The <u>South Atlantic Conservation Blueprint</u> is a living spatial plan to conserve natural and cultural resources for current and future generations in the face of future change. It spans parts of six states, from Virginia to Florida, including U.S. waters to 200 miles offshore. The Blueprint prioritizes the lands and waters of the South Atlantic based on the current condition of terrestrial, freshwater, marine, and cross-ecosystem indicators. Through a connectivity analysis, it also identifies corridors that link coastal and inland areas and span climate gradients. More than 500 people from over 150 different organizations have actively participated in its development so far. The Blueprint integrates with neighboring priorities in a Southeast-wide plan as part of the <u>Southeast Conservation Adaptation</u> <u>Strategy</u>.



• Pearl Mill Expansion (Ellerbe Creek Watershed) 2.2 acres

This site falls within medium priority for the Conservation Blueprint. This site contributes to several freshwater aquatic indicators. Given the urban context of the area, this area is likely a good place for restoration, as represented by medium priority.

- This site contributes to permeable surface, an indicator that measures the percent of nonimpervious cover by catchment. High levels of impervious surface degrade water quality and alter freshwater flow. Less than 70% of the catchment where this site is located is permeable, which means that this area likely has degraded water quality.
- This site contributes to riparian buffers. This indicator measures the amount of natural habitat surrounding rivers and streams. Riparian buffers are strongly linked to water quality as well as water availability (i.e., instream flow). Less than 80% of the riparian buffer is in a natural condition where this site is located, which can indicate this area may have degraded water quality.

• Beaverdam Lake (Triangle Land Conservancy) 137.5 acres

This property, and most of the area surrounding it, is recognized as highest priority within the Conservation Blueprint and contributes to a corridor, providing connectivity for wildlife. In addition, there is likely connection to regional trails like the Neuse River Trail.

- This property, and most of the area surrounding it, is recognized as a corridor, making it a critical contribution for creating an ecologically connected network of lands and waters across the South Atlantic region.
- This site scored well for permeable surface, an indicator that measures the percent of non-impervious cover by catchment. High levels of impervious surface degrade water quality and alter freshwater flow. The area where this site is has more than 95% nonimpervious cover within the catchment.
- This site scored well for migratory fish connectivity, an index capturing how far upstream migratory fish have been observed. It also includes adjacent areas where habitat access could be restored through fish passage and hydrological barrier removal efforts. Migratory fish presence reflects uninterrupted connections between freshwater, estuarine, and marine ecosystems. This site, which is along the Neuse River, may be contributing to water quality in an area where the presence of Alabama shad, American shad, blueback herring, or striped bass has been observed.
- This site also includes a Natural Heritage Natural Area along the Neuse River. This is likely
 an aquatic site of special biodiversity significance. A natural area's significance may be due
 to the presence of rare species, exemplary natural communities, or important animal
 assemblages.

• Bluebird Hill Farm (Triangle Land Conservancy) 13 acres

At least some if not most of this property falls within the highest priority for the Conservation Blueprint and contributes to a corridor, providing connectivity for wildlife.

 This property, and most of the area surrounding it, is recognized as a corridor, making it a critical contribution for creating an ecologically connected network of lands and waters across the South Atlantic region.

- This site scored well for upland hardwood birds, an index of habitat suitability for seven upland hardwood bird species (wood thrush, whip-poor-will, hooded warbler, American woodcock, Acadian flycatcher, Kentucky 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. At least part of this property falls within an area that scores well for habitat suitability for Acadian flycatcher, Kentucky warbler, American woodcock, wood thrush, whip-poor-will, and hooded warbler.
- This site scored well for permeable surface, an indicator that measures the percent of non-impervious cover by catchment. High levels of impervious surface degrade water quality and alter freshwater flow. The area where this site is has more than 99% nonimpervious cover within the catchment.

• Hobgood Property (Eno River Association) 14 acres

At least some if not most of this property falls within the high priority for the Conservation Blueprint.

- This area scores as slightly above average for resilient biodiversity hotspots, an index of
 mostly natural high-diversity areas potentially resilient to climate change. This indicator
 measures landscape diversity (geophysical features like soil and topography) and local
 connectedness. Areas with these characteristics will likely continue to support species
 richness and movement in a changing climate (i.e., are resilient).
- Upland hardwood birds is an index of habitat suitability for seven upland hardwood bird species (wood thrush, whip-poor-will, hooded warbler, American woodcock, Acadian flycatcher, Kentucky 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. At least part of this property falls within an area that scores well for habitat suitability for Acadian flycatcher, Kentucky warbler, American woodcock, wood thrush, whip-poor-will, and hooded warbler.
- This site scored well for permeable surface, an indicator that measures the percent of non-impervious cover by catchment. High levels of impervious surface degrade water quality and alter freshwater flow. The area where this site is has 100% non-impervious cover within the catchment.
- This site contributes to riparian buffers. This indicator measures the amount of natural habitat surrounding rivers and streams. Riparian buffers are strongly linked to water quality as well as water availability (i.e., instream flow). More than 90% of the riparian buffer is in a natural condition where this site is located.
- This site also includes a Natural Heritage Natural Area along the Eno River. This is likely an aquatic site of special biodiversity significance. A natural area's significance may be due to the presence of rare species, exemplary natural communities, or important animal assemblages.
- Morrison Tract (Ellerbe Creek Watershed) 5.7acres

At least some if not most of this property falls within the highest and/or high priority for the Conservation Blueprint and contributes to a corridor, providing connectivity for wildlife. This site performs well for contributing to freshwater aquatic resources and biodiversity

- This property, and most of the area surrounding it, is recognized as a corridor, making it a critical contribution for creating an ecologically connected network of lands and waters across the South Atlantic region.
- This area scores as slightly above average for resilient biodiversity hotspots, an index of
 mostly natural high-diversity areas potentially resilient to climate change. This indicator
 measures landscape diversity (geophysical features like soil and topography) and local
 connectedness. Areas with these characteristics will likely continue to support species
 richness and movement in a changing climate (i.e., are resilient).
- This site scored well for permeable surface, an indicator that measures the percent of non-impervious cover by catchment. High levels of impervious surface degrade water quality and alter freshwater flow. The area where this site is has more than 95% nonimpervious cover within the catchment.
- This site contributes to riparian buffers. This indicator measures the amount of natural habitat surrounding rivers and streams. Riparian buffers are strongly linked to water quality as well as water availability (i.e., instream flow). More than 95% of the riparian buffer is in a natural condition where this site is located.
- This area performs well for forested wetland birds, an index of habitat suitability for six bird species (Northern parula, black-throated green warbler, red-headed woodpecker, Chuck-will's widow, prothonotary warbler, Swainson's warbler) based on patch size and proximity to water. The needs of these species are increasingly restrictive at higher index values, reflecting better quality habitat. This site likely supports habitat for all of these six forested wetland bird species.
- This entire property is located within a Natural Heritage Natural Area. Natural Heritage Natural Areas identifies terrestrial and aquatic sites that are of special biodiversity significance. A natural area's significance may be due to the presence of rare species, exemplary natural communities, or important animal assemblages.

• Minor Tract (Ellerbe Creek Watershed) 1.6 acres

Located nearby to the Morrison Tract, this site does not fall within the Blueprint, but does contribute to at least two indicators.

- Upland hardwood birds is an index of habitat suitability for seven upland hardwood bird species (wood thrush, whip-poor-will, hooded warbler, American woodcock, Acadian flycatcher, Kentucky 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. At least part of this property falls within an area that scores well (3 out of a potential of 4) for habitat suitability for Acadian flycatcher, Kentucky warbler, American woodcock, wood thrush, whip-poor-will, and hooded warbler.
- This site scored well for permeable surface, an indicator that measures the percent of non-impervious cover by catchment. High levels of impervious surface degrade water

quality and alter freshwater flow. The area where this site is has more than 95% non-impervious cover within the catchment.

• White Oak Greenway Project (Triangle Land Conservancy) 23.6 acres

- Much of this site falls within the high priority for the Conservation Blueprint This site performs well for contributing to freshwater aquatic resources and forested wetlands.
 - This site scored well for permeable surface, an indicator that measures the percent of non-impervious cover by catchment. High levels of impervious surface degrade water quality and alter freshwater flow.
 - This site contains riparian buffers that are in a mostly natural condition, which contributes to water quality. This indicator measures the amount of natural habitat surrounding rivers and streams. Riparian buffers are strongly linked to water quality as well as water availability (i.e., instream flow).
 - This area performs well for forested wetland birds, an index of habitat suitability for six bird species (Northern parula, black-throated green warbler, red-headed woodpecker, Chuck-will's widow, prothonotary warbler, Swainson's warbler) based on patch size and proximity to water. The needs of these species are increasingly restrictive at higher index values, reflecting better quality habitat. This site likely supports habitat for all of these six forested wetland bird species.
 - This area contributes to urban open space. This cultural resource indicator is intended to capture equitable access to open space for urban residents. Protected natural areas in urban environments offer refugia for some species while providing people a nearby place to connect with nature.



South Atlantic Conservation Blueprint Highest priority High priority Medium priority Corridors Inland Waterbodies

The South Atlantic Conservation Blueprint is a living spatial plan to conserve natural and cultural resources for future generations. It identifies priority areas for shared conservation action based on ecosystem indicator condition and connectivity.





Hubs are large patches of high priority Blueprint areas or permanently protected lands. The corridors connect the hubs across the shortest distance possible, while also routing through high priority Blueprint areas.





Riparian buffers measures the amount of natural habitat surrounding rivers and streams. Riparian buffers are strongly linked to water quality as well as water availability (i.e., instream flow). This indicator occurs within the Active River Area, or the area that spatially defines the dynamic relationship between riverine systems and the lands around them. The Active River Area includes meander belts, riparian wetlands, floodplains, terraces, and material contribution areas.





Permeable surface measures the percent of non-impervious cover by catchment. High levels of impervious surface degrade water quality and alter freshwater flow.



Migratory fish connectivity

- 1 (low) = Migratory fish connectivity index species not adjacent/not observed
- 2 = Adjacent to presence of migratory fish connectivity index species
- 3 = Presence of Alabama shad, American shad, blueback herring, or striped bass
- 4 (high) = Presence of Gulf or Atlantic sturgeon

Migratory fish connectivity is an index capturing how far upstream migratory fish have been observed. It also includes adjacent areas where habitat access could be restored through fish passage and hydrological barrier removal efforts. Migratory fish presence reflects uninterrupted connections between freshwater, estuarine, and marine ecosystems. This indicator occurs within the Active River Area, or the area that spatially defines the dynamic relationship between riverine systems and the lands around them. The Active River Area includes meander belts, riparian wetlands, floodplains, terraces, and material contribution areas.



Forested wetland birds

- 0 (low) = Less potential for presence of bird index species
- 🗾 1 = Potential for presence of Northern parula, black-throated green warbler, red-headed woodpecker, or Chuck-will's widow
- 2 = Potential for additional presence of prothonotary warbler
- 3 (high) = Potential for additional presence of Swainson's warbler

Forested wetland birds is an index of habitat suitability for six bird species (Northern parula, blackthroated green warbler, red-headed woodpecker, Chuck-will's widow, prothonotary warbler, Swainson's warbler) based on patch size and proximity to water. The needs of these species are increasingly restrictive at higher index values, reflecting better quality habitat. This indicator only occurs within the forested wetland ecosystem.



Resilient biodiversity hotspots 0 (low) = Developed

- 1 = Final resilience score: Far below average (<-2 SD
- 2 = Final resilience score: Below average (-1 to -2 SD)
 - 3 = Final resilience score: Slightly below average (-0.5 to -1 SD)
- 4 = Final resilience score: Average (0.5 to -0.5 SD)
- 5 = Final resilience score: Slightly above average (0.5 to 1 SD)
- 6 = Final resilience score: Above average (1 to 2 SD)
- 7 (high) = Final resilience score: Far above average (>2 SD)

Resilient biodiversity hotspots is an index of mostly natural high-diversity areas potentially resilient to climate change. This indicator measures landscape diversity (geophysical features like soil and topography) and local connectedness. Areas with these characteristics will likely continue to support species richness and movement in a changing climate (i.e., are resilient).



Urban open space

- 0 (low) = Existing development
- 1 = undeveloped area <400 m from protected land
- 2 = Undeveloped area 400-800 m from protected land
- 3 = Undeveloped area 800-1600 m from protected land
 - 4 = Undeveloped area >1600 m from protected land
 - 5 (high) = Protected land

Urban open space is an index based on distance of urban areas from open space. This cultural resource indicator is intended to capture equitable access to open space for urban residents. Protected natural areas in urban environments offer refugia for some species while providing people a nearby place to connect with nature. This indicator only occurs in the upland hardwood ecosystem.



Upland hardwood birds

- 0 (low) = Less potential for presence of bird index species
- 1 = Potential for presence of wood thrush or whip-poor-will
- 2 = Potential for additional presence of hooded warbler or American woodcock
- 3 = Potential for additional presence of Acadian flycatcher or Kentucky warbler
- 4 (high) = Potential for additional presence of Swainson's warbler

Upland hardwood birds is an index of habitat suitability for seven upland hardwood bird species (wood thrush, whip-poor-will, hooded warbler, American woodcock, Acadian flycatcher, Kentucky 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. This indicator only occurs in the upland hardwood ecosystem.



Natural Heritage Natural Areas

The NC Natural Heritage Program has created a dataset called Natural Heritage Natural Areas. Natural Heritage Natural Areas identifies terrestrial and aquatic sites that are of special biodiversity significance. A natural area's significance may be due to the presence of rare species, exemplary natural communities, or important animal assemblages.