# Southeast Conservation Blueprint Summary

for Alabama

**Created 10/11/2024**

## Table of Contents



**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

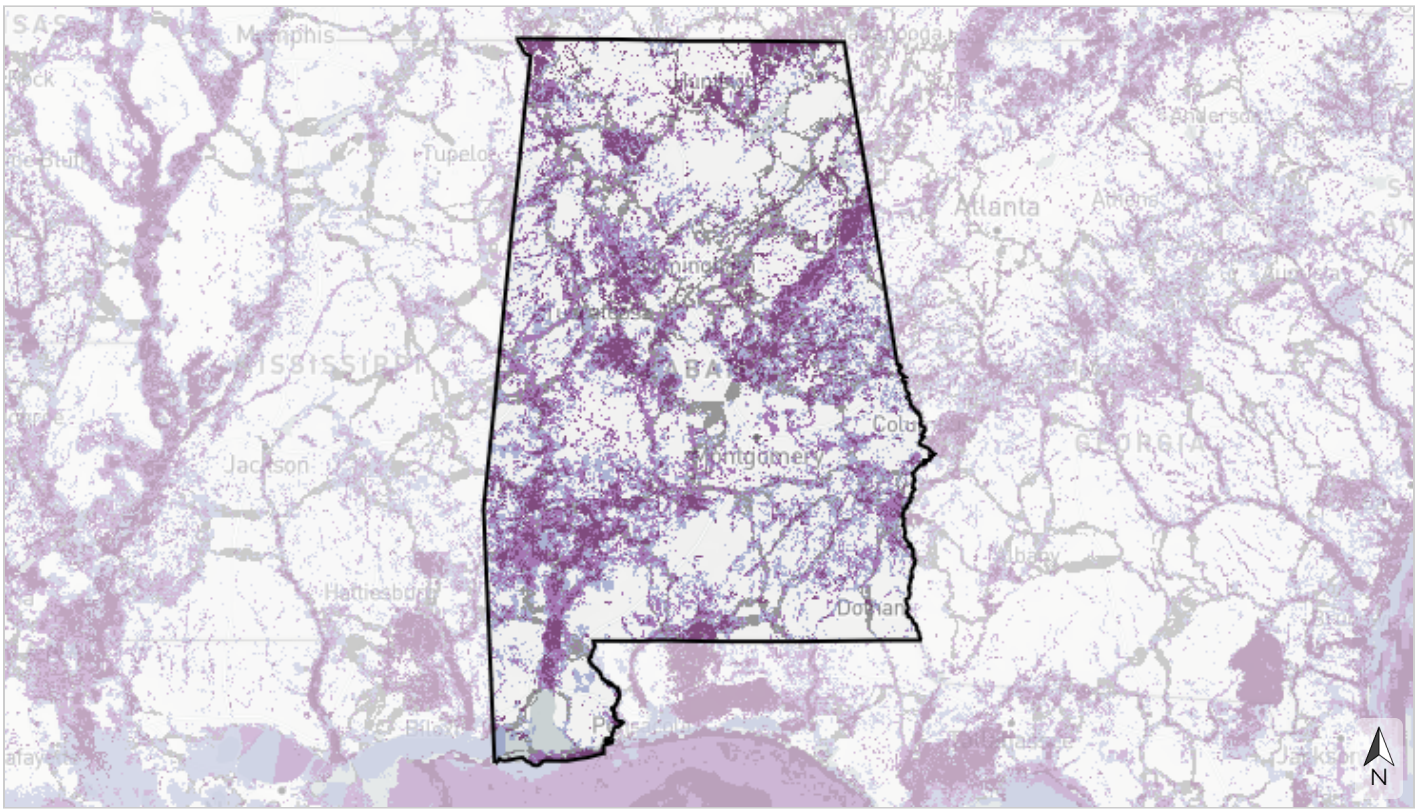
## We're here to help!

- 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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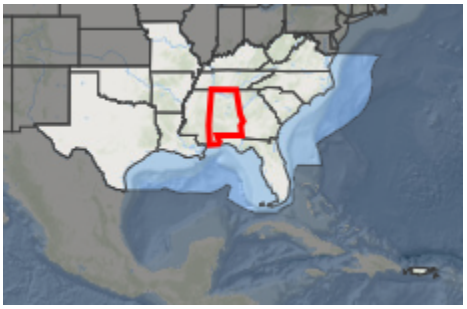


**Priorities for a connected network of lands and waters**

- 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.

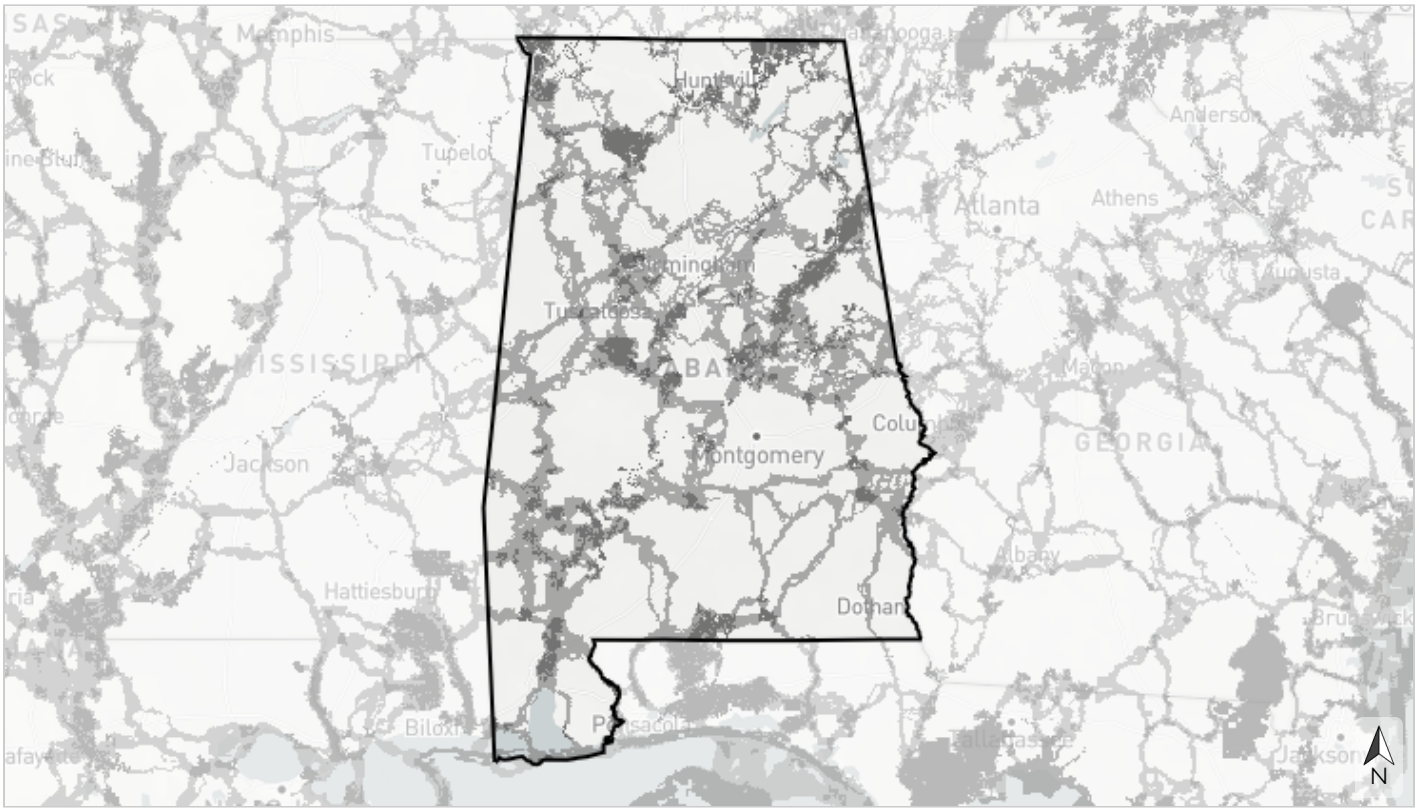
*Table 1: Extent of each Blueprint priority category within Alabama.*

| Priority Category | Acres | Percent of Area |
|---|---|---|
| Highest priority | 3,441,131 | 10.3% |
| High priority | 5,387,126 | 16.1% |
| Medium priority | 6,219,351 | 18.5% |
| Priority connections | 2,718,081 | 8.1% |
| Lower priority | 15,783,119 | 47.0% |
| **Total area** | **33,548,808** | **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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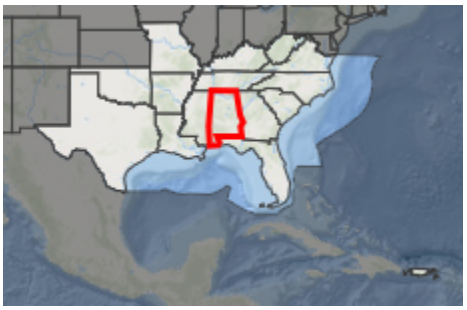


Hubs
Corridors

*Table 2: Extent of hubs and corridors within Alabama.*

| Type | Acres | Percent of Area |
|---|---|---|
| Hubs | 2,415,155 | 7.2% |
| Corridors | 8,804,535 | 26.2% |
| Not a hub or corridor | 22,329,118 | 66.6% |
| **Total area** | **33,548,808** | **100%** |

# Indicator Summary

*Table 3: Terrestrial indicators.*

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

*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 | ✓ |

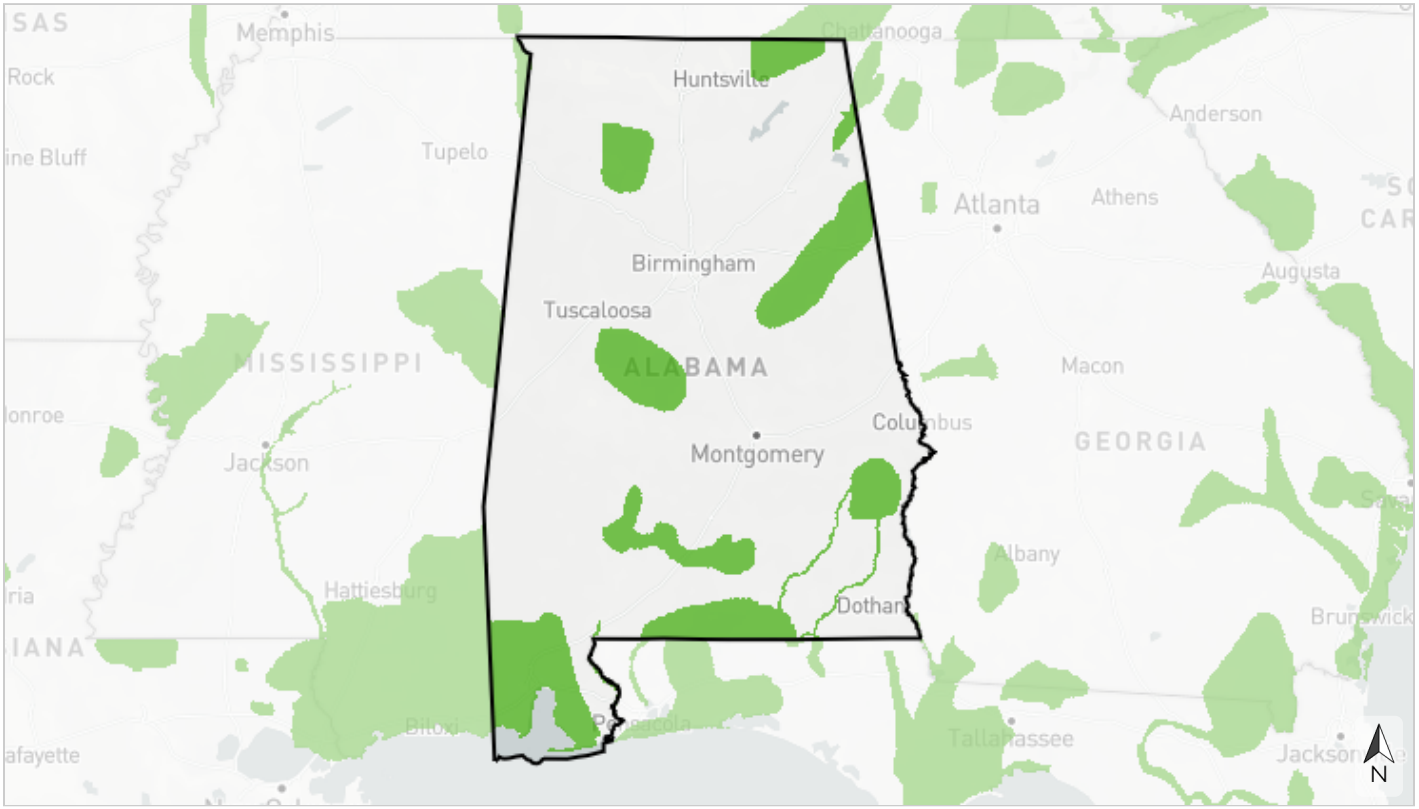
*Table 5: Coastal & marine indicators.*

| Indicator | Present |
|---|---|
| Coastal shoreline condition | ✓ |
| Estuarine coastal condition | ✓ |
| Gulf coral & hardbottom | ✓ |
| Gulf deep-sea coral richness | - |
| Gulf marine mammals | ✓ |
| Gulf sea turtles | ✓ |
| Island habitat | ✓ |
| Marine highly migratory fish | - |
| Resilient coastal sites | ✓ |
| Seagrass | ✓ |
| 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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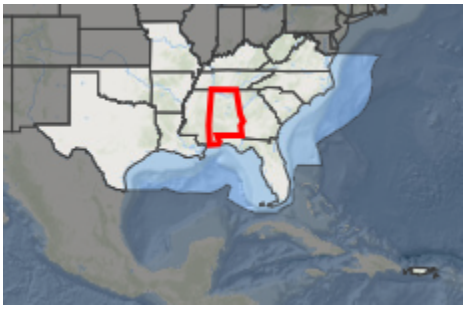


Priority Amphibian and Reptile Conservation Area (PARCA)

Not a PARCA (excluding Kentucky and Virginia)

*Table 6: Indicator values for amphibian & reptile areas within Alabama. 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) | 5,532,781 | 16.5% |
| ↓ Low | Not a PARCA (excluding Kentucky and Virginia) | 28,016,027 | 83.5% |
| | *Area not evaluated for this indicator* | *0.22* | *<0.1%* |
| | **Total area** | **33,548,808** | **100%** |

## Priority Amphibian and Reptile Conservation Areas:

**Alabama Red Hills**

The Red Hills of Alabama occur between the Conecuh and Alabama Rivers and are home to Alabama's state amphibian, the federally threatened Red Hills salamander. Of its remaining habitat, more than 60% is owned by private paper mills that practice clearcut logging. It also faces threats from invasive species and poor water quality. More research and conservation action is needed to ensure the longevity of this species, as well as the other at-risk species that occupy the Red Hills.

**Bankhead**

Known as the "land of a thousand waterfalls" and found at the southern tip of the Cumberland Plateau, Bankhead is one of the most important sites in the country for many endemic and imperiled species that face threats from stream barriers, coal mining, siltation runoff, development, and recreation in the Bankhead National Forest, which makes up the majority of this PARCA. Efforts are currently in progress to address issues of stream connectivity and water quality by removing or retrofitting low-head dams and culverts to restore the genetic health of fragmented aquatic species. These efforts are critical for two federally listed species in the PARCA, the Black Warrior waterdog (endangered) and flattened musk turtle (threatened).

**Choctawhatchee Pea North**

The Choctawhatchee Pea North PARCA runs between the Fall Line Hills and the Conecuh PARCAs and is threatened by watershed pollution, sedimentation, and loss of connectivity. This PARCA sufferers from too few protections and regulations. It was selected to protect the freshwater turtle species that reside in these rivers, such as the Barbour's map turtle, as well as imperiled amphibians and reptiles that rely on its riparian areas as critical habitat, like the pine barrens tree frog and eastern hognose snake.

**Choctawhatchee Pea South**

Designed with freshwater turtles in mind, the Choctawhatchee Pea South PARCA includes the wildlands of the Choctawhatchee River Wildlife Management Area and the river's tributaries. The Choctawhatchee River's many turtle species are vulnerable to siltation, pollution, and degradation of nesting grounds, so protecting both the riverine and surrounding riparian areas is of the utmost importance. Other imperiled reptiles and amphibians, like king snakes and river frogs, also call this PARCA home.

**Conecuh**
Conecuh, along the southern Alabama border, is a highly important area for conservation in the core of the state's coastal plains. Longleaf pine forests have historically made this area important for the federally threatened gopher tortoise, which faces little protection outside of the Conecuh National Forest. Endangered reptiles also face pressure here from the loss of prey species like the eastern pocket gopher. Addressing recreation and poor fire management are top priorities to keep these habitats healthy for the numerous amphibians and reptiles here, including the eastern glass lizard and eastern box turtle.

**Eglin Blackwater**
Spanning from the Alabama border to the Gulf of Mexico, the Eglin Blackwater PARCA includes land within Blackwater State Forest, Yellow River Wildlife Management Area, and Eglin Air Force Base, where many of the remaining reticulated flatwoods salamanders can be found. The Eglin Blackwater PARCA is also home to other imperiled species like the Florida bog frog and the pine barrens tree frog.

**Fall Line Hills**
The Fall Line Hills PARCA contains the headwaters of the Pea and Choctawhatchee Rivers, as well as an important transitional zone between the Chunnenuggee Ridge, eastern Red Hills, and Black Belt. It’s a significant area for enabling wide-reaching conservation action plans to protect an important refuge for many reptiles and amphibians, including the eastern coachwhip and eastern tiger salamander.

**Gulf Coast**
The Gulf Coast PARCA spans the southern portion of Mississippi, encompassing a diverse landscape influenced by its proximity to the Gulf of Mexico. This region includes coastal flatwoods and marshes, upland longleaf pine forests, and expansive riverine systems, with notable features such as the Pascagoula River, renowned for its biodiversity. Habitats range from saltwater and freshwater marshes to fire-maintained longleaf pine forests, supporting species like the dusky gopher frog, Gulf salt marsh snake, and Mississippi diamondback terrapin. The confluence of these subregions, coupled with the area's history of fluctuating sea levels and sediment deposition, has sculpted a unique set of conditions conducive to supporting a wide range of plant and animal life, each with a distinct subset of species, threats, and conservation needs, underpinning its importance for conservation. Urban development, invasive species, and fire suppression are major threats that collaborative conservation efforts with national forests, national wildlife refuges, and educational institutions are crucial to address.

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

**Lake Seminole**
The Lake Seminole PARCA is an extension of the Red Hills formation with clay-rich soil. It boasts mature longleaf pine savannas with diverse herbaceous ground cover, good structure from stump holes and tortoise burrows, and extensive open wetlands fed by springs. The longleaf pine communities and embedded isolated wetlands provide habitat for upland reptile species. The Lower Chattahoochee and

Flint Rivers, as well as Spring Creek, support robust turtle populations, while seepages in the region harbor several salamander species.

**Little River Canyon**
The Little River Canyon offers a diverse ecosystem of forested uplands, waterfalls, canyon rims, pools, boulders, and sandstone cliffs to amphibians and reptiles in the Southern Appalachians, including the rare and elusive northern pine snake. The core area of this PARCA is protected along the Little River Canyon National Preserve. However, because wildlife species have no knowledge of map boundaries, they face threats from upstream water quality issues, private forestry operations, and recreation. For this reason, this PARCA is bordered upstream by Lookout/Pigeon Mountain PARCA in Georgia.

**Lookout Pigeon Mountain**
Part of the Cumberland Plateau, both Lookout and Pigeon Mountains rise sharply from the valley floor with steep sandstone cliff faces. Forests transition from dense mesic hardwoods to pines and fire-adapted oaks on top. The sandstone caprock forms a flat, broad ridge that occasionally traps water, creating ephemeral wetlands. This region boasts the highest salamander species richness in Georgia, including rare and endemic species.

**Mann's Land**
Named in honor of herpetologist Tom Mann, a longtime herpetologist in the region, the Mann's Land PARCA, located in east-central Mississippi, includes the Tombigbee National Forest and Black Prairie Wildlife Management Area. This PARCA features a mosaic of open prairies, chalk outcrops, and oak-hickory forests. The unique geology, including alkaline soils supporting prairie flora, provides habitats for species like the Webster's salamander, crawfish frog, and prairie kingsnake. Key threats are prairie conversion, invasive species like cogongrass, and incompatible forestry practices. Conservation efforts can be supported by partnerships with Mississippi State University, private landowners, and the Natural Resources Conservation Service (NRCS). Important research needs include mapping surface geology for salamanders and monitoring the effectiveness of prairie restoration efforts.

**Mobile Bay**
Alabama's largest PARCA, Mobile Bay, contains a largely developed metro area, and in a region of such high biodiversity, this has pushed many species to the brink of extirpation. This area is considered the world's center of turtle diversity, harboring beautiful species like the eastern chicken turtle, southern painted turtle, Alabama red-bellied turtle, and Mississippi diamondback terrapin. Often called "America's Amazon," it was the boyhood home of EO Wilson; his dream was that it would one day hold a national park to celebrate its amazing biodiversity. Undeveloped areas along the coast and inland swamps are key habitats for a large number of imperiled amphibian and reptile species that find refuge or breed here, including the Gulf Coast waterdog.

**Oakmulgee**
The Oakmulgee PARCA is a large tract of the Fall Line Hills, which separates the hard Piedmont rocks of the Appalachian Highlands from the softer rocks of the Atlantic Plain. Though predominantly hardwood, several islands of longleaf pine in the midst of intensive logging pressure make this an important refuge for amphibians and reptiles, including the southeastern five-lined skink and seepage salamander. The vegetation is similar to the Upper Coastal Plains, with steep slopes more reminiscent of the Appalachian

Plateau. Oakmulgee National Forest encompasses a large portion of this PARCA.

**Perdido River**
The Perdido River flows through southern Alabama and was once dominated by longleaf pine; today human development, logging, and absence of fire has left only 4% remaining. These deep sands are home to many imperiled reptiles and amphibians that existed for millions of years in these longleaf pine forests, and with cooperative conservation measures, will hopefully live for a million more. A diversity of frog species inhabit the PARCA, including the Cope's gray tree frog, barking tree frog, northern spring peeper, eastern narrowmouth toad, eastern spadefoot, and southern leopard frog.

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

**Talladega**
Talladega is the second-largest PARCA in Alabama, with the Talladega National Forest running right through its core. Largely forested with deciduous trees, this site is important for reptiles and amphibians alike; however, it faces threats from fragmentation and human development, which creates more challenges for species already experiencing declines here, like the eastern slender glass lizard.

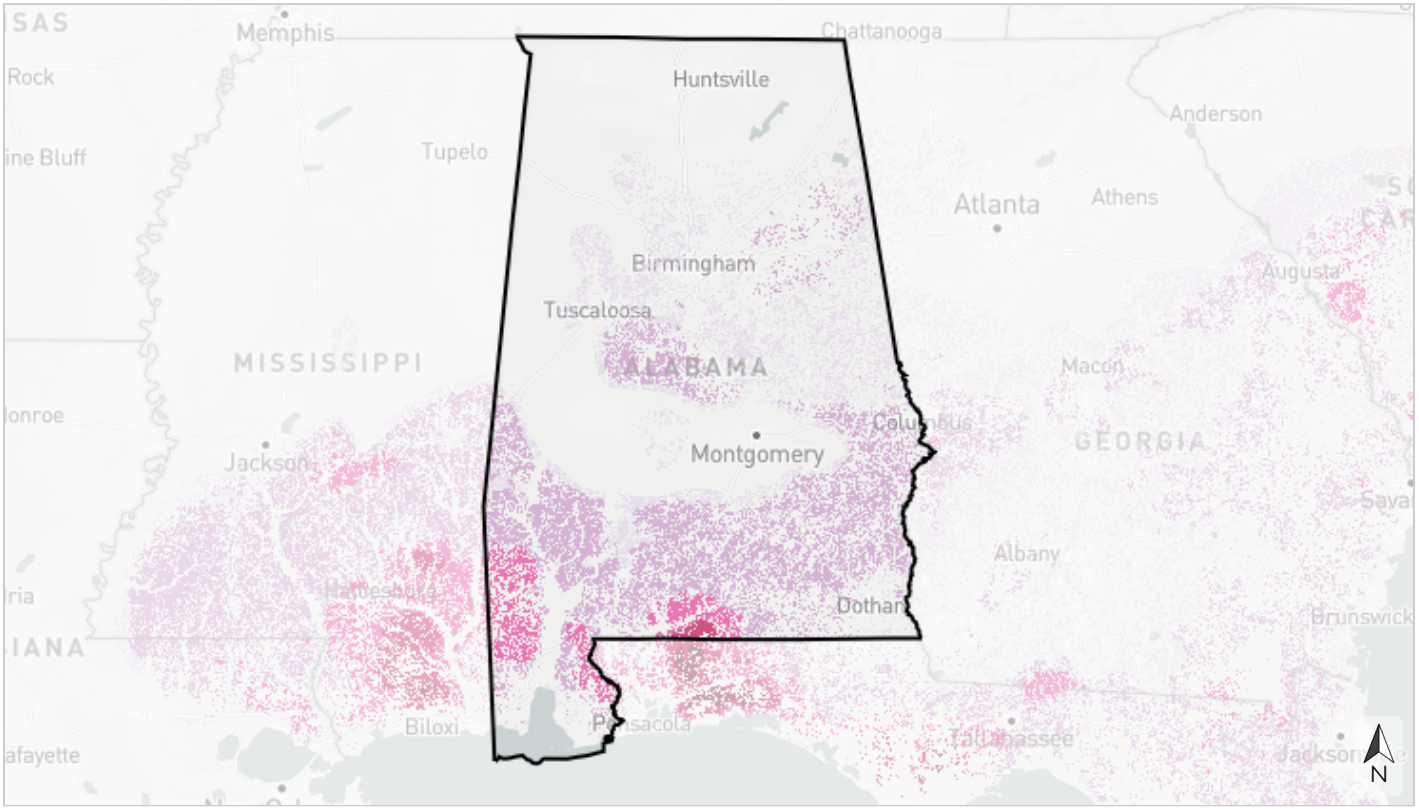
**Tishomingo**
The Tishomingo PARCA, located in the northeastern corner of Mississippi, is a unique ecological region due to its position at the southwestern reach of the Appalachian foothills. This area, part of the Cumberland Plateau, features rugged topography and distinct geological formations that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

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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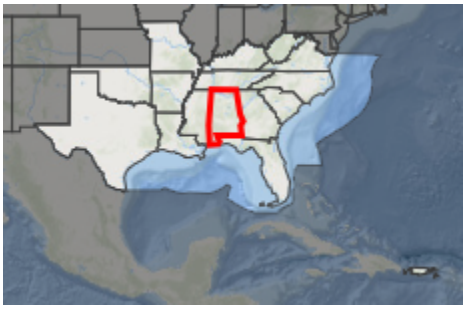

**Priority for open pine conservation for focal bird species**

- 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 Alabama. 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) | 65,965 | 0.2% |
| | Medium priority (score >40-60) | 724,158 | 2.2% |
| | Medium-low priority (score >20-40) | 4,675,958 | 13.9% |
| | Low priority (score 0-20) | 3,007,695 | 9.0% |
| ↓ Low | Not a priority (not identified as upland pine) | 13,449,599 | 40.1% |
| | *Area not evaluated for this indicator* | *11,625,434* | *34.7%* |
| | **Total area** | **33,548,808** | **100%** |

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

Terrestrial

# Equitable access to potential parks

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


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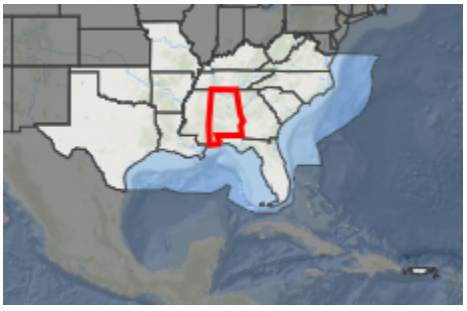

**Priority for a new park that would create nearby equitable access**

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

*Table 8: Indicator values for equitable access to potential parks within Alabama. 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 | 157,385 | 0.5% |
| | High priority | 228,762 | 0.7% |
| | Moderate priority | 270,836 | 0.8% |
| ↓ Low | Not identified as a priority (within urban areas) | 32,430,018 | 96.7% |
| | *Area not evaluated for this indicator* | *461,806* | *1.4%* |
| | **Total area** | **33,548,808** | **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.




257 miles
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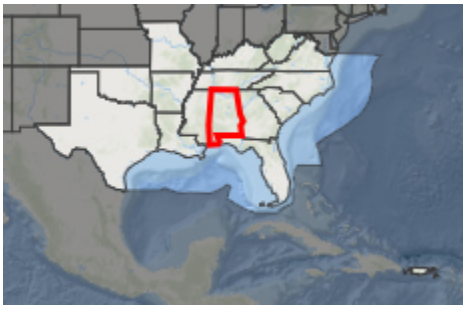


- Burned 3+ times from 2013-2021
- Burned 2 times from 2013-2021
- Burned 1 time from 2013-2021
- Not burned from 2013-2021 or row crop

*Table 9: Indicator values for fire frequency within Alabama. Good condition thresholds reflect the range of indicator values that occur in healthy, functioning ecosystems.*

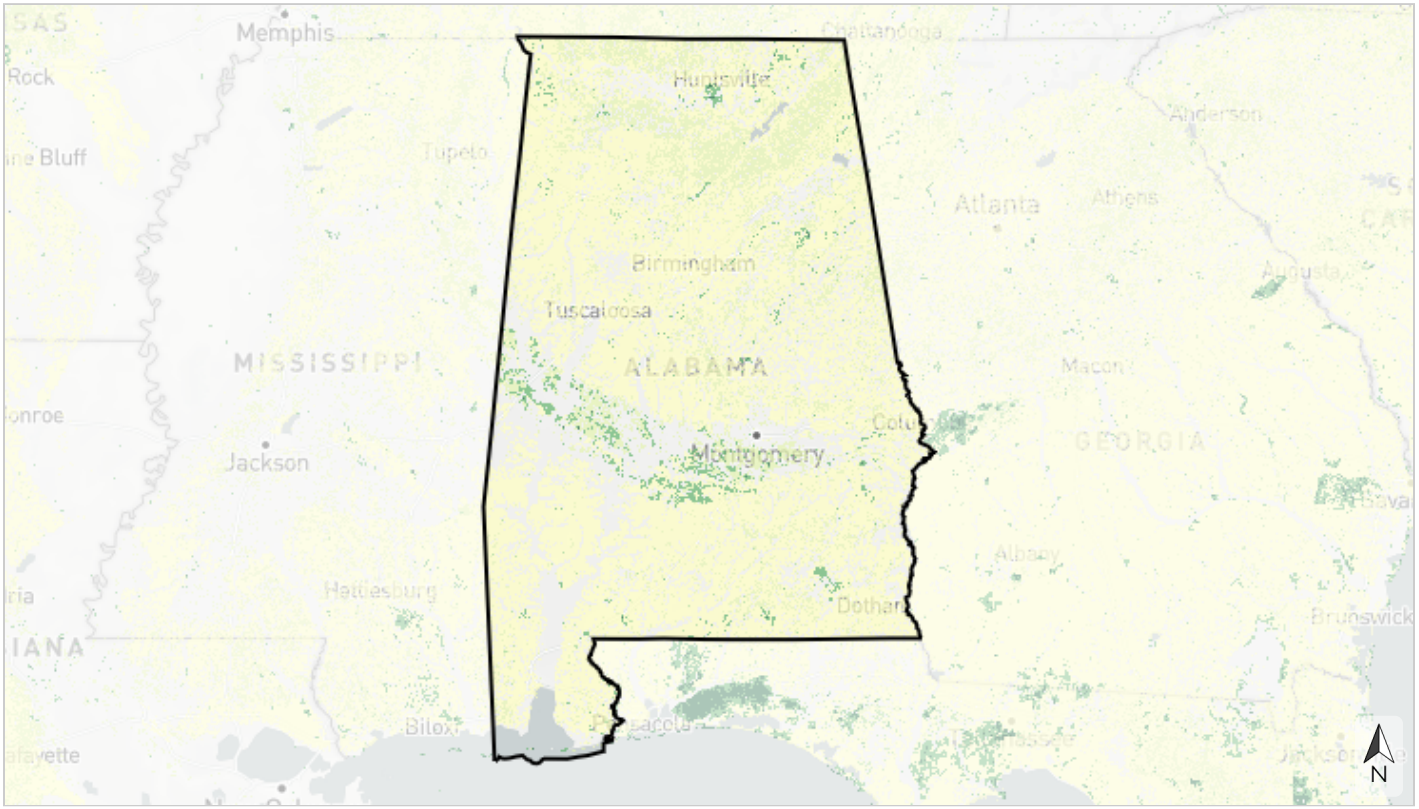
| | Indicator Values | Acres | Percent of Area | |
|---|---|---|---|---|
| ↑ High | Burned 3+ times from 2013-2021 | 65,452 | 0.2% | |
| | Burned 2 times from 2013-2021 | 158,761 | 0.5% | ↑ In good condition |
| | Burned 1 time from 2013-2021 | 849,770 | 2.5% | ↓ Not in good condition |
| ↓ Low | Not burned from 2013-2021 or row crop | 32,467,595 | 96.8% | |
| | *Area not evaluated for this indicator* | *7,230* | *<0.1%* | |
| | **Total area** | **33,548,808** | **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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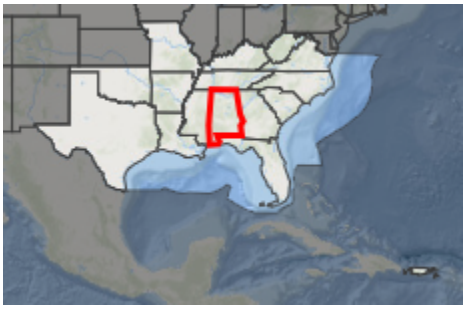

- Known grassland/savanna
- Likely grassland/savanna >10 acres
- Likely grassland/savanna ≤10 acres
- Pollinator buffer around known or likely grassland/savanna
- Potential grassland/savanna in mostly natural landscape
- Potential grassland/savanna in more altered landscape
- Historic grassland/savanna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

*Table 10: Indicator values for grasslands and savannas within Alabama. 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 | 16,617 | <0.1% | |
| | Likely grassland/savanna >10 acres | 34,256 | 0.1% | |
| | Likely grassland/savanna ≤10 acres | 21,411 | <0.1% | ↑ In good condition |
| | Pollinator buffer around known or likely grassland/savanna | 587,969 | 1.8% | ↓ Not in good condition |
| | Potential grassland/savanna in mostly natural landscape | 548,602 | 1.6% | |
| | Potential grassland/savanna in more altered landscape | 4,891,825 | 14.6% | |
| | Historic grassland/savanna | 16,804,415 | 50.1% | |
| ↓ Low | Not identified as grassland/savanna | 10,181,945 | 30.3% | |
| | *Area not evaluated for this indicator* | *461,767* | *1.4%* | |
| | **Total area** | **33,548,808** | **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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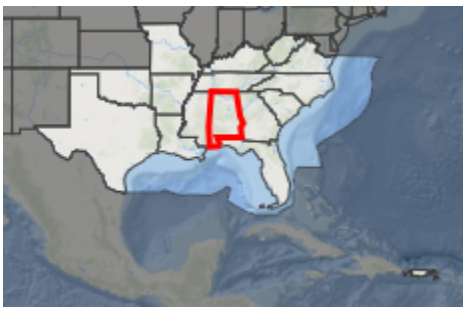
64 129 257 miles



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

*Table 11: Indicator values for greenways & trails within Alabama. Good condition thresholds reflect the range of indicator values that occur in healthy, functioning ecosystems.*

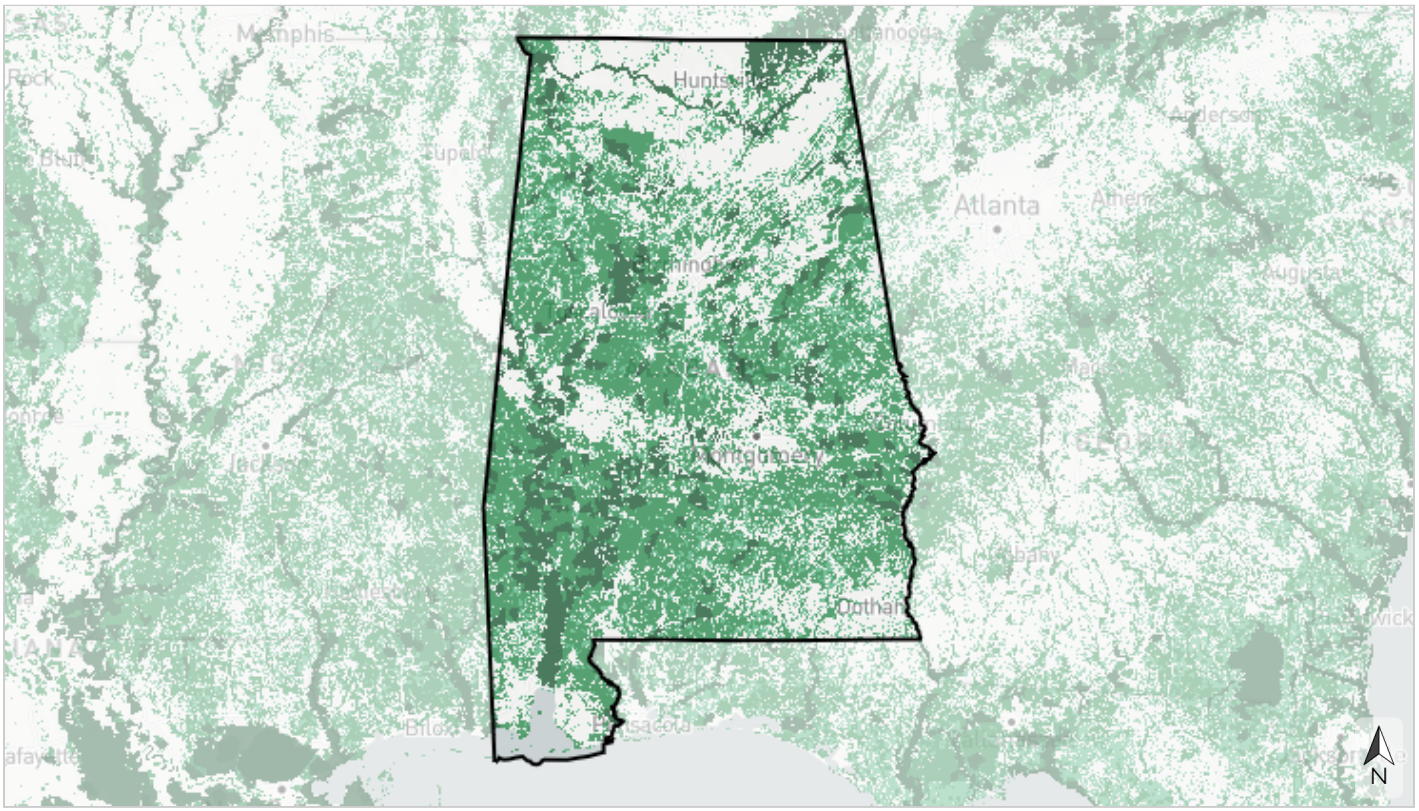
| | Indicator Values | Acres | Percent of Area | |
|---|---|---|---|---|
| ↑ High | Mostly natural and connected for ≥40 km | 6,081 | <0.1% | |
| | Mostly natural and connected for 5 to <40 km or partly natural and connected for ≥40 km | 7,192 | <0.1% | |
| | Mostly natural and connected for 1.9 to <5 km, partly natural and connected for 5 to <40 km, or developed and connected for ≥40 km | 6,510 | <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 | 6,426 | <0.1% | ↑ In good condition |
| | Partly natural and connected for <1.9 km or developed and connected for 1.9 to <5 km | 4,051 | <0.1% | ↓ Not in good condition |
| | Developed and connected for <1.9 km | 5,985 | <0.1% | |
| | Sidewalk | 11,307 | <0.1% | |
| ↓ Low | Not identified as a trail, sidewalk, or other path | 33,493,745 | 99.8% | |
| | *Area not evaluated for this indicator* | *7,511* | *<0.1%* | |
| | **Total area** | **33,548,808** | **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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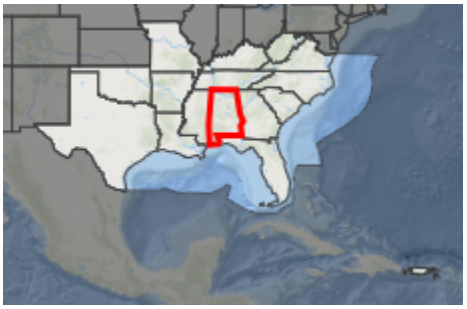


- Large core (>10,000 acres)
- Medium core (>1,000-10,000 acres)
- Small core (>100-1,000 acres)
- Not a core

*Table 12: Indicator values for intact habitat cores within Alabama. Good condition thresholds reflect the range of indicator values that occur in healthy, functioning ecosystems.*

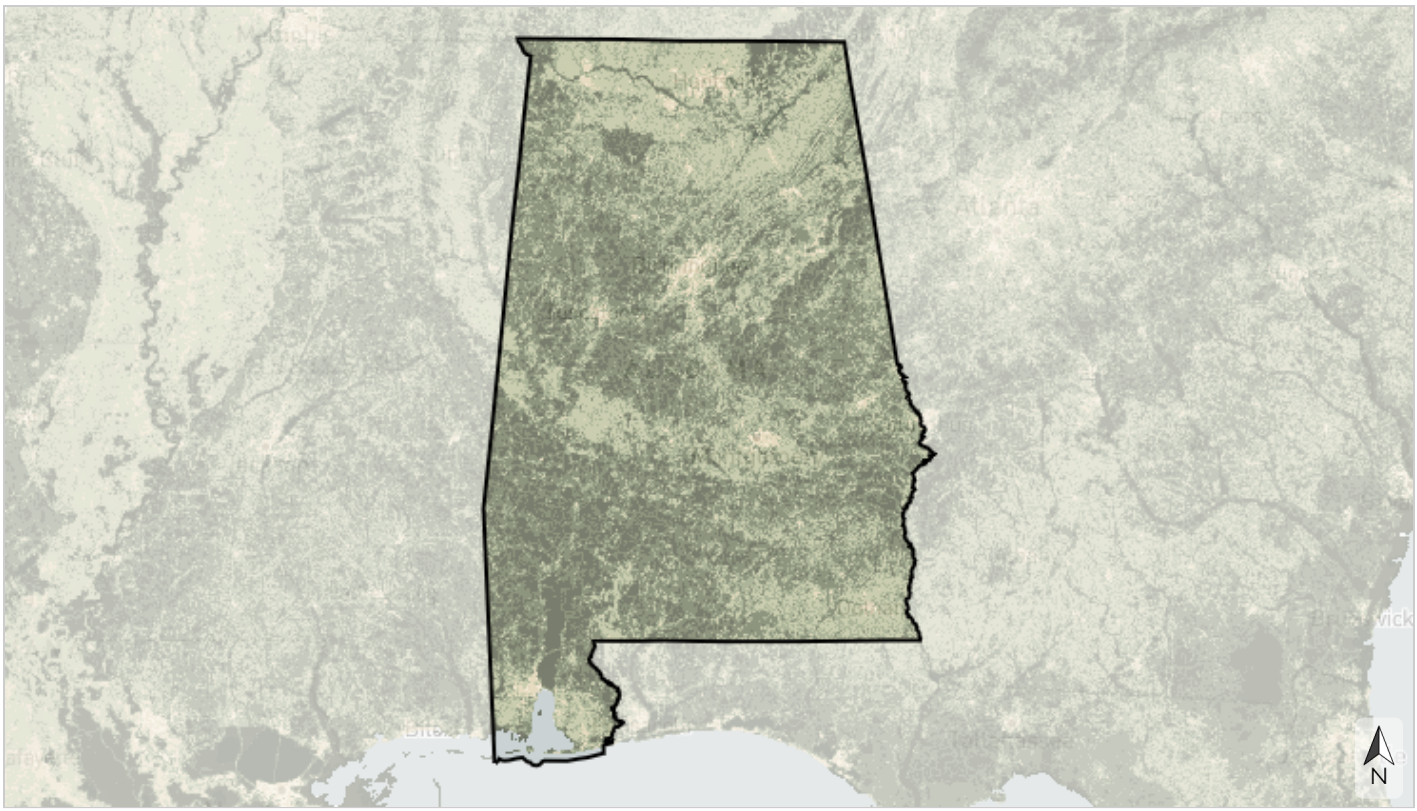
| | Indicator Values | Acres | Percent of Area | |
|---|---|---|---|---|
| ↑ High | Large core (>10,000 acres) | 3,900,079 | 11.6% | |
| | Medium core (>1,000-10,000 acres) | 11,675,985 | 34.8% | |
| | Small core (>100-1,000 acres) | 3,998,227 | 11.9% | ↑ In good condition |
| ↓ Low | Not a core | 13,974,121 | 41.7% | ↓ Not in good condition |
| | *Area not evaluated for this indicator* | *397* | *<0.1%* | |
| | **Total area** | **33,548,808** | **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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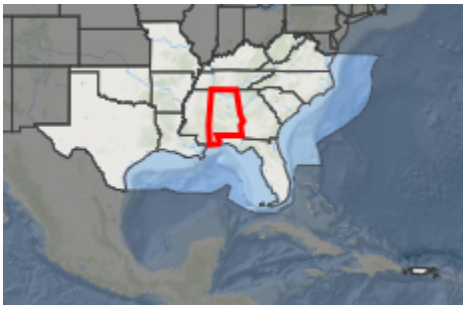


- Very natural landscape
- Natural landscape
- Mostly natural landscape
- Partly natural landscape
- Altered landscape
- Heavily altered landscape

*Table 13: Indicator values for landscape condition within Alabama. Good condition thresholds reflect the range of indicator values that occur in healthy, functioning ecosystems.*

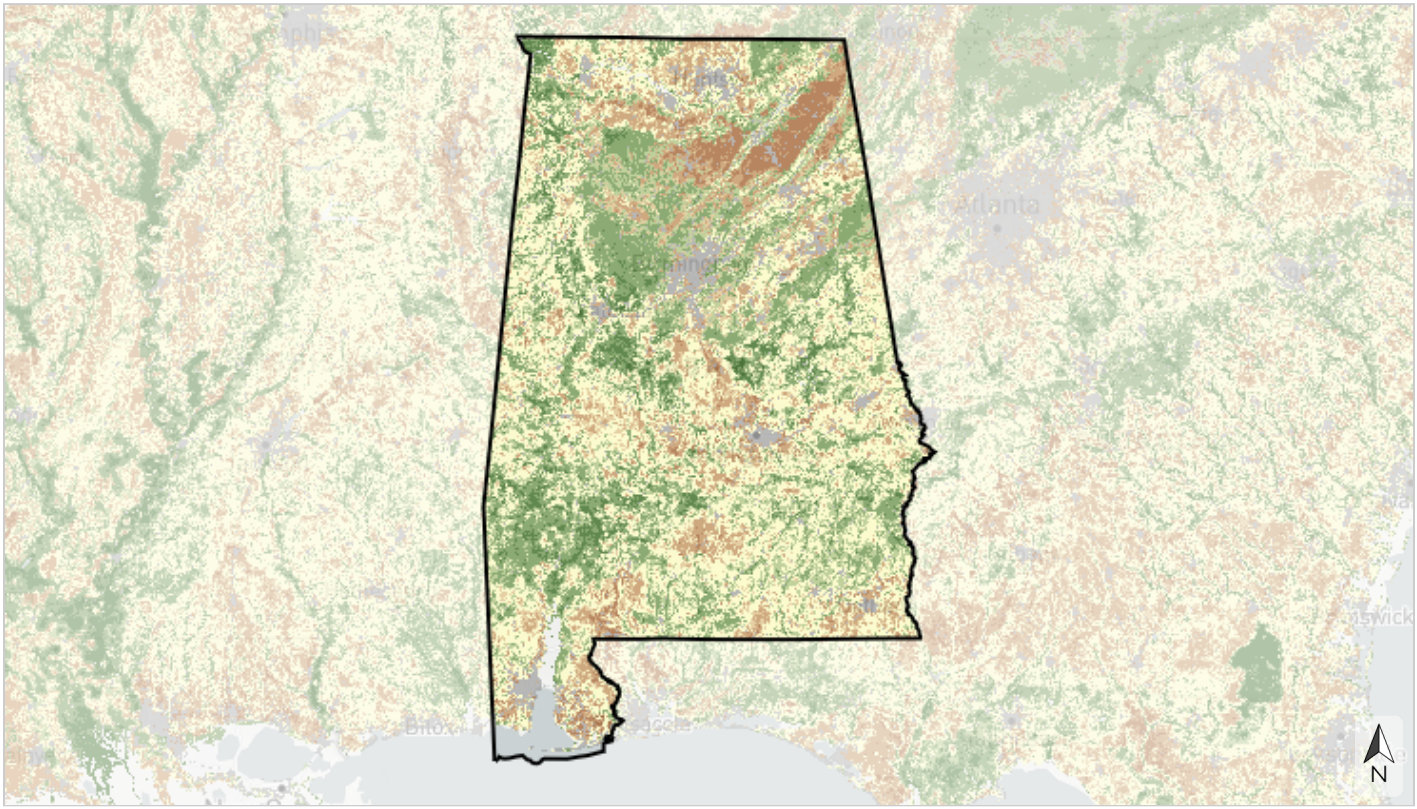
| | Indicator Values | Acres | Percent of Area | |
|---|---|---|---|---|
| ↑ High | Very natural landscape | 4,929,633 | 14.7% | |
| | Natural landscape | 11,950,995 | 35.6% | |
| | Mostly natural landscape | 8,547,125 | 25.5% | ↑ In good condition |
| | Partly natural landscape | 6,908,631 | 20.6% | ↓ Not in good condition |
| | Altered landscape | 618,775 | 1.8% | |
| ↓ Low | Heavily altered landscape | 131,881 | 0.4% | |
| | *Area not evaluated for this indicator* | *461,767* | *1.4%* | |
| | **Total area** | **33,548,808** | **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.






257 miles
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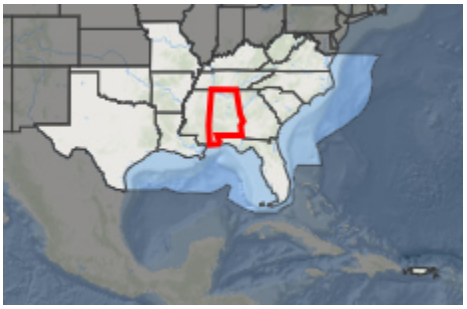

- Most resilient
- More resilient
- Slightly more resilient
- Average/median resilience
- Slightly less resilient
- Less resilient
- Least resilient
- Developed

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

| | Indicator Values | Acres | Percent of Area |
|---|---|---|---|
| ↑ High | Most resilient | 1,207,807 | 3.6% |
| | More resilient | 5,770,385 | 17.2% |
| | Slightly more resilient | 5,715,236 | 17.0% |
| | Average/median resilience | 9,248,683 | 27.6% |
| | Slightly less resilient | 3,346,496 | 10.0% |
| | Less resilient | 2,927,203 | 8.7% |
| | Least resilient | 990,105 | 3.0% |
| ↓ Low | Developed | 3,010,693 | 9.0% |
| | *Area not evaluated for this indicator* | *1,332,200* | *4.0%* |
| | **Total area** | **33,548,808** | **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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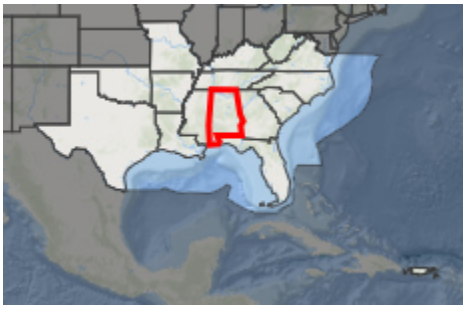

**Potential for presence of forest bird index species**

- 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 Alabama. 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) | 483,605 | 1.4% | |
| | Large patches often near water (potential for Northern parula, black-throated green warbler, or Prothonotary warbler) | 108,724 | 0.3% | |
| | Medium patches (potential for Acadian flycatcher) | 707,641 | 2.1% | |
| | Small patches often near water (potential for hooded warbler or Kentucky warbler) | 222,026 | 0.7% | ↑ 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) | 2,561,244 | 7.6% | ↓ Not in good condition |
| ↓ Low | Less potential | 580,727 | 1.7% | |
| | *Area not evaluated for this indicator* | *28,884,842* | *86.1%* | |
| | **Total area** | **33,548,808** | **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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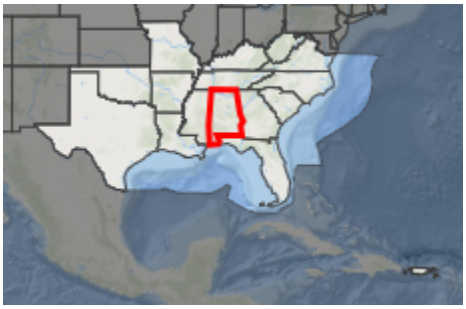


- Historic place with nearby low-urban buffer
- Historic place with nearby high-urban buffer
- Not in the National Register of Historic Places

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

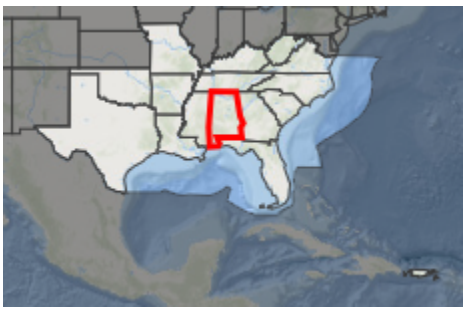
| | Indicator Values | Acres | Percent of Area |
|---|---|---|---|
| ↑ High | Historic place with nearby low-urban buffer | 148 | <0.1% |
| | Historic place with nearby high-urban buffer | 276 | <0.1% |
| ↓ Low | Not in the National Register of Historic Places | 4,504,642 | 13.4% |
| | *Area not evaluated for this indicator* | *29,043,742* | *86.6%* |
| | **Total area** | **33,548,808** | **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.

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

| | Indicator Values | Acres | Percent of Area |
|---|---|---|---|
| ↑ High | 75+ acre urban park | 145,631 | 0.4% |
| | 50 to <75 acre urban park | 4,152 | <0.1% |
| | 30 to <50 acre urban park | 3,734 | <0.1% |
| | 10 to <30 acre urban park | 6,276 | <0.1% |
| | 5 to <10 acre urban park | 2,125 | <0.1% |
| | <5 acre urban park | 2,043 | <0.1% |
| ↓ Low | Not identified as an urban park | 33,316,941 | 99.3% |
| | *Area not evaluated for this indicator* | *67,907* | *0.2%* |
| | **Total area** | **33,548,808** | **100%** |

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

Freshwater

# Gulf migratory fish connectivity

This indicator captures how far upstream migratory fish in the Gulf of Mexico have been observed. How far upstream migratory fish can travel reflects not just the presence of dams and other barriers, but also the presence of measures like fish ladders that allow specific species to access habitat upstream of dams. This indicator originates from The Nature Conservancy's Southeast Aquatic Connectivity Assessment Project 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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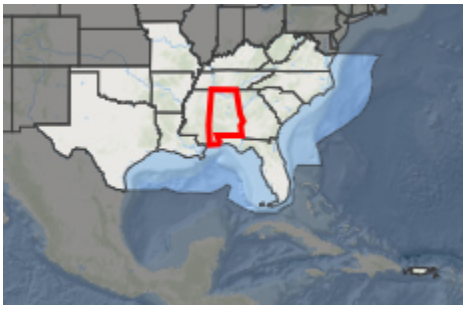

- Presence of Gulf sturgeon
- Presence of Alabama shad, American shad, or striped bass
- Not identified as Gulf migratory fish habitat (east of the Mississippi River)

*Table 18: Indicator values for Gulf migratory fish connectivity within Alabama. Good condition thresholds reflect the range of indicator values that occur in healthy, functioning ecosystems.*

| | Indicator Values | Acres | Percent of Area | |
|---|---|---|---|---|
| ↑ High | Presence of Gulf sturgeon | 131,857 | 0.4% | |
| | Presence of Alabama shad, American shad, or striped bass | 202 | <0.1% | ↑ In good condition |
| ↓ Low | Not identified as Gulf migratory fish habitat (east of the Mississippi River) | 22,685,308 | 67.6% | ↓ Not in good condition |
| | *Area not evaluated for this indicator* | *10,731,441* | *32.0%* | |
| | **Total area** | **33,548,808** | **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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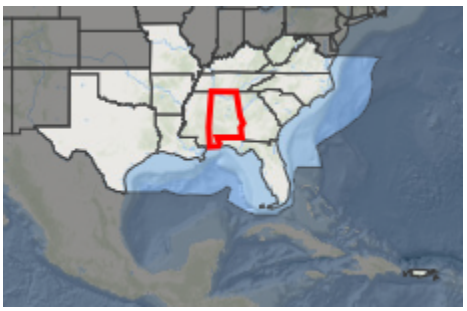


**Number of aquatic animal Regional Species of Greatest Conservation Need (RSGCN) observed**

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

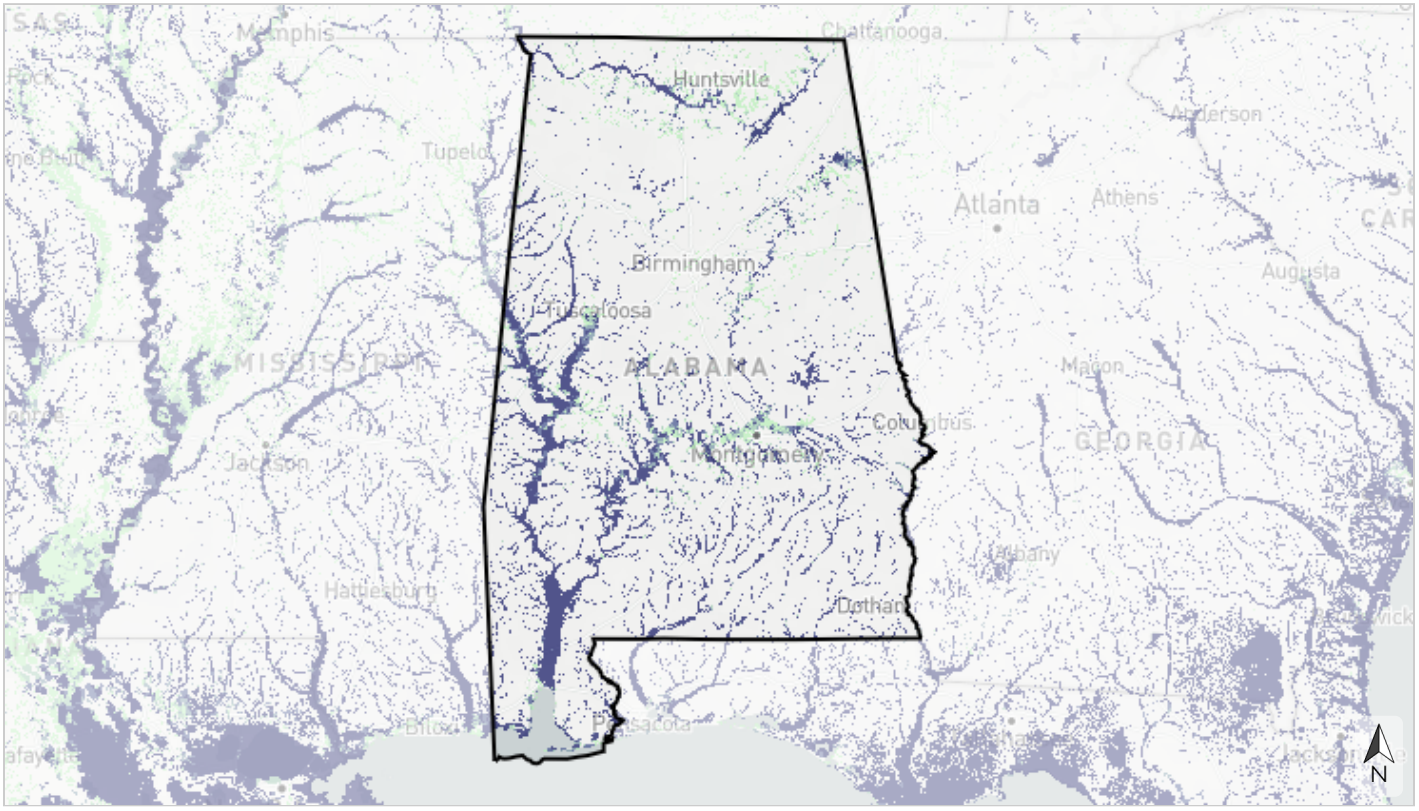
| | Indicator Values: Number of aquatic animal Regional Species of Greatest Conservation Need (RSGCN) observed | Acres | Percent of Area |
|---|---|---|---|
| ↑ High | 8+ species | 677,348 | 2.0% |
| | 7 species | 227,043 | 0.7% |
| | 6 species | 88,033 | 0.3% |
| | 5 species | 361,183 | 1.1% |
| | 4 species | 346,554 | 1.0% |
| | 3 species | 493,337 | 1.5% |
| | 2 species | 659,623 | 2.0% |
| | 1 species | 979,981 | 2.9% |
| | 0 species | 1,261,981 | 3.8% |
| ↓ Low | Not identified as a floodplain | 27,958,013 | 83.3% |
| | *Area not evaluated for this indicator* | *495,713* | *1.5%* |
| | **Total area** | **33,548,808** | **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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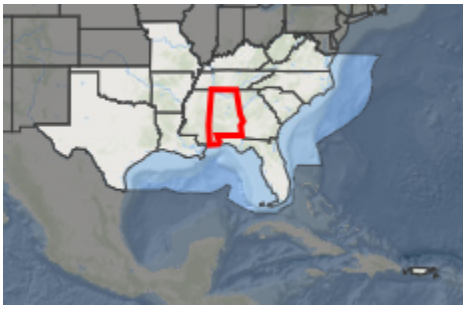

**Percent natural landcover within the estimated floodplain, by catchment**

- >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 Alabama. 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 | 3,166,518 | 9.4% | |
| | >80-90% natural landcover | 568,975 | 1.7% | ↑ In good condition |
| | >70-80% natural landcover | 338,669 | 1.0% | ↓ Not in good condition |
| | >60-70% natural landcover | 263,950 | 0.8% | |
| | ≤60% natural landcover | 756,969 | 2.3% | |
| ↓ Low | Not identified as a floodplain | 27,957,939 | 83.3% | |
| | *Area not evaluated for this indicator* | *495,787* | *1.5%* | |
| | **Total area** | **33,548,808** | **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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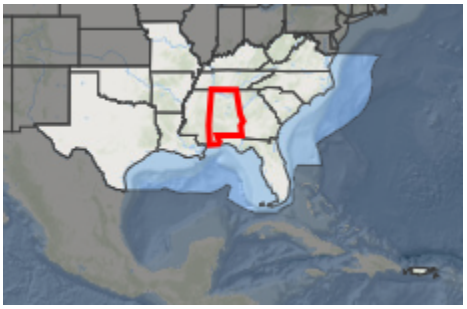


**Number of connected stream size classes**

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

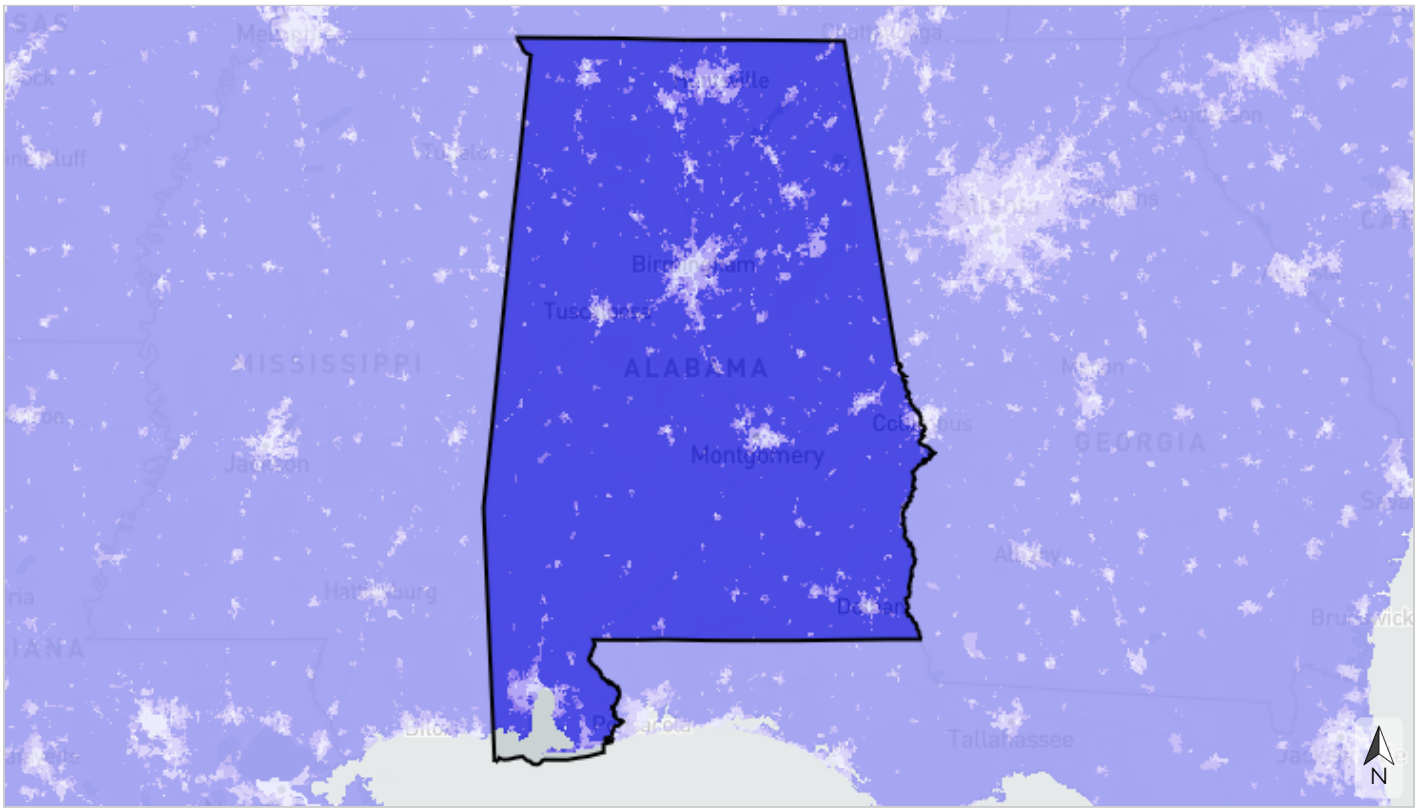
| | Indicator Values: Number of connected stream size classes | Acres | Percent of Area | |
|---|---|---|---|---|
| ↑ High | 7 size classes | 682,132 | 2.0% | |
| | 6 size classes | 1,130,726 | 3.4% | |
| | 5 size classes | 1,984,676 | 5.9% | |
| | 4 size classes | 504,852 | 1.5% | ↑ In good condition |
| | 3 size classes | 328,831 | 1.0% | ↓ Not in good condition |
| | 2 size classes | 280,494 | 0.8% | |
| | 1 size class | 178,566 | 0.5% | |
| ↓ Low | Not identified as a floodplain | 27,957,581 | 83.3% | |
| | *Area not evaluated for this indicator* | *500,949* | *1.5%* | |
| | **Total area** | **33,548,808** | **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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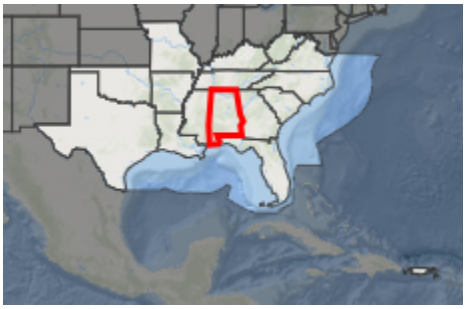

**Percent of catchment permeable**

- >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 Alabama. 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) | 30,403,332 | 90.6% | ↑ In good condition |
| | >90-95% permeable (likely declining water quality and supporting most aquatic species) | 1,121,637 | 3.3% | ↓ Not in good condition |
| | >70-90% permeable (likely degraded water quality and not supporting many aquatic species) | 1,236,611 | 3.7% | |
| ↓ Low | ≤70% permeable (likely degraded instream flow, water quality, and aquatic species communities) | 291,515 | 0.9% | |
| | *Area not evaluated for this indicator* | *495,713* | *1.5%* | |
| | **Total area** | **33,548,808** | **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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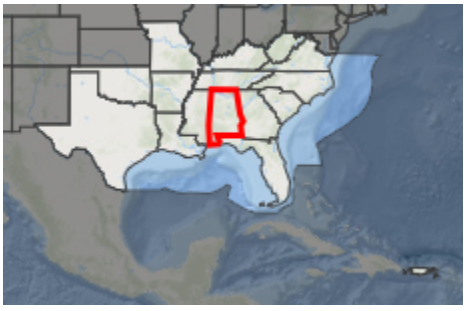

- Natural and harder to develop
- Natural
- Partially armored and harder to develop
- Partially armored
- Armored

*Table 23: Indicator values for coastal shoreline condition within Alabama. 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 | 1,673 | <0.1% | |
| | Natural | 17,564 | <0.1% | ↑ In good condition |
| | Partially armored and harder to develop | 16 | <0.1% | ↓ Not in good condition |
| | Partially armored | 829 | <0.1% | |
| ↓ Low | Armored | 2,256 | <0.1% | |
| | *Area not evaluated for this indicator* | *33,526,471* | *99.9%* | |
| | **Total area** | **33,548,808** | **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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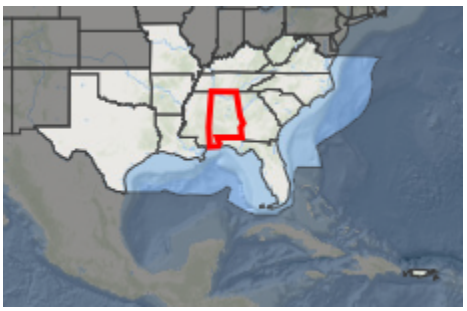

- Good
- Fair to good
- Fair
- Poor to fair
- Poor
- Shallow estuary not assessed for condition

*Table 24: Indicator values for estuarine coastal condition within Alabama. Good condition thresholds reflect the range of indicator values that occur in healthy, functioning ecosystems.*

| | Indicator Values | Acres | Percent of Area | |
|---|---|---|---|---|
| ↑ High | Good | 7,174 | <0.1% | |
| | Fair to good | 190,145 | 0.6% | ↑ In good condition |
| | Fair | 210,039 | 0.6% | ↓ Not in good condition |
| | Poor to fair | 33 | <0.1% | |
| | Poor | 0.22 | <0.1% | |
| ↓ Low | Shallow estuary not assessed for condition | 36,246 | 0.1% | |
| | *Area not evaluated for this indicator* | *33,105,170* | *98.7%* | |
| | **Total area** | **33,548,808** | **100%** | |

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

Coastal & marine

# Gulf coral & hardbottom

This indicator predicts the presence of coral and hardbottom in the Gulf of Mexico based on direct observations, acoustic surveys, and known locations of artificial reefs and shipwrecks. 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. Hardbottom is also sometimes associated with diverse chemosynthetic communities supported by micro-organisms that feed off of hydrocarbon seeps. This indicator combines data from multiple sources, including Bureau of Ocean Energy Management seismic water bottom anomalies, usSEABED sediment data, several National Oceanic and Atmospheric Administration datasets, various state layers, and more.


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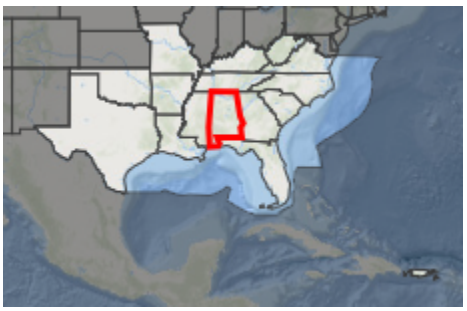

- Confirmed hardbottom-associated species (e.g., corals, sponges, patch reef, chemosynthetic communities)
- Confirmed natural hardbottom
- Artificial reefs
- Shipwrecks
- Probable natural hardbottom (fine resolution)
- Rock (coarse resolution)
- Gravel (coarse resolution)
- Not identified as hardbottom

*Table 25: Indicator values for Gulf coral & hardbottom within Alabama. A good condition threshold is not yet defined for this indicator.*

| | Indicator Values | Acres | Percent of Area |
|---|---|---|---|
| ↑ High | Confirmed hardbottom-associated species (e.g., corals, sponges, patch reef, chemosynthetic communities) | 17 | <0.1% |
| | Confirmed natural hardbottom | 0 | 0% |
| | Artificial reefs | 1,869 | <0.1% |
| | Shipwrecks | 1,245 | <0.1% |
| | Probable natural hardbottom (fine resolution) | 0 | 0% |
| | Rock (coarse resolution) | 17,816 | <0.1% |
| | Gravel (coarse resolution) | 1,055 | <0.1% |
| ↓ Low | Not identified as hardbottom | 678,165 | 2.0% |
| | *Area not evaluated for this indicator* | *32,848,642* | *97.9%* |
| | **Total area** | **33,548,808** | **100%** |

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

Coastal & marine

# Gulf marine mammals

This indicator identifies important areas in the Gulf of Mexico for dolphins and whales. It incorporates monthly density predictions for 13 marine mammal species or species groups (Atlantic spotted dolphin, beaked whales, blackfish [which includes killer whale, melon-headed whale, false killer whale, pygmy killer whale], bottlenose dolphin, Bryde's whale, clymene dolphin, pantropical spotted dolphin, pilot whales, pygmy/dwarf sperm whales, Rice's whale, Risso's dolphin, sperm whale, spinner dolphin) based on sightings from boat-based and aerial surveys and data on oceanographic conditions. It uses marine mammal models developed by the National Oceanic and Atmospheric Administration as part of the Gulf of Mexico Marine Assessment Program for Protected Species (GoMMAPPS).


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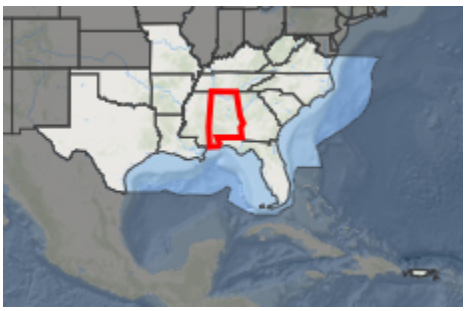

**Percentile of importance for marine mammal index species (across larger analysis area)**

- >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 Gulf marine mammals within Alabama. A good condition threshold is not yet defined for this indicator.*

| | Indicator Values: Percentile of importance for marine mammal index species (across larger analysis area) | Acres | Percent of Area |
|---|---|---|---|
| ↑ High | >90th percentile | 0 | 0% |
| | >80th-90th percentile | 4,445 | <0.1% |
| | >70th-80th percentile | 6,993 | <0.1% |
| | >60th-70th percentile | 5,855 | <0.1% |
| | >50th-60th percentile | 34,745 | 0.1% |
| | >40th-50th percentile | 17,408 | <0.1% |
| | >30th-40th percentile | 13,654 | <0.1% |
| | >20th-30th percentile | 0 | 0% |
| | >10th-20th percentile | 0 | 0% |
| | ≤10th percentile | 390,916 | 1.2% |
| ↓ Low | Land | 3,471 | <0.1% |
| | *Area not evaluated for this indicator* | *33,071,322* | *98.6%* |
| | **Total area** | **33,548,808** | **100%** |

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

Coastal & marine

# Gulf sea turtles

This indicator identifies important areas in the Gulf of Mexico for sea turtles. It incorporates monthly density predictions for four species (green, Kemp's ridley, leatherback, and loggerhead sea turtles) based on sightings from boat-based and aerial surveys and data on oceanographic conditions. It uses sea turtle models developed by the National Oceanic and Atmospheric Administration as part of the Gulf of Mexico Marine Assessment Program for Protected Species (GoMMAPPS).


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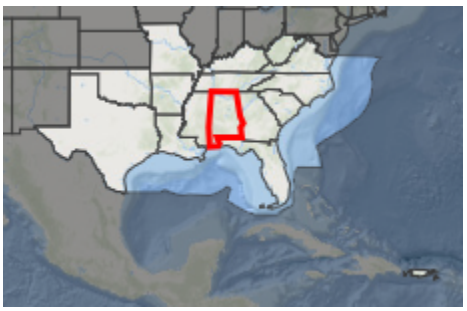

**Percentile of importance for sea turtle index species (across larger analysis area)**

- >90th percentile
- >80th-90th percentile
- >70th-80th percentile
- >65th-70th percentile
- ≤65th percentile
- Land

*Table 27: Indicator values for Gulf sea turtles within Alabama. A good condition threshold is not yet defined for this indicator.*

| | Indicator Values: Percentile of importance for sea turtle index species (across larger analysis area) | Acres | Percent of Area |
|---|---|---|---|
| ↑ High | >90th percentile | 41,124 | 0.1% |
| | >80th-90th percentile | 44,711 | 0.1% |
| | >70th-80th percentile | 0 | 0% |
| | >65th-70th percentile | 0 | 0% |
| | ≤65th percentile | 423,970 | 1.3% |
| ↓ Low | Land | 231,006 | 0.7% |
| | *Area not evaluated for this indicator* | *32,807,997* | *97.8%* |
| | **Total area** | **33,548,808** | **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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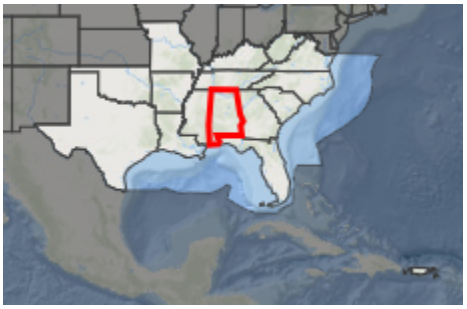
64 129 257 miles



- 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 28: Indicator values for island habitat within Alabama. 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) | 2,223 | <0.1% |
| | Other island area | 32,054 | <0.1% |
| ↓ Low | Not a coastal island | 2,319,153 | 6.9% |
| | *Area not evaluated for this indicator* | *31,195,378* | *93.0%* |
| | **Total area** | **33,548,808** | **100%** |

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

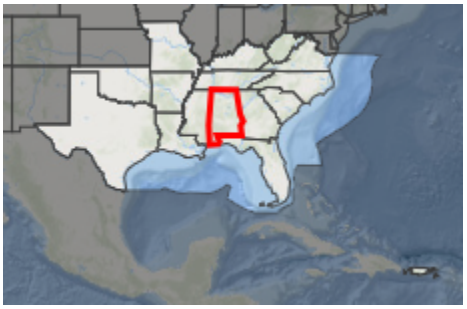
Coastal & marine

# 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.




64 129 257 miles



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

*Table 29: Indicator values for resilient coastal sites within Alabama. A good condition threshold is not yet defined for this indicator.*

| | Indicator Values | Acres | Percent of Area |
|---|---|---|---|
| ↑ High | Most resilient | 0 | 0% |
| | More resilient | 199,726 | 0.6% |
| | Slightly more resilient | 29,493 | <0.1% |
| | Average/median resilience | 20,549 | <0.1% |
| | Slightly less resilient | 591 | <0.1% |
| | Less resilient | 804 | <0.1% |
| ↓ Low | Least resilient | 397 | <0.1% |
| | *Area not evaluated for this indicator* | *33,297,247* | *99.3%* |
| | **Total area** | **33,548,808** | **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 Mexico. 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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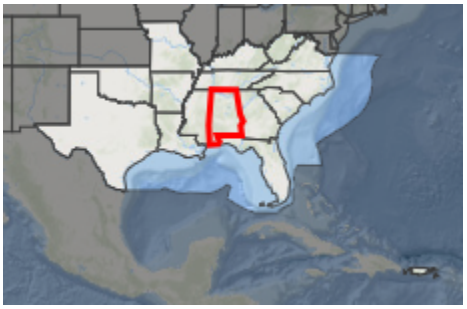


Seagrass present

*Table 30: Indicator values for seagrass within Alabama. A good condition threshold is not yet defined for this indicator.*

| | Indicator Values | Acres | Percent of Area |
|---|---|---|---|
| ↑ High | Seagrass present | 9,312 | <0.1% |
| | *Area not evaluated for this indicator* | *33,539,496* | *100.0%* |
| | **Total area** | **33,548,808** | **100%** |

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

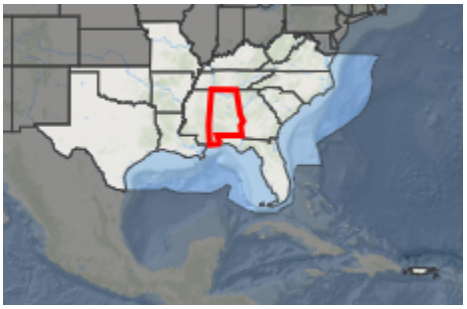
Coastal & marine

# 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.




64 129 257 miles



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

*Table 31: Indicator values for stable coastal wetlands within Alabama. 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 | 41,628 | 0.1% | |
| | Other coastal wetlands | 13,063 | <0.1% | ↑ In good condition |
| ↓ Low | Not identified as coastal wetlands | 825,117 | 2.5% | ↓ Not in good condition |
| | *Area not evaluated for this indicator* | *32,669,000* | *97.4%* | |
| | **Total area** | **33,548,808** | **100%** | |

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

# Threats

## 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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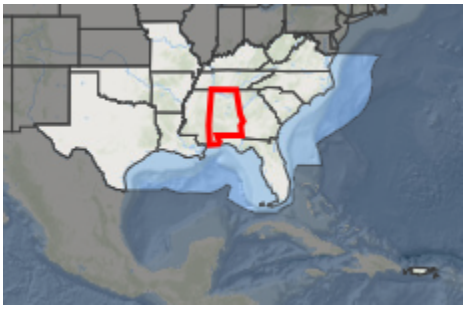


**Flooding extent by projected sea-level rise (ft)**

0 1 2 3 4 5 6 7 8 9 10

*Table 32: Extent of flooding by projected average highest daily tide due to sea level rise within Alabama. Values from the NOAA sea-level rise inundation data.*

| Feet of sea-level rise | Acres | Percent of Area |
|---|---|---|
| 0 feet | 551,149 | 1.6% |
| 1 foot | 608,017 | 1.8% |
| 2 feet | 655,482 | 2.0% |
| 3 feet | 685,453 | 2.0% |
| 4 feet | 705,527 | 2.1% |
| 5 feet | 722,488 | 2.2% |
| 6 feet | 739,980 | 2.2% |
| 7 feet | 757,461 | 2.3% |
| 8 feet | 774,516 | 2.3% |
| 9 feet | 795,794 | 2.4% |
| 10 feet | 814,278 | 2.4% |
| *Not projected to be inundated by up to 10 feet* | *3,717,727* | *11.1%* |
| *Sea-level rise unlikely to be a threat (inland counties)* | *29,016,803* | *86.5%* |
| **Total area** | **33,548,808** | **100%** |

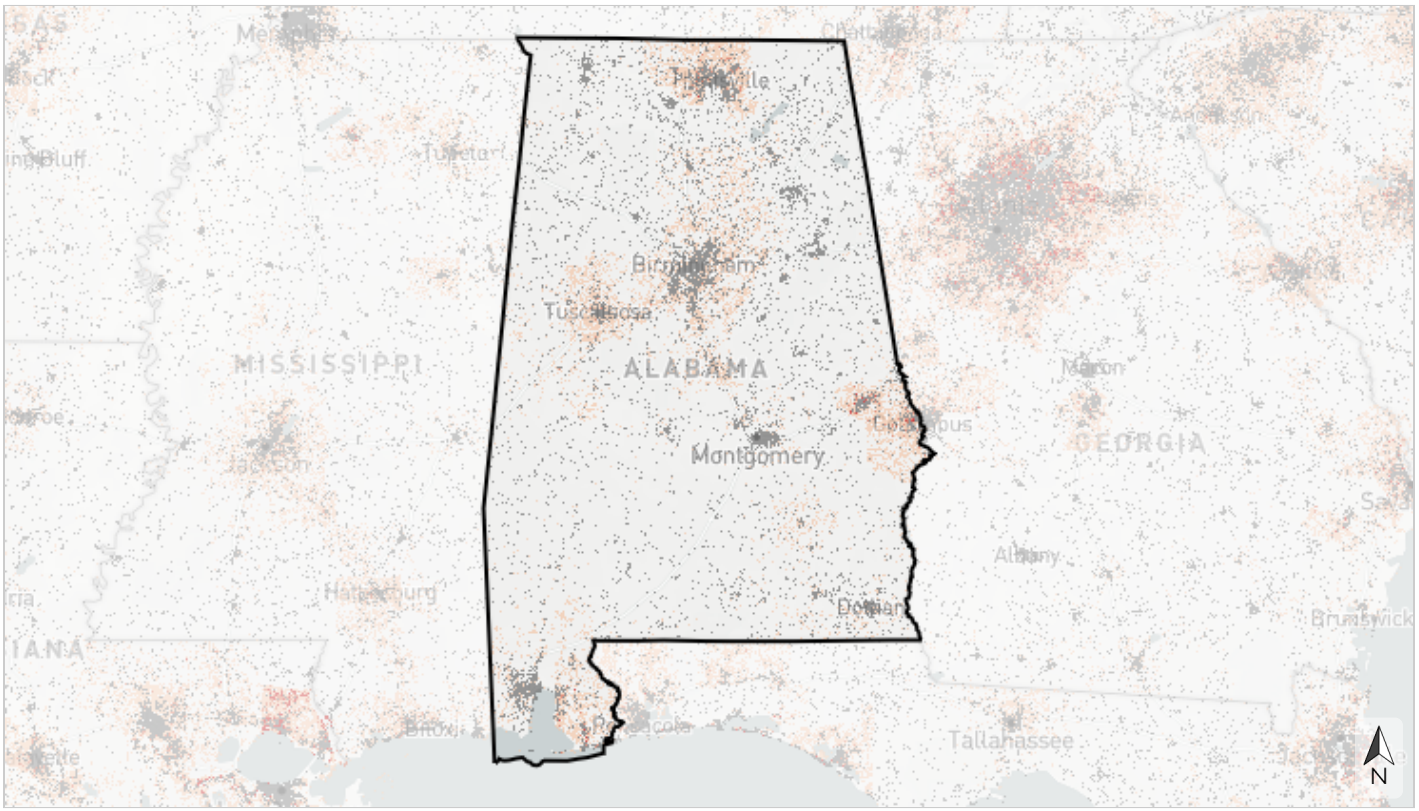
*Table 33: Projected sea level rise by decade within Alabama. Values are based on area-weighted averages of decadal projections for 1-degree grid cells that overlap this area based on NOAA's 2022 Sea Level Rise Report. 2060 corresponds to the SECAS goal: a 10% or greater improvement in the health, function, 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 | 0.28 | 0.44 | 0.6 | 0.76 | 0.89 | 1 | 1.1 | 1.1 | 1.3 |
| Intermediate-low | 0.31 | 0.5 | 0.7 | 0.89 | 1.1 | 1.3 | 1.5 | 1.7 | 1.9 |
| Intermediate | 0.31 | 0.52 | 0.75 | 1 | 1.3 | 1.7 | 2.1 | 2.7 | 3.3 |
| Intermediate-high | 0.32 | 0.55 | 0.84 | 1.2 | 1.7 | 2.4 | 3.1 | 3.9 | 4.8 |
| High | 0.32 | 0.57 | 0.91 | 1.4 | 2.1 | 3 | 4.1 | 5.3 | 6.5 |

## 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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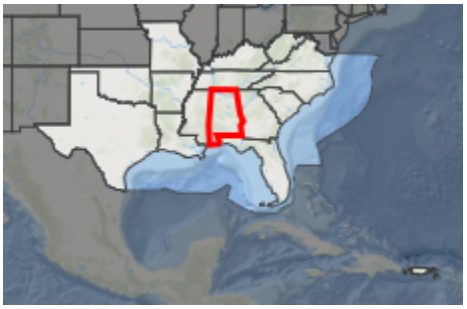


**Probability of urbanization by 2060**

- 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

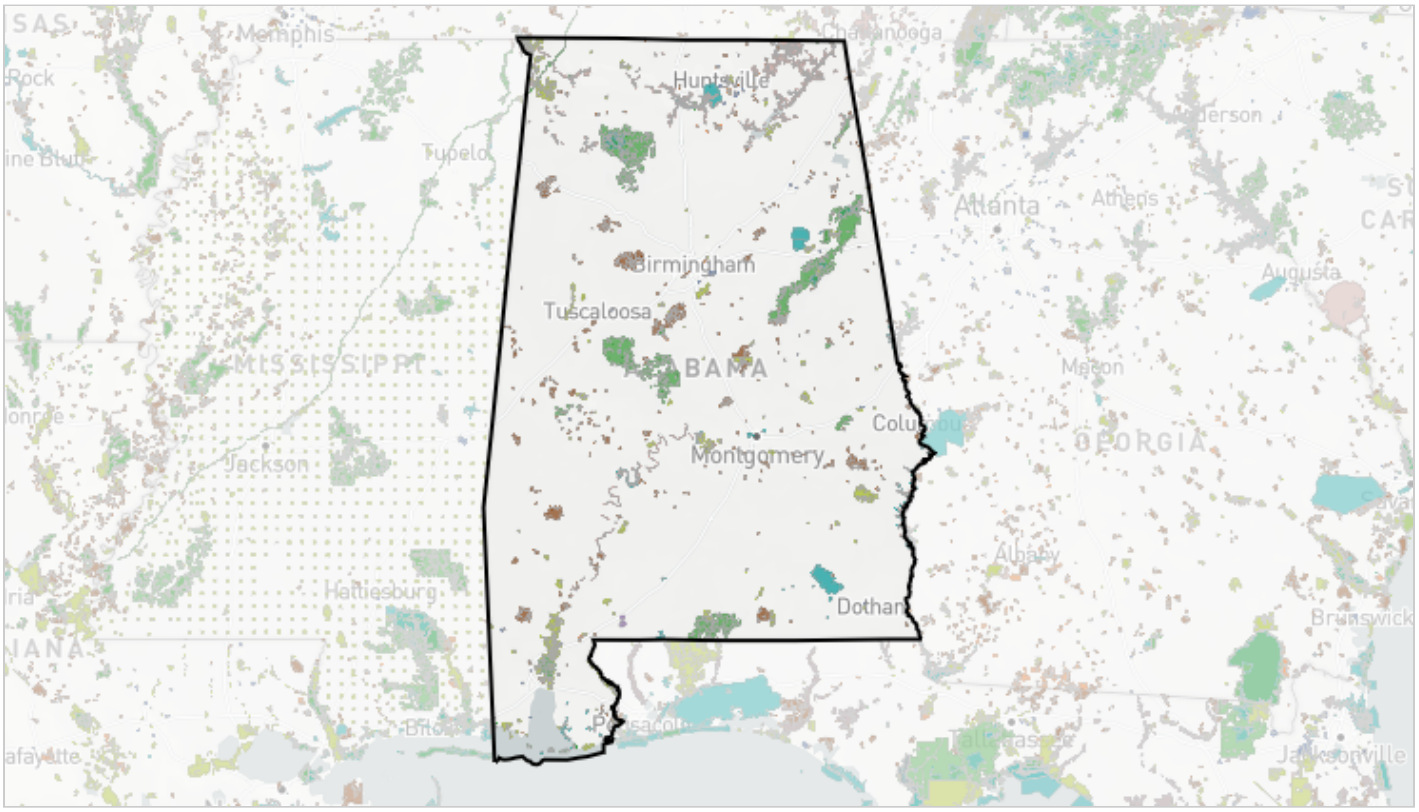
7.9% of this area is already urban in 2021, and an additional 7.4% has at least a moderate probability of urbanizing by 2060.

*Table 34: Extent of projected urbanization by decade within Alabama. Values from FUTURES model projections for the contiguous United States developed by the Center for Geospatial Analytics, NC State University. 2060 corresponds to the SECAS goal: a 10% or greater improvement in the health, function, and connectivity of Southeastern ecosystems by 2060.*

| Decade | Acres | Percent of Area |
|---|---|---|
| Urban in 2021 | 2,659,986 | 7.9% |
| 2030 projected extent | 2,721,298 | 8.1% |
| 2040 projected extent | 2,749,996 | 8.2% |
| 2050 projected extent | 2,767,927 | 8.3% |
| 2060 projected extent | 2,783,901 | 8.3% |
| 2070 projected extent | 2,797,580 | 8.3% |
| 2080 projected extent | 2,808,092 | 8.4% |
| 2090 projected extent | 2,815,762 | 8.4% |
| 2100 projected extent | 2,820,299 | 8.4% |
| *Not projected to urbanize by 2100* | *28,123,449* | *83.8%* |
| **Total area** | **33,548,808** | **100%** |

# Ownership and Partners

## Conserved lands ownership

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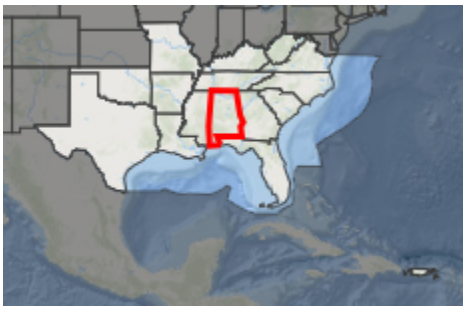
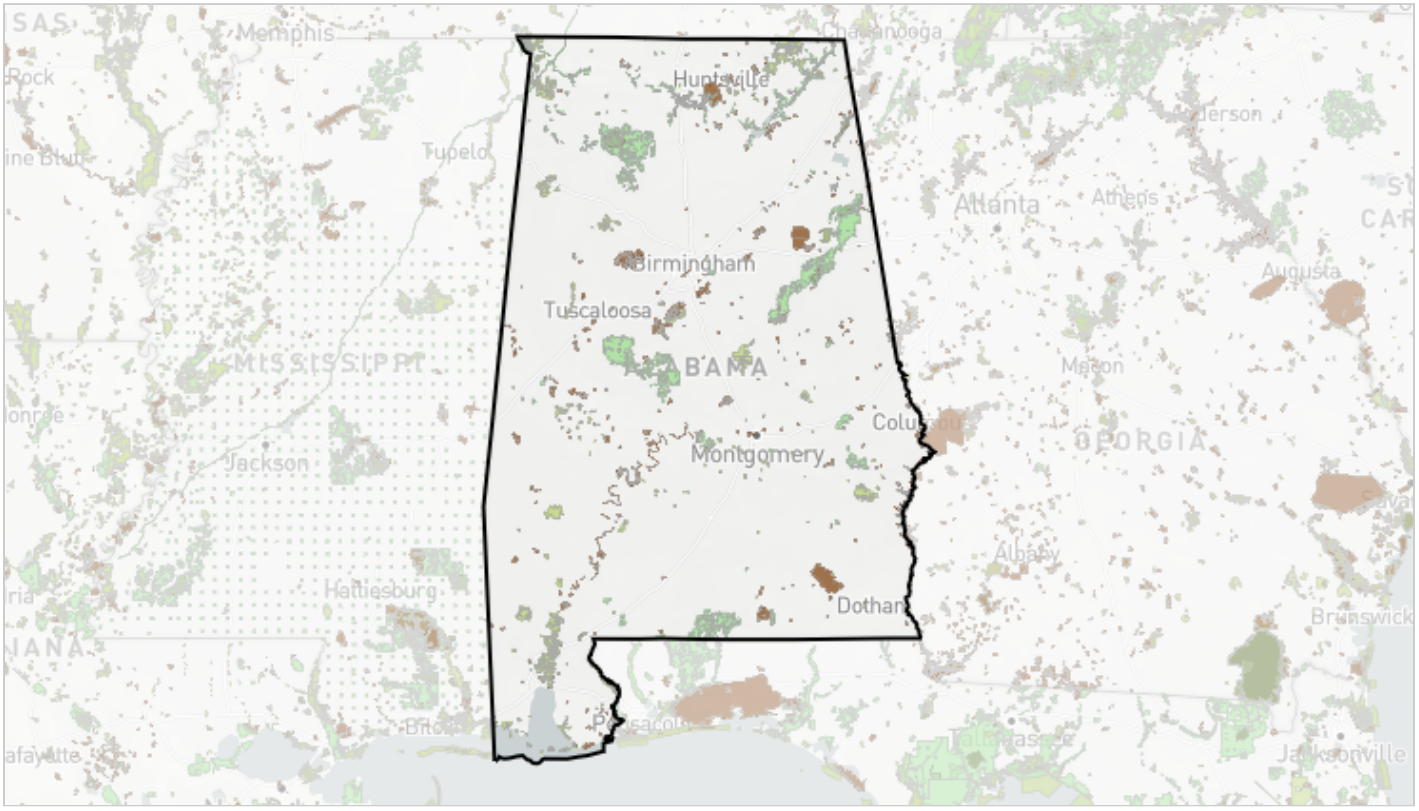


- Federal
- State/province
- Territorial
- Regional
- Local
- Joint
- Private non-profit conserved lands
- Private conservation land
- Tribal
- Designation
- Ownership unknown

*Table 35: Extent of ownership class within Alabama. Protected areas are derived from the Protected Areas Database of the United States (PAD-US v4.0 and v3.0) and include Fee, Designation, Easement, Marine, and Proclamation (Dept. of Defense lands only) boundaries. Note: areas are based on the polygon boundary of this area compared to protected area polygons, rather than pixel-level analyses used elsewhere in this report. Also note: PAD-US includes protected areas that may overlap within a given area; this may cause the area within and between the following categories to be greater than the actual ground area.*

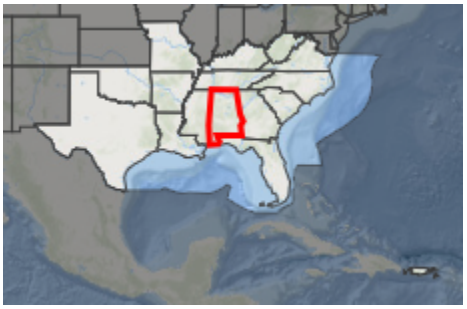
| Ownership | Acres | Percent of Area |
|---|---|---|
| Federal | 786,207 | 2.3% |
| State/province | 341,725 | 1.0% |
| Regional | < 0.01 | <0.1% |
| Local | 30,231 | <0.1% |
| Joint | 72 | <0.1% |
| Private non-profit conserved lands | 19,790 | <0.1% |
| Private conservation land | 396,902 | 1.2% |
| Tribal | 4,085 | <0.1% |
| Designation | 277,255 | 0.8% |
| Ownership unknown | 250,481 | 0.7% |

# Land protection status






64 129 257 miles



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

*Table 36: Extent of land protection status within Alabama. Protected areas are derived from the Protected Areas Database of the United States (PAD-US v4.0 and v3.0) and include Fee, Designation, Easement, Marine, and Proclamation (Dept. of Defense lands only) boundaries. Note: areas are based on the polygon boundary of this area compared to protected area polygons, rather than pixel-level analyses used elsewhere in this report. Also note: PAD-US includes protected areas that may overlap within a given area; this may cause the area within and between the following categories to be greater than the actual ground area.*

| Land Protection Status | Acres | Percent of Area |
|---|---|---|
| Managed for biodiversity (disturbance events proceed or are mimicked) | 108,025 | 0.3% |
| Managed for biodiversity (disturbance events suppressed) | 553,431 | 1.6% |
| Managed for multiple uses (subject to extractive uses such as mining or logging, or OHV use) | 898,680 | 2.7% |
| No known mandate for biodiversity protection | 546,613 | 1.6% |

## Protected Areas

- National Forests in Alabama (USDA FOREST SERVICE; 673,078 acres)
- James D. Martin - Skyline Wildlife Management Area (Unknown owner; 60,494 acres)
- Fort Rucker AL (Unknown owner; 58,126 acres)
- Redstone Arsenal (Unknown owner; 38,180 acres)
- FW 15 - Mobile-Tensaw Delta Tract (Alabama Forever Wild Land Trust; 35,627 acres)
- FW 71 - Mulberry Fork WMA Tract (Alabama Forever Wild Land Trust; 33,457 acres)
- FW 20 - Lauderdale and Freedom Hills WMA Tract Additions (Alabama Forever Wild Land Trust; 31,893 acres)
- FW 72 - Cahaba River WMA Tract (Alabama Forever Wild Land Trust; 28,434 acres)
- Guntersville Reservoir Retained Land (Unknown; 25,886 acres)
- Sipsey Wilderness (Unknown owner; 25,851 acres)
- WALTER F. GEORGE (Unknown; 24,272 acres)
- Mobile-Tensaw Delta Wildlife Management Area (US Corps of Engineers; 22,468 acres)
- NG Pelham Range Training Site - Fort McClellan (Unknown owner; 22,225 acres)
- Barbour Wildlife Management Area (ADCNR, Division of Wildlife and Freshwater Fisheries; 20,965 acres)
- Scotch Wildlife Management Area (Private Landowner; 19,754 acres)
- Coosa Wildlife Management Area (Private Landowners; 19,195 acres)
- W. L. Holland Wildlife Management Area (ADCNR, Division of Wildlife and Freshwater Fisheries; 19,188 acres)
- Walter F. George Lake (Unknown owner; 19,052 acres)
- Wheeler NWR (Unknown; 18,851 acres)
- Frank W. and Rob M. Boykin Wildlife Management Area (Private Landowner; 18,614 acres)
- Sam R. Murphy Wildlife Management Area (Private Landowner; 17,821 acres)
- Wheeler Reservoir Retained Land (Unknown; 16,536 acres)
- Jackson County Waterfowl Area and Refuge (Unknown; 16,198 acres)
- Anniston Army Depot (Unknown owner; 15,578 acres)
- Covington WMA (Private Conservation Land; 15,293 acres)

# Credits

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

## Data credits

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

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

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

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