,866	8.2%
Moderate-high (>0.46416 - 1% probability)	452,546	1.3%
Moderate-high (>1 - 2.15443% probability)	70,323	0.2%
High (>2.15443 - 4.64159% probability)	8,657	<0.1%
High (>4.64159% probability)	0	0%
No wildfire risk data available	*12,059*	*<0.1%*
Total area	**34,443,831**	**100%**

Protected Areas



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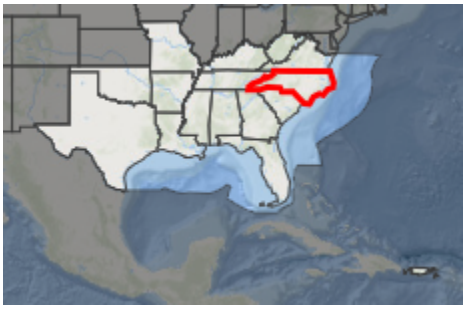

Within a protected area

Not within a protected area

Table 40: Extent of protected areas within North Carolina. Protected areas are derived from the Protected Areas Database of the United States (PAD-US v4.0 and v3.0) and include Fee, Designation, Easement, Marine, and Proclamation (Dept. of Defense lands only) boundaries.

Protected area status	Acres	Percent of Area
Not within a protected area	29,700,064	86.2%
Within a protected area	4,743,767	13.8%
Total area	**34,443,831**	**100%**

Protected areas at this location:

- Nantahala National Forest (USDA Forest Service; 532,807 acres)
- Pisgah National Forest (USDA Forest Service; 509,977 acres)
- NC Land and Water Fund Project (Other State Land; 350,451 acres)
- Great Smoky Mountains National Park (National Park Service; 279,592 acres)
- Croatan National Forest (USDA Forest Service; 161,851 acres)
- Croatan Game Land (161,417 acres)
- Fort Bragg (154,894 acres)
- Fort Bragg Military Reservation (Department of Defense (DOD); 154,608 acres)
- Alligator River National Wildlife Refuge (US Fish and Wildlife Service; 152,764 acres)
- Alligator River National Wildlife Refuge (149,665 acres)
- Camp Lejeune (Department of Defense (DOD); 126,459 acres)
- Pocosin Lakes National Wildlife Refuge (US Fish and Wildlife Service; 114,968 acres)
- NC Land and Water Fund Conservation Agreement (Other State Land; 106,565 acres)
- Marine Corps Base Camp Lejeune (97,727 acres)
- Hofmann Forest (Private Corporation; 78,947 acres)
- Pisgah National Game Refuge (71,908 acres)
- Sandhills Game Land (State Fish and Wildlife; 65,144 acres)
- Holly Shelter Game Land (State Fish and Wildlife; 63,801 acres)
- NC Clean Water Management Trust Fund Easement (57,509 acres)
- Blue Ridge Parkway (National Park Service; 52,757 acres)
- Uwharrie National Forest (USDA Forest Service; 51,743 acres)
- Mattamuskeet National Wildlife Refuge (US Fish and Wildlife Service; 50,135 acres)
- NC Division of Mitigation Services Easement (State; 49,758 acres)
- Dare County Range (46,626 acres)
- Dare County Air Force Range (Department of Defense (DOD); 46,244 acres)
- ... and 6,023 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.

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

Protected areas information is derived from the Protected Areas Database of the United States (PAD-US v4.0 and v3.0).

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

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

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