



CHAPTER 7

REGIONAL CONSERVATION ASSESSMENT

7.1. Overview of the Regional Conservation Approach

IN 2018, THE ASSOCIATION OF FISH AND WILDLIFE AGENCIES (AFWA) adopted a resolution on landscape conservation that recognized “the importance of collaborating at landscape scales to help fish and wildlife agencies meet their statutory and regulatory responsibilities to conserve fish and wildlife and their habitats.” In response to the resolution, AFWA established a President’s Task Force on Shared Science and Landscape Conservation Priorities in 2020, which recommended that State Wildlife Action Plans (SWAPs) serve as a framework for regional coordination and collaboration.

Within this Plan, Tennessee has identified Species of Greatest Conservation Need (SGCN) and outlined strategies to sustain them, including conservation actions to promote species recovery and prevent federal listings under the Endangered Species Act. But to sustain the species that are Tennessee’s responsibility to protect—and that also reflect the rich biodiversity, culture, and history of the State—Tennessee must consider its role and the influences of the larger Southeast landscape.

This chapter examines regional, landscape-scale considerations for Tennessee and serves as a means for the State to find potential collaborations to best support the State’s SGCN and Regional SGCN (RSGCN). Additionally, some of the threats that impact SGCN (e.g., climate change) have consequences locally, statewide, and regionally.

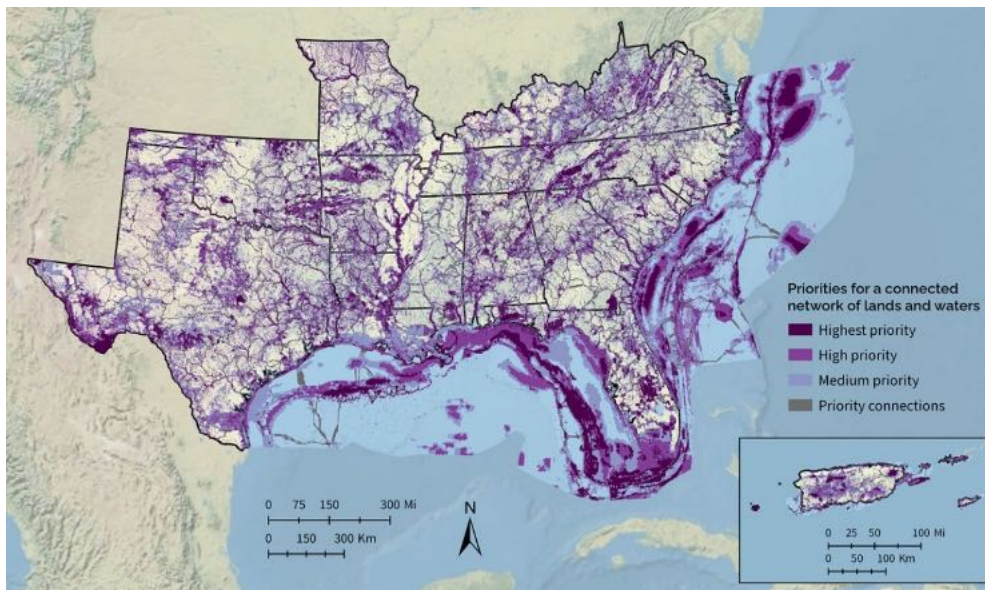
Photo credit: Head-started Eastern Hellbenders (*Cryptobranchus alleganiensis*), a Regional SGCN that inhabits streams flowing between North Carolina and Tennessee. / Chris Simpson, TWRA

RSGCN were selected from among southeastern SGCN using criteria of regional stewardship responsibility (including endemism), conservation concern and status, and biological/ecological significance. Addressing threats to RSGCN effectively requires aligning conservation strategies across state boundaries. By using consistent regional information shared by other states to inform their own SWAPs, Tennessee can better contribute to regional conservation priorities, identify potential landscape-level threats, and help connect the Southeast region's lands and waters.

7.2. Tennessee's Conservation Portfolio: Shared Resources, Shared Priorities

The **Southeast Conservation Adaptation Strategy** (SECAS) is a regional conservation initiative that spans the Southeastern United States and Caribbean. SECAS brings together diverse partners around an ambitious goal: a 10% or greater improvement in the health, function, and connectivity of Southeastern ecosystems by 2060. The Southeast Conservation Blueprint (Blueprint) is the primary product of SECAS. The Blueprint is a living, spatial plan that identifies priority areas where conservation action would make an impact toward creating a connected network of lands and waters, based on a suite of natural and cultural resource indicators and a connectivity analysis. At the time of publishing of this SWAP, the 2024 Blueprint was the most recent Blueprint available.

The 2024 Blueprint recognizes more than 13.1 million acres, or roughly 49% of the state, as a priority for connecting the region's lands and waters (Table 7.1, Fig. 7.1). About 6 million acres are rated as highest or high priority. An additional 4.7 million acres are rated as medium priority. An



additional 2.3 million acres are considered priority connections, or key linkages between priority areas that can help facilitate the flow of species and ecological processes within the State while also considering connectivity within the broader region. Together, these classes represent the most important areas for shared conservation action to connect lands and waters and improve ecosystem health.

Figure 7.1 Map of the 2024 Southeast Conservation Blueprint

The Blueprint includes more than 60 indicators that collectively represent ecosystem health, function, and connectivity across terrestrial, freshwater, and coastal and marine systems. Examples include imperiled aquatic SGCN, cores of intact natural habitat, natural floodplain landcover,

prescribed fire frequency, and more. Indicator data is available on the [Blueprint page of the SECAS Atlas](#).

Tennessee supports a wide diversity of habitats, culturally and historically significant landscapes, and ecosystems that provide benefits to the State as well as the broader Southeast Region. Tennessee plays an important role in connecting the lands and waters of the Southeast Region, as well as hosting regionally important ecosystems and habitat types, such as the mixed hardwood forests in the Appalachian Mountains of eastern Tennessee to the open grasslands and savannas in middle Tennessee and Cumberland Plateau to the bottomland hardwood forests in western Tennessee. Many regional and local partners and partnerships are working with the Tennessee Wildlife Resources Agency (TWRA) to help conserve the State's iconic landscapes.

USGS Protected Areas Database (PAD) 4.0 manages a dataset depicting protected conservation lands within the state. Based upon the PAD 4.0 data, more than 2.65 million acres (11%) of the State are considered protected (Fig. 7.2.). This includes important landscapes like National Wildlife Refuges, National Forests, National Parks, Military Bases, State Wildlife Management Areas, State Forests, State Natural Areas, and private conservation easements.

The vast majority (90%) of lands currently conserved in Tennessee are identified by the Blueprint as a priority for connecting the lands and waters of the Southeast (Table 7.1). This means that while

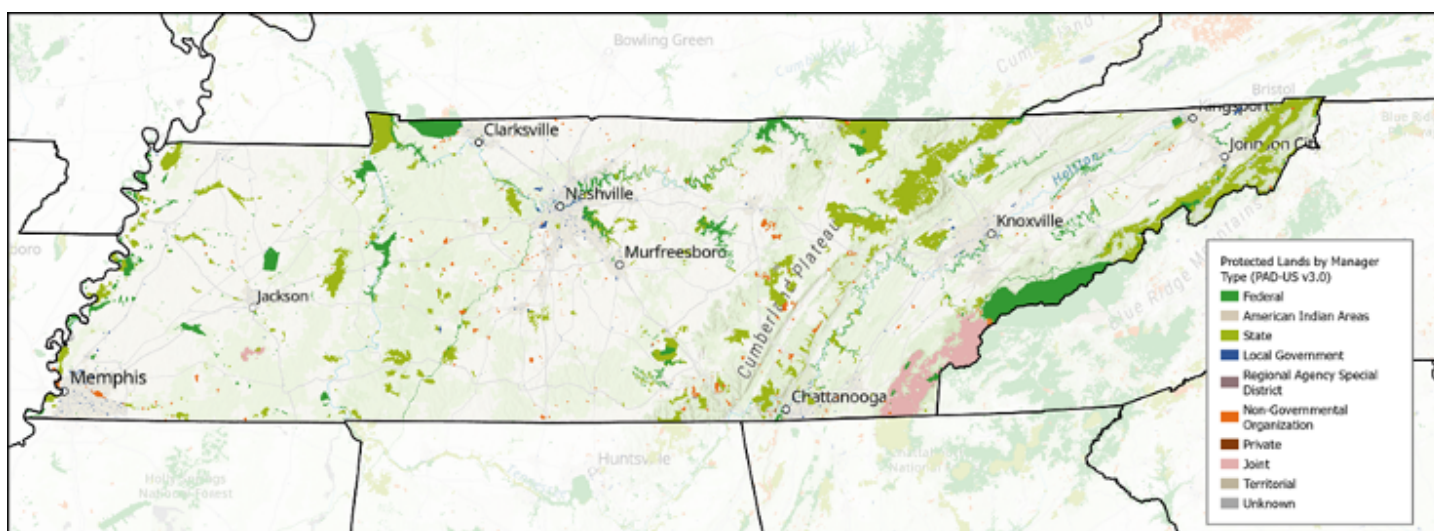


Figure 7.2 Map of the protected lands in Tennessee, displayed by land manager type, using the Protected Areas Database (PAD-US) 4.0.

* Note that some protected lands on this map may not show current management status.

these conserved areas are contributing to the state-wide landscape and represent unique habitats and locally important areas, many of them are also contributing to a wider regional conservation strategy. The State's conservation portfolio exemplifies a complementary landscape-scale approach to conservation that links local actions with conservation outcomes impacting a broader geographic scale.

The Southeast Blueprint also includes a least-cost path connectivity analysis that identifies corridors that link coastal and inland areas and span climate gradients. The corridors connect hubs

Table 7.1 Lands and waters considered protected within Tennessee. These numbers are estimates based on the Protected Areas Database of the United States (PAD-US v4.0) and may not reflect the most up-to-date information.

Priority for a connected network	Acres of each Blueprint (v2024) priority category within Tennessee	Acres of conserved lands (PAD 4.0) prioritized in the Blueprint and their percentage of total protected lands
Highest	2,545,550 (9.4%)	1,242,234 (42%)
High	3,512,256 (13.0%)	744,347 (25%)
Medium	4,706,389 (17.5%)	586,402 (20%)
Priority connections	2,389,629 (8.9%)	78,749 (3%)
Lower priority	14,808,948 (51.2%)	277,112 (10%)
Total	26,962,771 (100%)	2,928.843 (100%)

across the shortest distance possible, while also routing through as much Blueprint priority areas as possible. The hubs that anchor the connectivity analysis are large patches of highest priority Blueprint areas and/or protected lands. About 9.2 million acres (32%) within Tennessee are considered a hub or corridor, providing many conservation opportunities to support species movement and migration—an important strategy for helping wildlife adapt to landscape-level changes (Fig. 7.3).

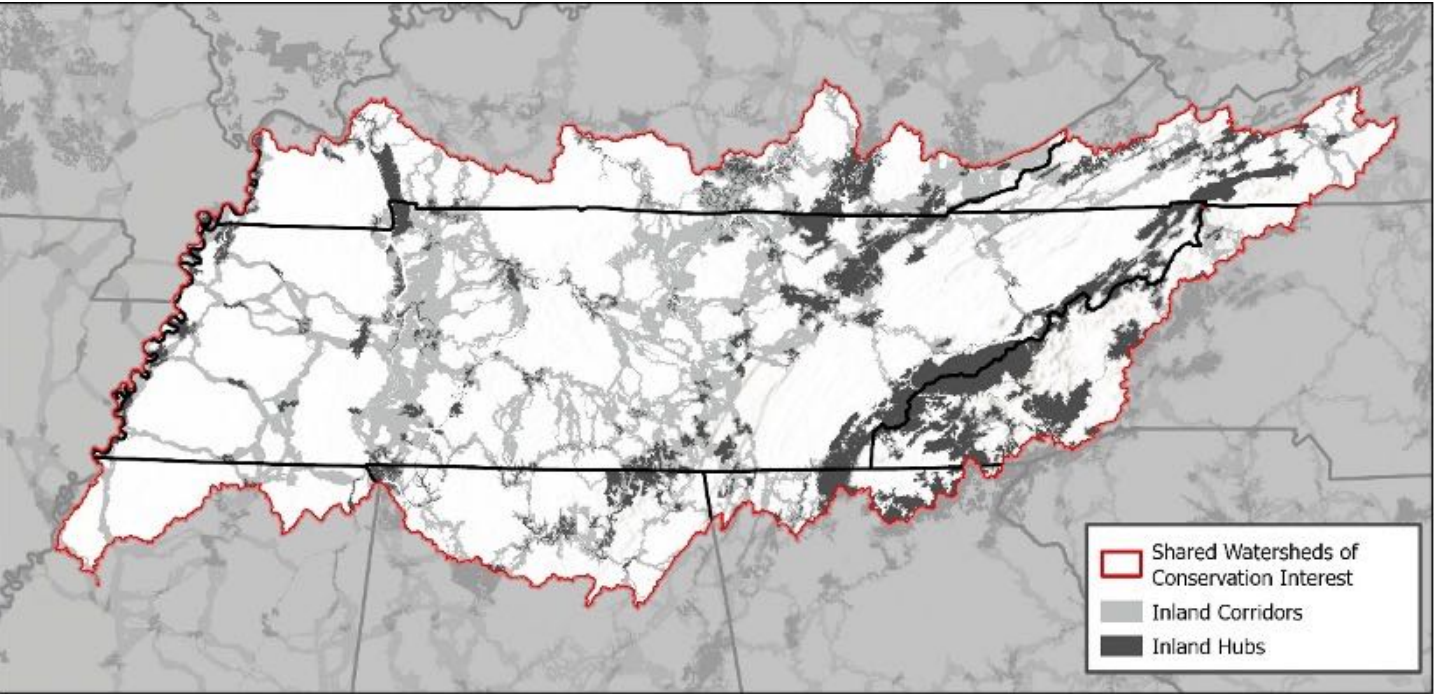


Figure 7.3 Southeast Blueprint connectivity analysis showing hubs and corridors in Tennessee and surrounding watersheds from neighboring states

Ensuring landscape connectivity across jurisdictional boundaries is becoming increasingly important for species management as changes in land use, climate, and weather patterns shift species distributions. Collaborating with the neighboring states of Kentucky, Virginia, North Carolina, Georgia, Alabama, Mississippi, Arkansas, and Missouri to identify cross-boundary species migration and habitat pathways can increase regional connectivity for state SGCN and RSGCN. The maps below show the Southeast Conservation Blueprint (2024) priorities and connectivity analysis.

The maps also include a boundary that extends beyond the State and includes watersheds where Tennessee shares a conservation or species management interest with its neighboring states (Fig. 7.4). This boundary was developed by identifying all watersheds (HUC 8) within 1.5 kilometers of the State boundary and then selecting shared watersheds of conservation interest with TWRA staff. By looking beyond the State's boundaries, Tennessee can consider how to best align conservation actions and identify cross-jurisdictional opportunities with neighboring states to maximize benefits for SGCN with wider ranges. These data were considered in defining Tennessee's Regional COAs, however the Regional COAs identified during the 2025 SWAP revision through the updated habitat prioritization model are much more refined than what is shown on the map in Fig. 7.4.

Ensuring landscape connectivity across jurisdictional boundaries is becoming increasingly important for species management as changes in land use, climate, and weather patterns shift species distributions.

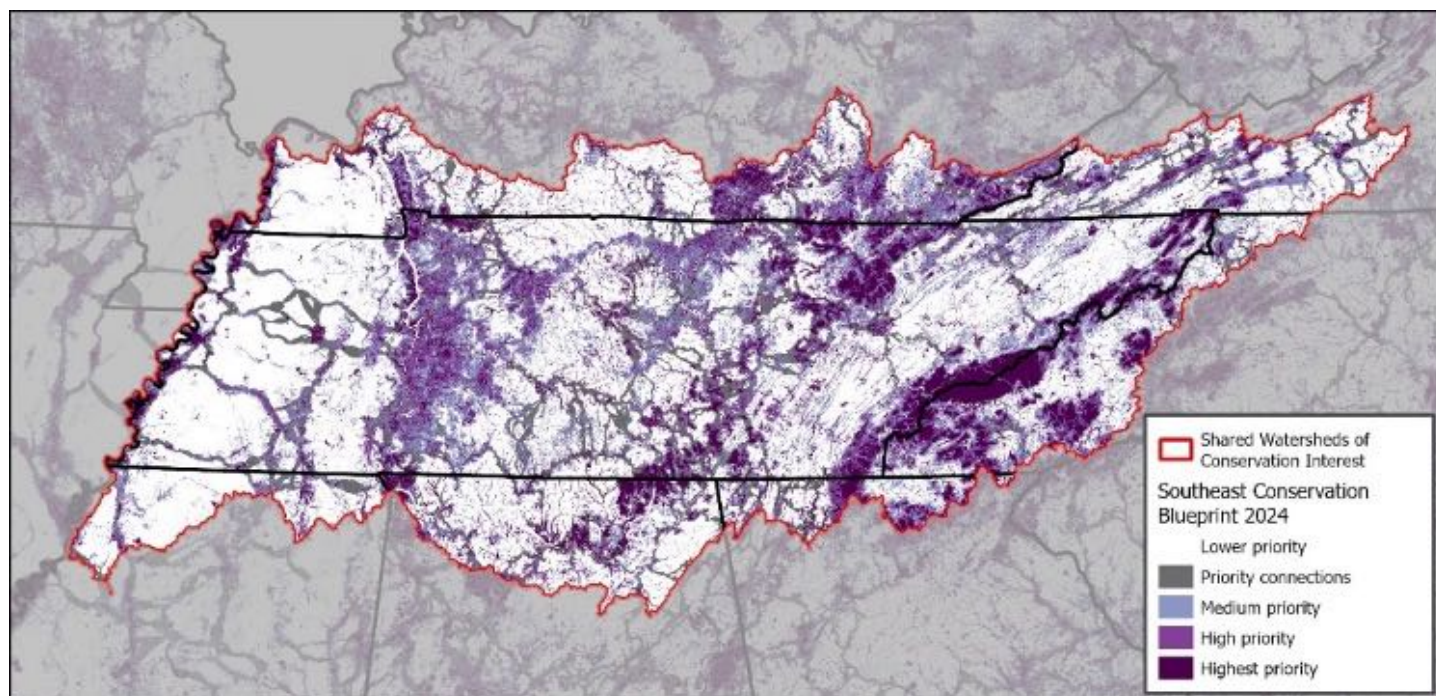


Figure 7.4 Southeast Blueprint (v2024) priorities within Tennessee and surrounding watersheds shared with neighboring states

7.3. Tennessee's Regional Species of Greatest Conservation Need (RSGCN)

Each state's wildlife action plan identifies SGCN, or the species most in need of proactive conservation attention (see Appendix D for a list of Tennessee's SGCN). After the 2015 SWAP revisions, SGCN within the 15 Southeastern Association of Fish and Wildlife Agencies (SEAFWA) states were further evaluated for regional conservation priority to create RSGCN designations for both animal (Rice et al. 2019) and plant (Radcliffe et al. 2023) taxa.

Effectively managing and conserving these species requires actions and management strategies that will best allow for species movement and ensure the availability of key ecological attributes provided by different habitats across the landscape at different times. The following sections describe the methods used for selecting RSGCN within southeastern states.

7.3.1. Animal RSGCN

In 2019, the Vital Futures project funded by the US Geological Survey prioritized the large number of SGCN collectively identified in the previous iteration of 15 Southeastern SWAPs.

This initial compilation contained approximately 6,700 species of vertebrates, invertebrates, and plants. Plants were extracted from this RSGCN analysis, as well as most invertebrates (mussels, crayfish, and bumblebees remained), with noted intent to evaluate these groups in future studies. The SEAFWA Wildlife Diversity Committee collaborated with the National Wildlife Federation and other partners to evaluate the remaining 2,100 animal SGCN species and produce a list of regional priority animal RSGCN. A report, "*Regional Species of*



Female [Snuffbox Mussel](#), a RSGCN that is also federally listed as endangered / Megan Bradley, USFWS

Greatest Conservation Need in the Southeastern United States" (Rice et al. 2019), was written to detail the methodology used to develop the animal RSGCN list, which is hosted on the [Georgia biodiversity portal](#) (GADNR 2024). This effort aligns with the Northeast Association of Fish and Wildlife Agencies' similar project to develop an animal RSGCN list for the Northeast Region.

Identifying animal RSGCN drew upon a collaborative process among Southeastern state fish and wildlife agencies and partners that involved more than 100 experts and used a set of consistent criteria to review current scientific information and evaluate state-identified SGCN. Species were evaluated based on several primary factors, including: 1) the level of conservation concern (i.e., extinction risk), 2) regional stewardship responsibility (i.e. importance of the Southeast in

conservation of the species), and 3) biological or ecological significance (e.g., unique evolutionary lineages). The regional assessment focused on species in key taxonomic groups, including vertebrates (mammals, birds, reptiles, amphibians, and fishes) as well as several better-known groups of invertebrate animals (freshwater mussels, crayfish, and bumblebees; Table 7.2). Scientific experts in each of these groups convened to evaluate and identify those species that warranted identification as a regional priority. Additionally, the science teams characterized the level of conservation concern for each regional priority, ranging from moderate to high and very high concern. Through this established process, the RSGCN list can be updated as the states' SGCN lists change over time.

Table 7.2 List of Southeast animal RSGCN by taxa and their level of concern (very high, high, or moderate). Fish have the most species categorized as "very high concern" and represent 30% of all RSGCN within the Southeast region. This list totals 1,034 (versus 960) because it includes subspecies.

Animal RSGCN taxonomic group	Very high concern	High concern	Moderate concern	Total
Amphibians	30	52	34	116 (11%)
Birds	10	56	18	84 (8%)
Bumblebees	2	1	2	5 (.4%)
Crayfish	53	86	34	173 (17%)
Fishes	101	120	96	317 (30%)
Mammals	18	37	30	85 (8%)
Mussels	69	55	13	139 (13%)
Reptiles	18	58	39	115 (11%)
Total	302	466	266	1,034 (100%)

The number of RSGCN that are considered the stewardship responsibilities of each state varies widely. These patterns reflect the underlying diversity of species in each state—particularly the number of imperiled and/or limited range species—which is also influenced by a state's size and diversity of habitats. These patterns are also influenced by the "regional stewardship responsibility" criterion in the assessment of priority species. About 40% of all RSGCN freshwater fish occur in Tennessee, an impressive number that speaks to the importance of the state's aquatic resources and riverine habitats, while highlighting the great responsibilities of our state's conservation partners for safeguarding its unique fauna as well as the need for resources in support of this work. Nearly 70% of regional priority species are endemic to the 15-state SEAFWA region. Overall, more than half (55%) of RSGCN are shared by multiple states, presenting opportunities for cross-state conservation collaboration. In some cases, especially for birds such as the Golden-winged Warbler (an RSGCN), species range far beyond the Southeast and cross international borders into other parts of North America, Central America, and South America (see "Conservation of Species that

Cross International Borders” Highlight). The remaining 45% of RSGCN have narrow ranges and are found in just one or two states. By taxa, fish and crayfish represent 47% of all RSGCN within the region. Many aquatic habitats and ecosystems within the Southeast are highly fragmented, resulting in severe limitations to ecosystem integrity and species persistence regionwide. Habitat fragmentation in rivers and streams is a determining factor in the decline in abundance of numerous species such as Eastern Brook Trout (*Salvelinus fontinalis*), freshwater mussels, and amphibians like the Eastern Hellbender (*Cryptobranchus alleganiensis alleganiensis*). For this reason, increasing stream connectivity through the Aquatic Connectivity Team, the National Aquatic Barrier Inventory & Prioritization Tool, and work to remove old out-of-use dams and to improve culverts and other stream crossings is heavily emphasized in Tennessee (see Chapter 6 Conservation Actions for more details).

7.3.2. Plant RSGCN

The Southeast is home to more than 11,000 native plant species, 30% of which are endemic (i.e., found only in the Southeast; Noss et al. 2015). In 2023, the Southeast Plant Conservation Alliance (PCA) released the first plant RSGCN list in the nation (Radcliffe et al. 2023). The PCA worked with a broad coalition of partners including the Atlanta Botanical Garden, NatureServe, and Terwilliger Consulting, and received funding from the US Fish and Wildlife Service. This list narrows down the vast number of plants native to the Southeast to 1,824 species that are a regional conservation priority based on criteria such as rarity, threats, and needed conservation actions. This list includes narrow endemics in each state (i.e., species restricted to only one or several states). The plant

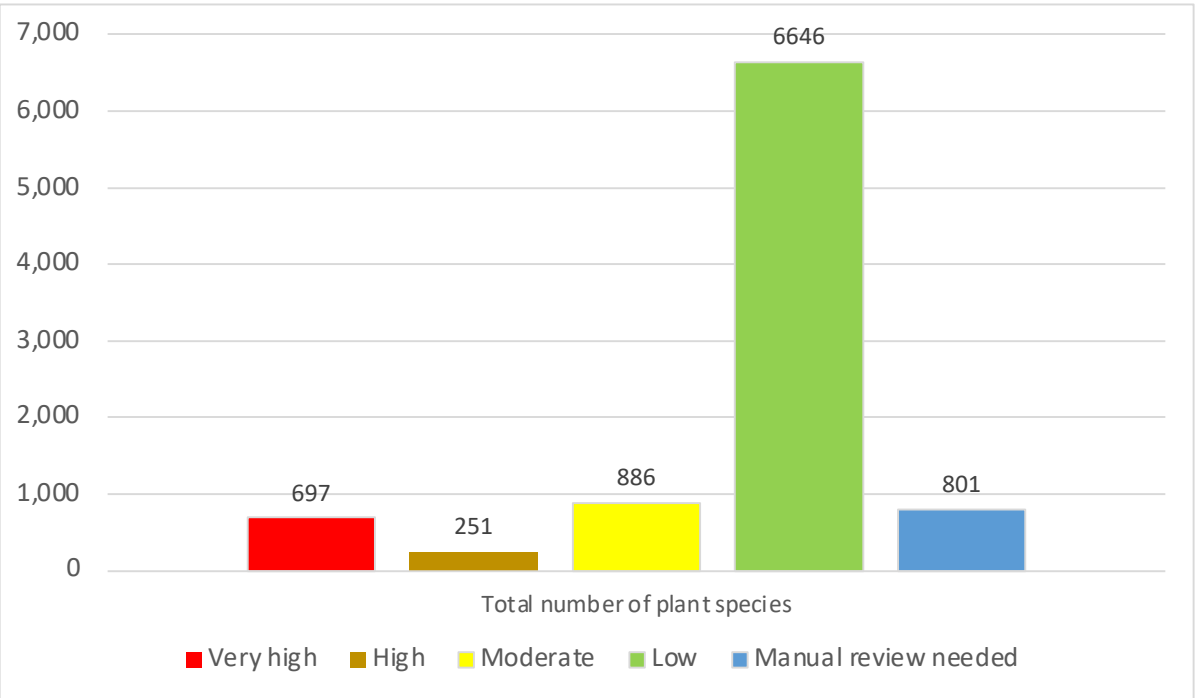


Figure 7.5 Plants with a very high, high, or moderate level of conservation concern are considered plant RSGCN

CONSERVATION OF SPECIES THAT CROSS INTERNATIONAL BORDERS

Southern Wings is a program of the Association of Fish & Wildlife Agencies that facilitates state agency participation in the conservation of priority migratory birds across their annual cycle (breeding, migration, and nonbreeding sites).

Because many migratory bird species cross international borders, habitat conservation in one country may only address a fraction of the problems that affect them. Effective conservation requires that scientists and practitioners obtain a holistic picture of the problems as well as the ability to make improvements where needed across their ranges.

As of 2024, 41 state fish and wildlife agencies have contributed over \$4.2 million to the conservation of 81 migratory bird Species of Greatest Conservation Need (SGCN) through *Southern Wings*. Funds spent on stop-over sites and wintering grounds in 24 different projects across 11 countries complement US investments for the same species.

The Golden-winged Warbler provides an example of how sharing knowledge and resources across two continents to achieve conservation on both nesting and wintering grounds is critical to the survival of a rapidly declining species. In 2025, this bird is under review for potential listing under the Endangered Species Act (ESA) due to its declining populations and habitat loss.



Golden-winged Warbler /
Andy Reago &
Chrissy McClarren

THE PLIGHT OF THE GOLDEN-WINGED WARBLER

The **Golden-winged Warbler** (*Vermivora chrysoptera*) is a beautiful, tiny bird that has suffered a 60% population loss since 1970 (Rosenberg et al. 2016). With a small population of approximately 390,000 birds worldwide (PIF Avian Conservation Assessment Database)—roughly comparable to the number of people living in Arlington, TX—this species is on the Partners in Flight red list and has been petitioned for listing under the federal Endangered Species Act. This warbler is also state-listed as threatened and is an SGCN in Tennessee.



Golden-winged Warbler chick /
Greg Cleereman,
Marquette County WI

SOLVING THE GOLDEN-WINGED WARBLER MYSTERY

Appalachian-breeding Golden-winged Warblers have experienced steep population declines compared to birds of the same species breeding in Great Lakes states. They are one of the highest priority birds for conservation across the Americas.

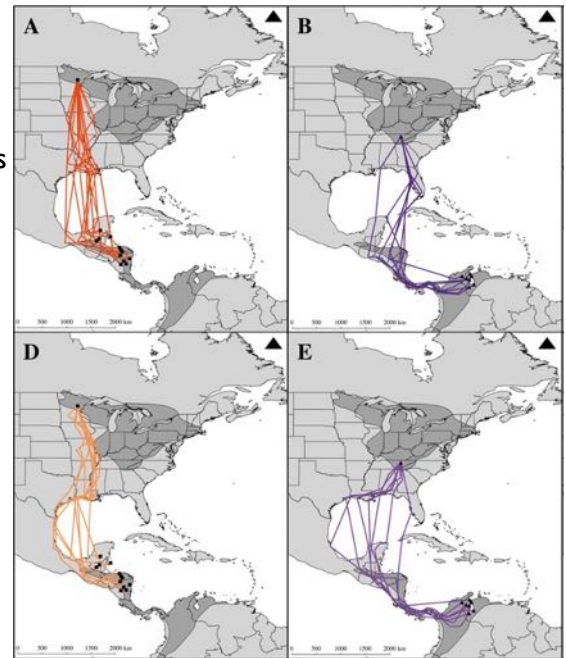
Until 2014, golden-wings were known to overwinter in Central America. Scientists then deployed geolocators on a number of birds in 2014, only to find that the Tennessee/Appalachian population was overwintering along the border of Colombia and Venezuela in South America! This finding implied that differential survival on the wintering grounds could be contributing to the disparity between populations. (Geolocators provide data similar to Motus—see Motus Highlight—but only when physically tracked by researchers or retrieved from netted or deceased birds.)

WHAT A DIFFERENCE A LOCATION MAKES

This information now informs the Southern Wings program, which has contributed money to Central and South American partner organizations working on the warbler's winter ranges, in a manner similar to the way work on duck nesting habitat has occurred for decades in Canada.

During four winter seasons, from 2020 through 2023, South American collaborators SELVA (Colombia) and ProVita (Venezuela), as well as numerous US agency and academic partners, (see Conservation Partners box), have worked to design and implement broad-scale Golden-winged Warbler (GWWA) surveys and community education programs across these two countries. The following summarizes this partnership's goals and progress to date.

- Goal:** Consolidate a conservation corridor in Colombia connecting two protected areas. **Outcome:** Corridor launched in 2022 with local coffee farms, conservation agencies, and parks. This included development of a native tree database and nursery to provide species beneficial to the GWWA, along with education and on-the-ground restoration activities.
- Goal:** Develop a future plan for a conservation corridor in Santander, Colombia. **Outcome:** An assessment of Santander's protected forest areas was completed, along with a 12-point action plan.
- Goal:** Conduct surveys for GWWA in two localities in Colombia using an established GWWA survey protocol. **Outcome:** 262 individual surveys completed recording a decline in detections compared to previous seasons.
- Goal:** Continue outreach activities in Santander, Caldas, and Santa Marta Mountains, Colombia, including a screening of the video "Golden-winged Warbler, a Traveler in Peril" along with Q&A sessions. **Outcome:** 125 students engaged to date.
- Goal:** Design, print and distribute a poster about GWWA. **Outcome:** Two permanent displays created in two strategic locations.
- Goal:** Install a Motus receiving station in La Dorada, Colombia. **Outcome:** New station installed in the Magdalena Valley, Colombia thanks to a direct donation from the Tennessee Wildlife Resources Agency. (Incidentally, no less than five different Swainson's Thrushes (*Catharus ustulatus*)—another migratory songbird in decline—were detected at the station between April 18-26, 2023. These birds had origins from across North America, including British Colombia, Montana and Quebec, highlighting the strategic location of the Magdalena Valley in funneling South America-wintering birds from multiple populations.)



Red tracks A & D show fall and spring migration routes from the Great Lakes; Purple tracks B & E show fall and spring routes from Tennessee birds (Kramer et al.)

Golden-winged Warbler Conservation Partners

United States

American Bird Conservancy
Appalachian Mountains Joint Venture
Appalachian Trail Conservancy
Southern Wings
Cornell Lab of Ornithology
Tennessee Wildlife Resources Agency
Virginia Commonwealth University
Virginia Dept. of Wildlife Resources
North Carolina Wildlife Resources Commission
University of Tennessee, Knoxville

International

Selva (working in Colombia)
ProVita (working in Venezuela)

Rosenberg, K.V. et al. *Partners in Flight Landbird Conservation Plan: 2016 Revision for Canada and Continental United States*. Partners in Flight Science Committee. 119 pp. Available from <https://partnersinflight.org/resources/the-plan/>
 Partners in Flight *Avian Conservation Assessment and Population Estimates Databases*, Bird Conservancy of the Rockies, accessed 4/3/2024.
 Kramer, G. Et al. 2017. Nonbreeding isolation and population-specific migration patterns among three populations of Golden-Winged Warblers. *The Condor: Ornithological Applications* 119:108–121. American Ornithological Society.
 Bayly, N.J., Leon, J.F., Toro, Y., Cano, N., & Sandino, J.C. 2023. Golden-winged Warbler conservation, monitoring and public outreach in Colombia. Technical Report. SELVA: Investigación para la Conservación en el Neotrópico, Bogotá D.C.

RSGCN list complements the Southeastern animals RSGCN list developed in 2019 to create a more complete picture of the region's exceptional biodiversity (Fig. 7.5).

To develop a pool of potential species to draw from, the PCA worked with NatureServe to compile an initial list of 10,437 vascular plants native to any of the SEAFWA states, considering the G-Rank (global rarity), S-Rank (state rarity), and endemism of each species. Unfortunately, due to data limitations, plants native to Puerto Rico and the US Virgin Islands could not be included in this assessment but will be evaluated when feasible.

The full list received extensive review from botany experts, a technical team composed of representatives from each state, and NatureServe. Based on partner feedback, the technical team assigned each species a level of conservation concern rating ranging from low to very high or "manual review needed". Any plant scoring moderate or above was ultimately considered an RSGCN. After removing 1,166 redundancies from the initial list, the complete Southeastern plant list evaluated 9,271 species and prioritized 1,824 as RSGCN; 72% of the plant RSGCN are endemic to the Southeast.

By far, the U.S. National Vegetation Classification group that supports the most plant RSGCN within Tennessee is the Southern Appalachian-Interior Mesic Forest. These diverse forests are characterized by tall, deciduous broad-leaved trees ranging from about 125 m (400 feet) elevation to generally 1,375 m (4500 feet) (NatureServe Explorer 2024). Stands are most extensive, diverse, and well-developed on lower slopes and in sheltered areas (NatureServe Explorer 2024).

7.4. Tennessee's Stewardship of Animal RSGCN

Within the Southeast region, Tennessee is one of the top five states with the most identified SGCN and has stewardship responsibility for 317 RSGCN based on the 2015 SWAP revisions. The most common RSGCN taxa represented in Tennessee are fishes (111) and mussels (66) (Fig. 7.6.).

While Tennessee shares stewardship of their SGCN and RSGCN with multiple other states, it has the most animal RSGCN in common with Alabama, Georgia, Kentucky, and Virginia (Fig. 7.7.). In particular, the state shares 51 fish RSGCN with Alabama and 53 with Kentucky. For mussels, Tennessee shares 37 RSGCN with Alabama and 47 with Kentucky (Table 7.3).

Tennessee is also home to multiple species that are not only endemic to the SEAFWA region but are also only found in one other state. For example, Tennessee supports four amphibian RSGCN that are only shared with one other state, such as the Santeetlah Dusky Salamander (*Desmognathus santeetlah*) that also occurs in North Carolina. There are 12 fish RSGCN that only occur within Tennessee and Kentucky, including the Blackfin Sucker (*Thoburnia atripinnis*) and several darter species. Tennessee shares 13 animal RSGCN that only occur within the state and Alabama and 21 animal RSGCN that only occur within the state and Kentucky.

By identifying shared SGCN and RSGCN with neighboring states, Tennessee can prioritize conservation actions that not only provide benefits within its boundaries, but also support a regional landscape. For example, Tennessee can identify conservation strategies aimed at

improving aquatic connectivity, which also improves water quantity and quality in watersheds and streams that cut across state lines. For an ongoing example of how regional collaboration is advancing conservation of highly mobile species, such as birds and bats, in the Southeast and beyond, see the “Motus Wildlife Tracking System Highlight.”

Several regional datasets can help Tennessee to identify lands and waters that support both animal and plant RSGCN and to find opportunities to collaborate with other states. For example, habitat maps at the species level from the USGS Gap Analysis Project (GAP) are available for

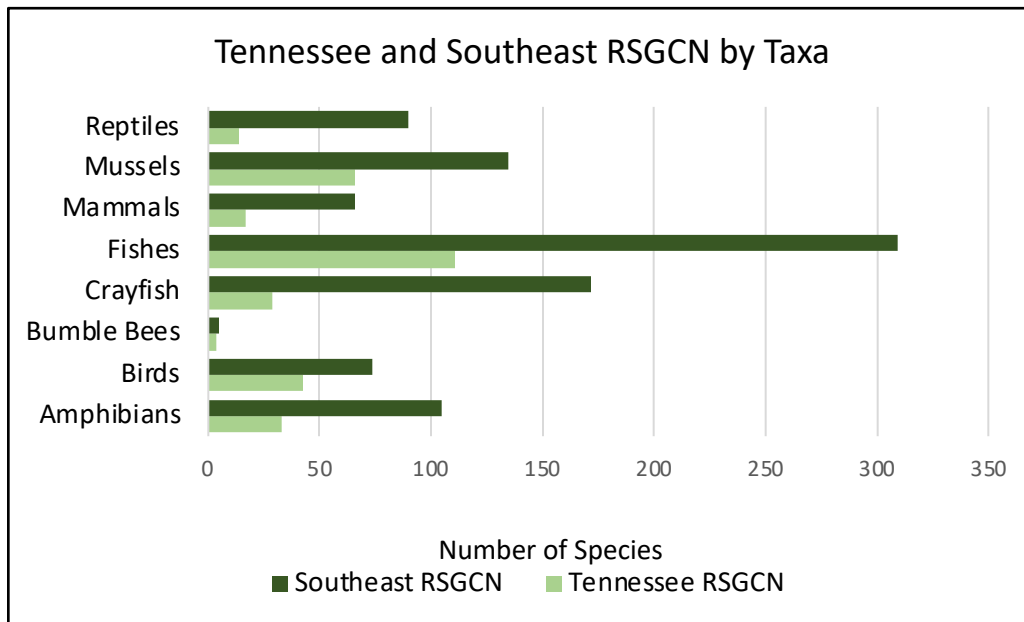


Figure 7.6 The number of animal RSGCN that occur in Tennessee compared to the overall Southeast Region

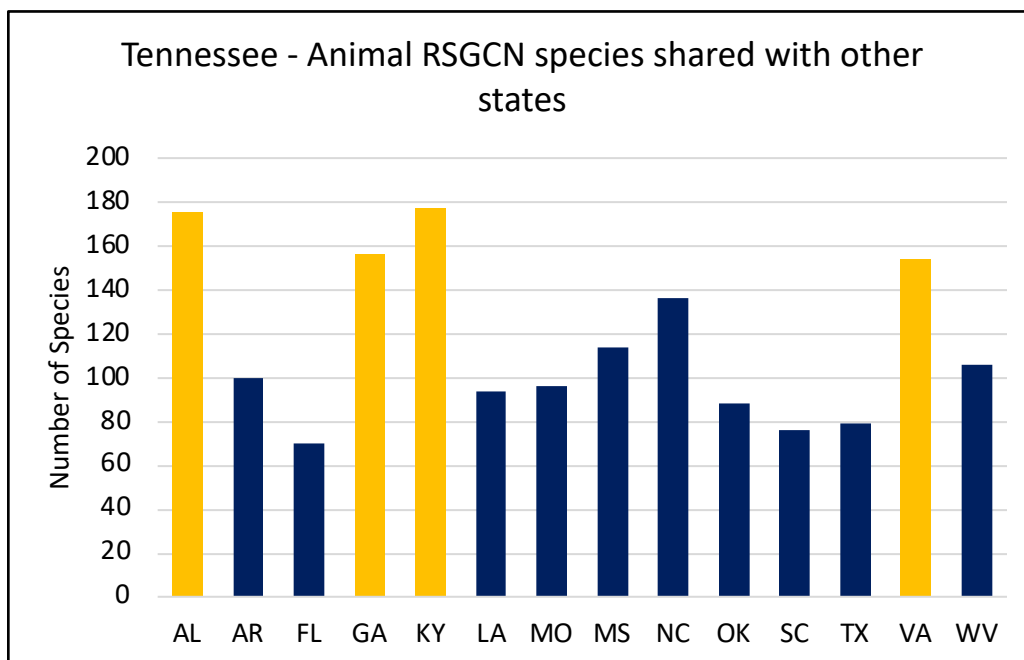


Figure 7.7 States that share animal RSGCN with Tennessee

approximately 290 animal species and 90 sub-species on the RSGCN list. While GAP does not include species habitat maps for invertebrates or plants, it does include a high percentage of vertebrate RSGCN (93% of amphibians, 92% of birds, 76% of mammals, and 77% of reptiles). Using GAP species habitat models in combination with other tools, such as the SWAP and the Southeast Blueprint, can help identify areas where conservation actions are likely to yield co-benefits for other species, habitats, and ecosystem services. All data, including model inputs, are available from the [USGS Gap Analysis Project Species Habitat Maps on ScienceBase](#).

Table 7.3 Based on 2015 data, Tennessee's RSGCN have the most animal RSGCN in common with Alabama, Georgia, Kentucky, and Virginia. (This data is being updated in 2025)

Animal RSGCN taxonomic group	AL	GA	KY	VA
Amphibians	14	14	11	15
Birds	41	38	31	35
Bumblebees	2	4	3	4
Crayfish	7	4	6	1
Fishes	51	40	53	40
Mammals	12	14	14	17
Mussels	37	31	47	32
Reptiles	11	11	12	10
Total	175	156	177	154

7.5. Regional Conservation Opportunity Areas

To build off the work of identifying RSGCN conducted by the SEAFWA Wildlife Diversity Committee, Tennessee developed Regional Conservation Opportunity Areas (RCOAs) in a similar fashion as in 2015 when Conservation Opportunity Areas were developed for the state. As with the 2015 COAs, RCOAs are intended to provide a framework for guiding voluntary and partnership-focused conservation action to address priority problems and achieve improved outcomes for species and habitats, increasing the ability for collaborative partnerships at regional scales to be developed. The conservation of many RSGCN is shared because the species ranges are shared with more than one state (Fig. 7.8). RCOAs serve as a means for conservation of both RSGCN and SGCN and their habitats that occur beyond state administrative boundaries, increasing the success of recovery objectives (see COA discussion in Chapter 6 for more detail).

The RCOAs are roughly 8-digit HUC boundaries that intersect state lines to extend the COAs across the state lines. The initial selection of RCOAs was driven by areas with highest priority habitats, described in Chapter 6. Input on the selection of RCOAs was provided by the SWAP Steering Committee and stakeholders.

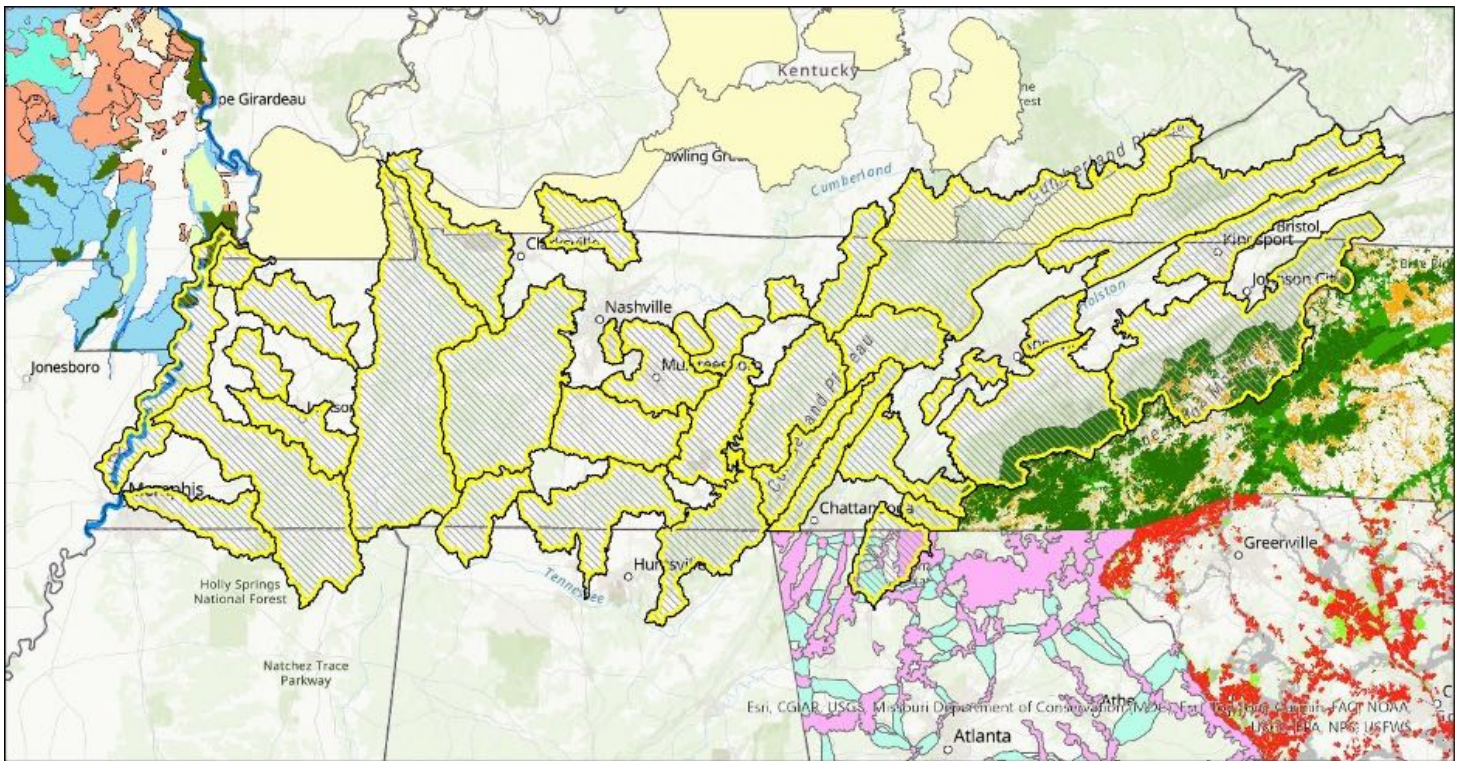


Figure 7.8 Map of Tennessee's Conservation Opportunity Areas relative to the COAs of the surrounding states. At time of publication of this chapter, Mississippi, Alabama, and Virginia's COAs were still in development. It is anticipated that this map will be updated after the final release of the SWAP with the newest spatial data.

The RCOAs are opportunities for collaboration and sharing resources with surrounding states. Table 7.4. shows the acreage for each RCOA for Tennessee and each neighboring state. Since Kentucky shares the longest state boarder with Tennessee, it is natural that it has the most acreage for RCOAs. Map 7.1. and 7.2. in [Appendix B, the 2025 TN SWAP Map Atlas](#), demonstrate the value of shared conservation beyond borders, showing shared terrestrial priorities with KY and shared aquatic priorities with KY and the Southern Appalachians, respectively.

7.5.1. Four Case Studies of Regional COAs that Include Lands and Waters in Tennessee

Four case studies of the RCOAs are provided to demonstrate how information can be collected from other State Wildlife Action Plans to begin (or continue) conversations for landscape scale management and conservation of SGCN, highlighting shared SGCN, threats, and management actions.

At the time of publication of this SWAP, surrounding states were at varying stages of development of their SWAPs. Further refinement of species lists, threats, and management actions will be needed once all of the SWAPs are complete. For this case study, [NatureServe Explorer Pro](#) was used to generate a species list for each RCOA until more data can be gathered across state lines. This allows comparison of the species list generated from NatureServe Explorer Pro to each state's final SGCN list and the RSGCN list to find how many SGCN each state has in common for an RCOA.

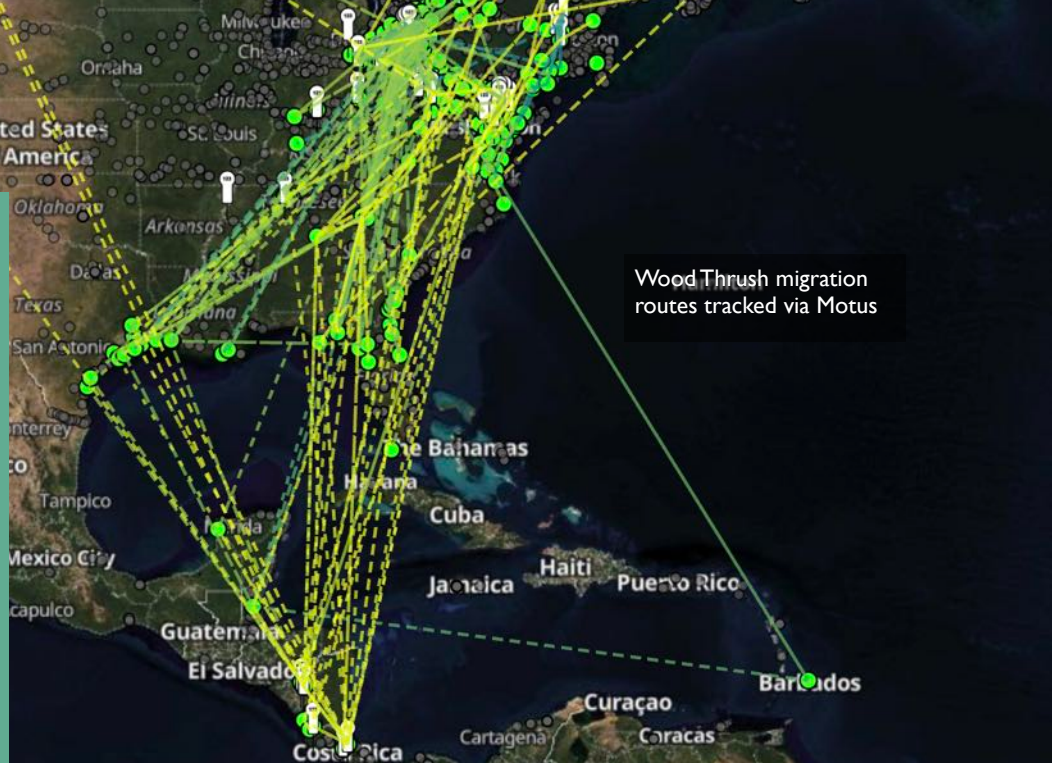
MOTUS WILDLIFE TRACKING SYSTEM

Motus, which means movement in Latin, is an international collaborative research network that uses radio telemetry to inform and enhance the conservation of migratory wildlife.

What makes Motus special is that, with the leadership and assistance of Birds Canada, researchers across the Western Hemisphere are building a network of receiver stations that are monitoring the *same* frequency and *sharing* the data. This allows collaboration in studying many species of tagged animals across a much broader area than ever before.

For Motus tracking studies, animals are captured, fitted with transmitters weighing 3 to 5% of an individual's body weight, then released. Motus stations, which consist of antennae and recording computers, will record any tagged individual coming within a roughly 10-km range, whether or not it is a target of the study.

The Motus network's breadth of coverage (27 stations in Tennessee as of 2024) and sharing of data are helping researchers to better understand species' full annual life cycles, (which include movements throughout the year), and to identify key habitats for breeding, migration routes, stopovers, and non-breeding (wintering).

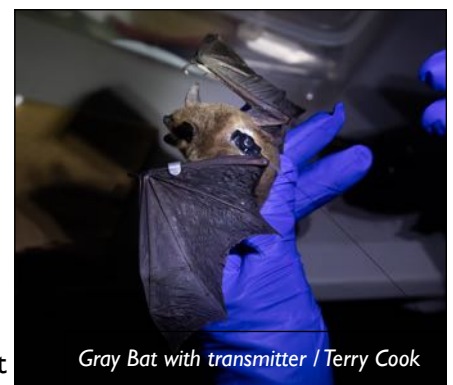


KEY ISSUES FOR MIGRATORY BIRDS & BATS

In the Western Hemisphere, neotropical migratory birds (which migrate between the tropics of Central or South America and North America) have been in decline for decades. A 2019 study found steep, long-term losses across virtually all groups of birds (except waterfowl, raptors, and some game birds) in the US and Canada (Rosenberg et al. 2019). Causes of the declines are complex, and vary among species. Contributors include habitat loss/fragmentation, migration mortality, climate change, unmet habitat management needs (e.g. prescribed fire), and low reproductive success.

Likewise, many species of bats in North America migrate and have also been declining. According to Bat Conservation International, "Today, bats are under unprecedented threat from widespread habitat destruction, accelerated climate change, invasive species, and other stresses. Without concerted international action, their populations will continue to fall, driving many species to extinction."

Well-known for its karst topography, Tennessee is home to nearly 12,000 caves—over 20% of the US total and more than any other state, placing it in a special position to help bat populations through research and conservation. **Cory Holliday, Cave and Karst Program Director for The**



Gray Bat with transmitter / Terry Cook

Nature Conservancy in TN says, "I think of it as bonus habitat that doesn't exist elsewhere—it gives us additional places for animals to live and thrive."

Motus is now providing the vehicle for concerted action to assist many declining species. **David Hanni, TWRA Bird Conservation Coordinator** says, "This technology is amazing because states are now coordinating their efforts across borders to identify individual species migratory paths, which was not really available before Motus."

MAKING A DIFFERENCE WITH MOTUS

The **Wood Thrush** (*Hylocichla mustelina*) has suffered a 59% population loss since 1970, making it a bird species of Conservation Concern in Tennessee, 24 additional states, and Canada. (Rosenberg et al. 2016). It is also a Tipping Point Species as defined by the Road to Recovery Partnership. Scientists have long understood that Wood Thrush require relatively large, high quality forest habitats for nesting. However, they do not understand what is behind steep Wood Thrush declines across the Atlantic states and New England. *What is happening during migration and in stopover habitats? Are they getting the resources they need to migrate? To reproduce successfully? Is there variation in stopover or overwintering mortality? If so, what might be the cause?*

To address the decline of Wood Thrush and other species, a project deploying 600 Motus tags across the breeding and non-breeding ranges of Wood Thrush aims to better understand migratory connections, routes, timing, and survival across their full life cycle. The data will inform conservation and management for this species, (Kendrick 2023) whose flute-like song is often considered the most beautiful in North America.



Wood Thrush / Cynthia Routledge

TN Motus Wood Thrush Partners

Appalachian Conservation Institute
Austin Peay State University
Tennessee River Gorge Trust
Tennessee Wildlife Resources Agency
University Tennessee, Chattanooga
University of Tennessee, Knoxville
Warner Park Nature Center, BIRD
Research Program

TN Motus Gray Bat Partners

Tennessee Wildlife Resources Agency
Tennessee Chapter of The Nature
Conservancy
Tennessee Valley Authority

EYE-OPENING GRAY BATS

The **Gray Bat** (*Myotis grisescens*) has been federally listed as endangered since 1976. This species concentrates in large numbers to hibernate in just 12 known caves, and largely due to cave protection, they are bouncing back. The goal is to get them removed from the T&E list. To secure the Gray Bat's future, and that of other bat species, Tennessee partners have established a Motus monitoring system to better understand these small, long-lived, and highly mobile animals. "We don't know what Gray Bats are doing when they are foraging or during migration. We don't understand which parts of the landscape are critical habitat. It's unbelievable the amount of data we've been able to get through Motus over just three years, really eye-opening!" exclaims Holliday.



Gray Bats move around a lot. While it had previously been assumed they forage within about 25 miles of their summer roosts, researchers are finding a lot of movement, sometimes 50 miles in one night. They roost switch. "It costs them energetically, so there has to be a reason," explains Holliday. As a result, the conservation needs of Gray Bats

are expanding beyond big focal caves. Moreover, seasonal

migration occurs over months and is still poorly understood, limited by the one-month life-span of current bat transmitters. A larger Motus network will help to shed light on their needs and inform conservation, as well as land development and wind energy projects, which could potentially impact aerial wildlife.

THE MOTUS "HARVEST"

The 20th century population declines of many waterfowl species have been reversed through coordinated efforts over decades to understand the full annual life cycles of ducks and geese. Conservation for songbirds, bats, and other species now seeks to achieve these same goals. Duck banding studies have yielded much of the essential data, often when banded birds were harvested by hunters. Motus is, in effect, creating a network of "harvest" locations for monitored animals, obtaining data without actually collecting the animals!

Rosenberg KV, Dokter AM, Blancher PJ, Sauer JR, Smith AC, Smith PA, Stanton JC, Panjabi A, Helft L, Parr M, Marra PP. 2019. Decline of the North American Avifauna. Science, Vol. 366, Issue 6461. <https://www.science.org/doi/10.1126/science.aaw1313>
Bat Conservation International. [date unknown]. Bats 101. Accessed March 18, 2024. <https://www.batcon.org/about-bats/bats-101/>.
Kendrick, S. 2023. Range-wide Motus Tracking of Wood Thrush to Inform Conservation across the Full Annual Cycle. USFWS.
Rosenberg et al. 2016. Partners in Flight Landbird Conservation Plan: 2016 Revision for Canada and Continental United States. Partners in Flight Science Committee. 119 pp.

Table 7.4. Tennessee's Regional Conservation Opportunity Areas (RCOA), showing acreage by state for each RCOA.

Regional COA	Tennessee	Alabama	Arkansas	Georgia	Kentucky	Mississippi	North Carolina	Virginia	West Virginia	Total Acreage per RCOA
Blue Ridge	1,192,569						1,003,661	103,670		2,299,900
Clinch & Powell	301,319				287			1,158,738	17	1,460,361
Conasauga	82,114			383,320						465,434
Cypress & Shoal Creeks	308,501	143,530								452,031
Elk River	701,011	214,112								915,123
Foothills	1,103,163						389,842			1,493,005
Hatchie River	1,111,891					470,289				1,582,180
Hiwassee	494,388						19,690			514,078
Lower Cumberland/ Pennyroyal Plains and Barrens	510,952				247,678					758,630
Mississippi Alluvial Valley	642,756		98,188		30,734					884,297
North Cumberland Plateau and Mountains	931,967				1,540,104			293		2,472,364
Northwest Cumberland Plateau	331,727				88,503					420,230
Red River	187,289				266,858					454,147
Reelfoot Lake	115,673				37,731					153,404
South Cumberland Plateau	353,217	467,310								820,527
Tennessee River	2,309,839				232,079	23,852				2,565,770
Upper Holston	256,145							458,033		714,178
Wolf River	364,134					157,605				521,739
Total Acreage per State	11,298,655	824,952	98,188	383,320	2,443,974	651,746	1,413,193	1,720,734	17	

Tools such as the Landscape Recovery Tool and the SWAP Dashboard (both in development) can be used to identify shared threats and conservation activities for some of these species. In all cases, refer to the RCOA fact sheet for more information specific to Tennessee (Appendix I). (For full lists of species in the four examples that follow, see Ch. 7.)

Lower Cumberland/Pennyroyal Plains and Barrens Regional Conservation Opportunity Area

The Lower Cumberland/Pennyroyal Plains and Barrens RCOA overlaps with the Big Barrens COA in Kentucky and is directly adjacent to the Jackson Purchase COA in Kentucky (Figs. 7.9, 7.10). Collaborating with Kentucky to support management work in the 200,000+ acres that overlap between the state designated COAs would provide redundancy to the species populations. Redundancy in species populations is a major factor in keeping common species common, delisting, and precluding the need to list them under the Endangered Species Act.

Using the method described above, 58 species that are SGCN in both Tennessee and Kentucky were found. Of those 58 species, 31 are also designated as an RSGCN (Table 7.5).



buffalo clover (*Trillium reflexum*), a plant that is not an RSGCN but is shared between KY and TN within the Lower Cumberland/Pennyroyal Plains & Barrens RCOA / Eric Hunt - Own work, CC BY-SA 4.0

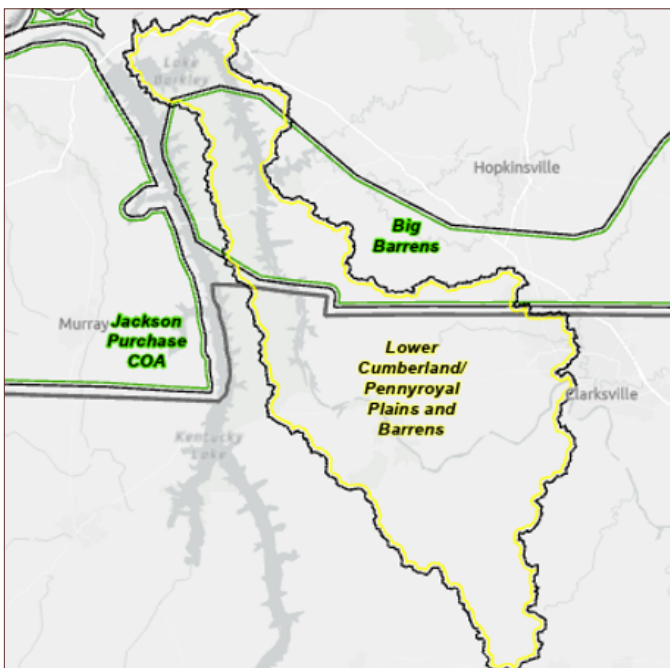


Figure 7.9 Map of Lower Cumberland/Pennyroyal RCOA with overlapping COAs in Kentucky

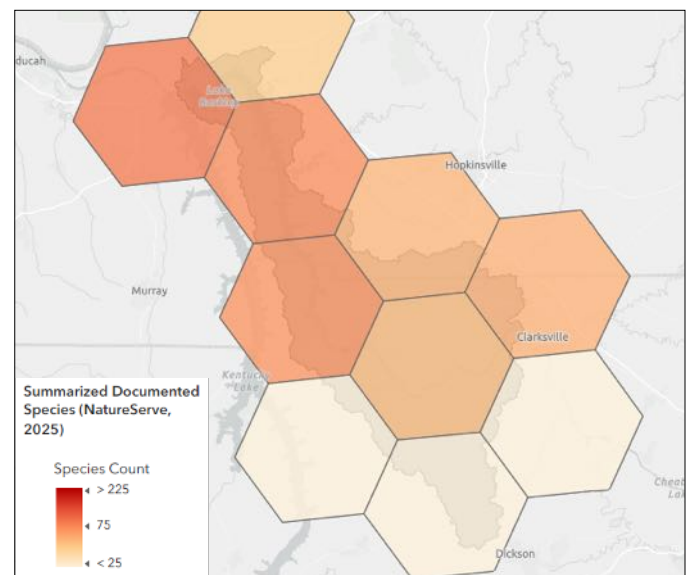


Figure 7.10 Map from NatureServe Explorer Pro illustrating areas around the Lower Cumberland/Pennyroyal RCOA that have the highest density of species.

As the SWAPs are updated, data integration tools can be used to identify shared threats and management activities. These species and management activities could be starting points of conversations for biologists and local stakeholders to develop local conservation initiatives.

Table 7.6 lists the 58 species that are SGCN for both Tennessee and Kentucky and are assumed to fall within the Lower Cumberland/Pennyroyal and Barrens RCOA. If the species is also federally listed under the Endangered Species Act (ESA), its status is also listed. If the species is recognized as RSGCN, it is labeled as well.

Table 7.5 Total counts of species by taxa groups found within the Lower Cumberland/Pennyroyal RCOA

Taxa Group	Listed in TN & KY only	Listed in TN, KY, and are RSGCN	Grand Total
Amphibian		2	2
Bat		7	7
Bird	8	5	13
Bivalve	2	10	12
Crustacean	1	2	3
Fish	1	3	4
Gastropod	1		1
Mammal	4		4
Plant	8		8
Reptile	2	2	4
Grand Total	27	31	58



Cerulean Warbler (*Setophaga cerulea*), an RSGCN of the Pennyroyal Plains & Barrens RCOA / Alan Schmierer

Table 7.6. List of species designated as SGCN in both Tennessee and Kentucky within the Lower Cumberland/Pennroyal Plains and Barrens RCOA

Group	Scientific Name	Common Name	ESA Status	RSGCN
Amphibian	<i>Cryptobranchus alleganiensis</i>	Hellbender		Yes
Amphibian	<i>Dryophytes gratiosus</i>	Barking Treefrog		Yes
Bat	<i>Myotis lucifugus</i>	Little Brown Myotis	Under Review	Yes
Bat	<i>Myotis austroriparius</i>	Southeastern Myotis		Yes
Bat	<i>Myotis grisescens</i>	Gray Myotis	Endangered	Yes
Bat	<i>Myotis sodalis</i>	Indiana Myotis	Endangered	Yes
Bat	<i>Myotis leibii</i>	Eastern Small-footed Myotis		Yes
Bat	<i>Myotis septentrionalis</i>	Northern Myotis	Endangered	Yes
Bat	<i>Perimyotis subflavus</i>	Tricolored Bat	Proposed endangered	Yes
Bird	<i>Botaurus lentiginosus</i>	American Bittern		
Bird	<i>Ardea alba</i>	Great Egret		
Bird	<i>Nycticorax nycticorax</i>	Black-crowned Night Heron		
Bird	<i>Nyctanassa violacea</i>	Yellow-crowned Night Heron		Yes
Bird	<i>Accipiter striatus</i>	Sharp-shinned Hawk		
Bird	<i>Falco peregrinus</i>	Peregrine Falcon		
Bird	<i>Sternula antillarum athalassos</i>	Interior Least Tern	Delisted	
Bird	<i>Thryomanes bewickii</i>	Bewick's Wren		
Bird	<i>Lanius ludovicianus</i>	Loggerhead Shrike		Yes
Bird	<i>Vireo bellii</i>	Bell's Vireo		Yes
Bird	<i>Setophaga cerulea</i>	Cerulean Warbler		Yes
Bird	<i>Peucaea aestivalis</i>	Bachman's Sparrow		
Bird	<i>Centronyx henslowii</i>	Henslow's Sparrow		Yes
Bivalve	<i>Cumberlandia monodonta</i>	Spectaclecase	Endangered	Yes
Bivalve	<i>Cyprogenia stegaria</i>	Fanshell	Endangered; Experimental population, non-essential	Yes
Bivalve	<i>Fusconaia subrotunda</i>	Longsolid	Threatened	Yes
Bivalve	<i>Lampsilis abrupta</i>	Pink Mucket	Endangered	Yes

Table 7.6. List of species designated as SGCN in both Tennessee and Kentucky within the Lower Cumberland/Pennyroyal Plains and Barrens RCOA

Group	Scientific Name	Common Name	ESA Status	RSGCN
Bivalve	<i>Ligumia recta</i>	Black Sandshell		
Bivalve	<i>Obovaria retusa</i>	Ring Pink	Endangered; Experimental population, non-essential	Yes
Bivalve	<i>Plethobasus cooperianus</i>	Orangefoot Pimpleback	Endangered; Experimental population, non-essential	Yes
Bivalve	<i>Plethobasus cyphus</i>	Sheepnose	Endangered	Yes
Bivalve	<i>Pleurobema oviforme</i>	Tennessee Clubshell	Proposed endangered	Yes
Bivalve	<i>Potamilus capax</i>	Fat Pocketbook	Endangered	Yes
Bivalve	<i>Theliderma cylindrica</i>	Rabbitsfoot	Endangered	Yes
Bivalve	<i>Toxolasma lividum</i>	Purple Lilliput		
Crustacean	<i>Cambarus friaufi</i>	Hairy Crayfish		
Crustacean	<i>Orconectes pellucidus</i>	Mammoth Cave Crayfish		Yes
Crustacean	<i>Faxonius burri</i>	Blood River Crayfish		Yes
Fish	<i>Acipenser fulvescens</i>	Lake Sturgeon		Yes
Fish	<i>Cycleptus elongatus</i>	Blue Sucker		Yes
Fish	<i>Typhlichthys subterraneus</i>	Southern Cavefish		
Fish	<i>Nothonotus microlepidus</i>	Smallscale Darter		Yes
Gastropod	<i>Lithasia armigera</i>	Armored Rocksnail		
Mammal	<i>Sorex cinereus</i>	Cinereus Shrew		
Mammal	<i>Sorex hoyi</i>	Eastern Pygmy Shrew		
Mammal	<i>Sorex longirostris</i>	Southeastern Shrew		
Mammal	<i>Synaptomys cooperi</i>	Southern Bog Lemming		
Plant	<i>Prenanthes barbata</i>	Barbed Rattlesnake- root		
Plant	<i>Physaria globosa</i>	Globe Bladderpod	Endangered	
Plant	<i>Apios priceana</i>	Price's Potato-bean	Threatened	
Plant	<i>Trifolium reflexum</i>	Buffalo Clover		
Plant	<i>Actaea rubifolia</i>	Appalachian Bugbane		

Table 7.6. List of species designated as SGCN in both Tennessee and Kentucky within the Lower Cumberland/Pennyroyal Plains and Barrens RCOA

Group	Scientific Name	Common Name	ESA Status	RSGCN
Plant	<i>Agalinis auriculata</i>	Earleaf False Foxglove		
Plant	<i>Aureolaria patula</i>	Spreading Yellow False Foxglove		
Plant	<i>Fimbristylis perpusilla</i>	Harper's Fimbry	Under Review	
Reptile	<i>Macrochelys temminckii</i>	Alligator Snapping Turtle	Proposed threatened	Yes
Reptile	<i>Ophisaurus attenuatus longicaudus</i>	Eastern Slender Glass Lizard		
Reptile	<i>Pituophis melanoleucus melanoleucus</i>	Northern Pinesnake		Yes
Reptile	<i>Sistrurus miliarius streckeri</i>	Western Pygmy Rattlesnake		

North Cumberland Plateau and Mountains Regional Conservation Opportunity Area

The North Cumberland Plateau and Mountains RCOA overlaps two COAs in Kentucky: The South Fork Cumberland COA and the Cumberland Mountain COA. The North Cumberland Plateau and Mountains RCOA spans over 2.4 million acres, with over 931,000 acres in Tennessee and over 1.5 million acres in Kentucky (Figs. 7.11, 7.12).

The NatureServe Explorer Pro tool reports occurrences for 98 different species that are SGCN in both Tennessee and Kentucky. Of those 98 species, half (49) are also designated as RSGCN (Table 7.7).

As the SWAPs are updated, data integration tools can be used to identify shared threats and management activities. These species and management activities could be starting points of conversations for biologists and local stakeholders to develop local conservation initiatives.

Table 7.7 Total counts of species by taxa groups found within the North Cumberland Plateau and Mountains RCOA

Taxa Group	Listed in TN & KY only	Listed in TN, KY, and are RSGCN	Grand Totals
Amphibian	2	2	4
Bat		8	8
Bird	4	5	9
Bivalve	5	18	23
Crustacean	1	2	3
Fish	2	11	13
Insect	1		1
Mammal	7	1	8
Plant	26		26
Reptile	1	2	3
Grand Totals	49	49	98

Table 7.8 below lists the 98 species that are SGCN for both Tennessee and Kentucky and are assumed to fall within the North Cumberland Plateau and Mountains RCOA. If the species is also federally listed under the ESA, its status is also listed. If the species is recognized as RSGCN, it is labeled as well.

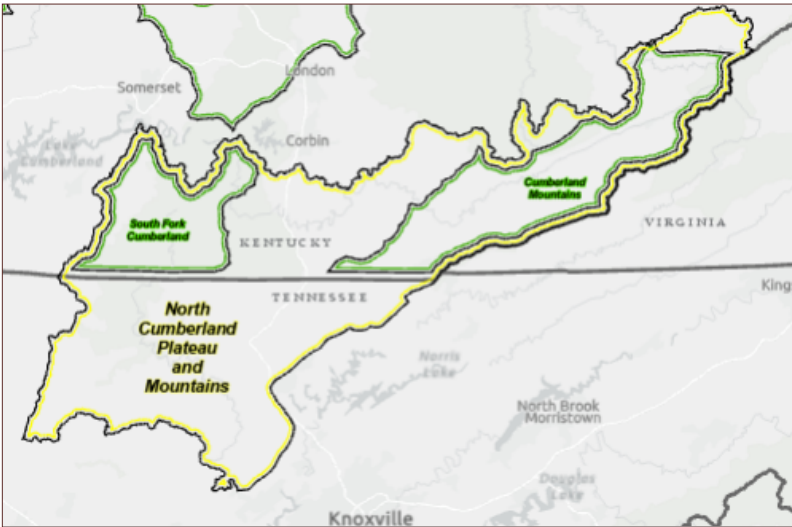


Figure 7.11 Map of North Cumberland Plateau and Mountains RCOA overlapping 2 COAs in Kentucky

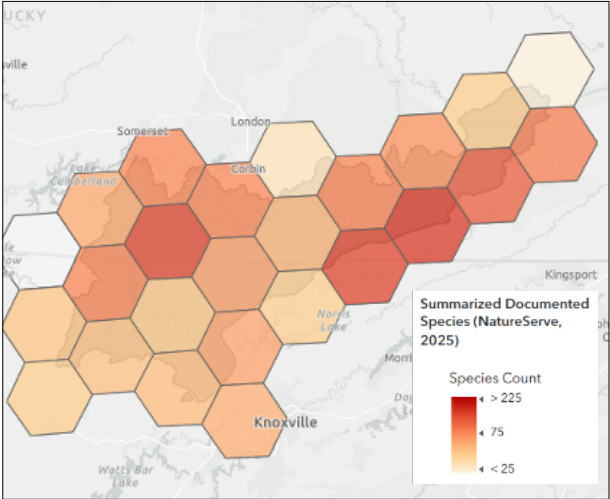


Figure 7.12 Map from NatureServe Explorer Pro showing areas around the North Cumberland Plateau and Mountains RCOA with the highest density of species.

Table 7.8. List of species designated as SGCN Need in both Tennessee and Kentucky within the North Cumberland Plateau and Mountains RCOA

Group	Scientific Name	Common Name	ESA Status	RSGCN
Amphibian	<i>Cryptobranchus alleganiensis</i>	Hellbender		Yes
Amphibian	<i>Aneides aeneus</i>	Green Salamander		
Amphibian	<i>Desmognathus welteri</i>	Black Mountain Salamander		Yes
Amphibian	<i>Plethodon pauleyi</i>	Yellow-spotted Woodland Salamander		
Bat	<i>Myotis lucifugus</i>	Little Brown Myotis	Under Review	Yes
Bat	<i>Myotis grisescens</i>	Gray Myotis	Endangered	Yes
Bat	<i>Myotis sodalis</i>	Indiana Myotis	Endangered	Yes
Bat	<i>Myotis leibii</i>	Eastern Small-footed Myotis		Yes
Bat	<i>Myotis septentrionalis</i>	Northern Myotis	Endangered	Yes
Bat	<i>Perimyotis subflavus</i>	Tricolored Bat	Proposed endangered	Yes
Bat	<i>Corynorhinus townsendii virginianus</i>	Virginia Big-eared Bat	Endangered	Yes
Bat	<i>Corynorhinus rafinesquii</i>	Rafinesque's Big-eared Bat		Yes
Bird	<i>Accipiter striatus</i>	Sharp-shinned Hawk		
Bird	<i>Falco peregrinus</i>	Peregrine Falcon		
Bird	<i>Empidonax minimus</i>	Least Flycatcher		
Bird	<i>Lanius ludovicianus</i>	Loggerhead Shrike		Yes
Bird	<i>Vermivora chrysoptera</i>	Golden-winged Warbler	Under Review	Yes
Bird	<i>Setophaga cerulea</i>	Cerulean Warbler		Yes
Bird	<i>Limnothlypis swainsonii</i>	Swainson's Warbler		Yes
Bird	<i>Cardellina canadensis</i>	Canada Warbler		
Bird	<i>Centronyx henslowii</i>	Henslow's Sparrow		Yes
Bivalve	<i>Ortmanniana pectorosa</i>	Pheasantshell		Yes
Bivalve	<i>Alasmodonta atropurpurea</i>	Cumberland Elktoe	Endangered	Yes
Bivalve	<i>Anodontoides denigratus</i>	Cumberland Papershell		Yes
Bivalve	<i>Cumberlandia monodonta</i>	Spectaclecase	Endangered	Yes

Table 7.8. List of species designated as SGCN Need in both Tennessee and Kentucky within the North Cumberland Plateau and Mountains RCOA

Group	Scientific Name	Common Name	ESA Status	RSGCN
Bivalve	<i>Dromus dromas</i>	Dromedary Pearlymussel	Endangered; Experimental population, non-essential	Yes
Bivalve	<i>Epioblasma brevidens</i>	Cumberlandian Combshell	Endangered; Experimental population, non-essential	Yes
Bivalve	<i>Epioblasma capsaeformis</i>	Oyster Mussel	Endangered; Experimental population, non-essential	Yes
Bivalve	<i>Epioblasma walkeri</i>	Tan Riffleshell	Endangered	Yes
Bivalve	<i>Epioblasma triquetra</i>	Snuffbox	Endangered	Yes
Bivalve	<i>Hemistena lata</i>	Cracking Pearlymussel	Endangered; Experimental population, non-essential	Yes
Bivalve	<i>Pleuroaia dolabelloides</i>	Slabside Pearlymussel	Endangered	Yes
Bivalve	<i>Ligumia recta</i>	Black Sandshell		
Bivalve	<i>Medionidus conradicus</i>	Cumberland Moccasinshell	Proposed endangered	Yes
Bivalve	<i>Obovaria subrotunda</i>	Round Hickorynut	Threatened	Yes
Bivalve	<i>Pegias fabula</i>	Littlewing Pearlymussel	Endangered	Yes
Bivalve	<i>Plethobasus cooperianus</i>	Orangefoot Pimpleback	Endangered; Experimental population, non-essential	Yes
Bivalve	<i>Plethobasus cyphus</i>	Sheepnose	Endangered	Yes
Bivalve	<i>Pleurobema oviforme</i>	Tennessee Clubshell	Proposed endangered	Yes
Bivalve	<i>Ptychobranhus subtentus</i>	Fluted Kidneyshell	Endangered	Yes
Bivalve	<i>Toxolasma lividum</i>	Purple Lilliput		
Bivalve	<i>Leaunio lienosus</i>	Little Spectaclecase		
Bivalve	<i>Cambarunio iris</i>	Rainbow		
Bivalve	<i>Venustaconcha troostensis</i>	Cumberland Bean	Endangered; Experimental population, non-essential	Yes

Table 7.8. List of species designated as SGCN Need in both Tennessee and Kentucky within the North Cumberland Plateau and Mountains RCOA

Group	Scientific Name	Common Name	ESA Status	RSGCN
Crustacean	<i>Cambarus bouchardi</i>	Big South Fork Crayfish		Yes
Crustacean	<i>Cambarus deweesae</i>	Valley Flame Crayfish		
Crustacean	<i>Orconectes barri</i>	Cumberland Plateau Cave Crayfish		Yes
Fish	<i>Acipenser fulvescens</i>	Lake Sturgeon		Yes
Fish	<i>Hemitremia flammea</i>	Flame Chub		Yes
Fish	<i>Notropis albizonatus</i>	Palezone Shiner	Endangered	Yes
Fish	<i>Chrosomus cumberlandensis</i>	Blackside Dace	Threatened	Yes
Fish	<i>Carpionodes velifer</i>	Highfin Carpsucker		Yes
Fish	<i>Typhlichthys subterraneus</i>	Southern Cavefish		
Fish	<i>Ammocrypta clara</i>	Western Sand Darter		Yes
Fish	<i>Etheostoma sagitta</i>	Arrow Darter		Yes
Fish	<i>Etheostoma susanae</i>	Cumberland Darter	Endangered	Yes
Fish	<i>Etheostoma lemniscatum</i>	Tuxedo Darter		Yes
Fish	<i>Allohistium maydeni</i>	Redlips Darter		
Fish	<i>Percina macrocephala</i>	Longhead Darter		Yes
Fish	<i>Percina squamata</i>	Olive Darter		Yes
Insect	<i>Callophrys irus</i>	Frosted Elfin		
Mammal	<i>Sorex cinereus</i>	Cinereus Shrew		
Mammal	<i>Sorex hoyi</i>	Eastern Pygmy Shrew		
Mammal	<i>Sorex longirostris</i>	Southeastern Shrew		
Mammal	<i>Sorex fumeus</i>	Smoky Shrew		
Mammal	<i>Parascalops breweri</i>	Hairy-tailed Mole		
Mammal	<i>Neotoma magister</i>	Allegheny Woodrat		Yes
Mammal	<i>Synaptomys cooperi</i>	Southern Bog Lemming		
Mammal	<i>Mustela nivalis</i>	Least Weasel		

Table 7.8. List of species designated as SGCN Need in both Tennessee and Kentucky within the North Cumberland Plateau and Mountains RCOA

Group	Scientific Name	Common Name	ESA Status	RSGCN
Plant	<i>Thaspium pinnatifidum</i>	Cutleaf Meadow-parsnip		
Plant	<i>Helianthus eggertii</i>	Eggert's Sunflower	Delisted	
Plant	<i>Silphium wasiotense</i>	Appalachian Rosinweed		
Plant	<i>Solidago faucibus</i>	Gorge Goldenrod		
Plant	<i>Solidago arenicola</i>	Southern Racemose Goldenrod		
Plant	<i>Ageratina luciae-brauniae</i>	Lucy Braun's White Snakeroot		
Plant	<i>Eurybia saxicastelli</i>	Rockcastle Wood-aster		
Plant	<i>Berberis canadensis</i>	American Barberry		
Plant	<i>Minuartia cumberlandensis</i>	Cumberland Sandwort	Delisted	
Plant	<i>Silene ovata</i>	Ovate Catchfly		
Plant	<i>Paxistima canbyi</i>	Canby's Mountain-lover		
Plant	<i>Conradina verticillata</i>	Cumberland False Rosemary	Threatened	
Plant	<i>Pycnanthemum torreyi</i>	Torrey's Mountainmint		
Plant	<i>Monotropsis odorata</i>	Sweet Pinesap		
Plant	<i>Actaea rubifolia</i>	Appalachian Bugbane		
Plant	<i>Spiraea virginiana</i>	Virginia Spiraea	Threatened	
Plant	<i>Parnassia grandifolia</i>	Largeleaf Grass-of-Parnassus		
Plant	<i>Schisandra glabra</i>	Bay Starvine		
Plant	<i>Agalinis decemloba</i>	Blue Ridge False Foxglove		
Plant	<i>Aureolaria patula</i>	Spreading Yellow False Foxglove		
Plant	<i>Vitis rupestris</i>	Rock Grape		
Plant	<i>Carex roanensis</i>	Roan Mountain Sedge		
Plant	<i>Cypripedium kentuckiense</i>	Southern Lady's-slipper		

Table 7.8. List of species designated as SGCN Need in both Tennessee and Kentucky within the North Cumberland Plateau and Mountains RCOA

Group	Scientific Name	Common Name	ESA Status	RSGCN
Plant	<i>Platanthera integrilabia</i>	White Fringeless Orchid	Threatened	
Plant	<i>Calamovilfa arcuata</i>	Rivergrass		
Plant	<i>Potamogeton tennesseensis</i>	Tennessee Pondweed	Under Review	
Reptile	<i>Ophisaurus attenuatus longicaudus</i>	Eastern Slender Glass Lizard		
Reptile	<i>Plestiodon anthracinus</i>	Coal Skink		Yes
Reptile	<i>Pituophis melanoleucus melanoleucus</i>	Northern Pinesnake		Yes

Conasauga Regional Conservation Opportunity Area

The Conasauga RCOA overlaps with many COAs in Georgia. Georgia's COAs were delineated using priority species and habitats, as well as the Southeast Conservation Blueprint's Hubs and Corridors layer (Fig. 7.13).

The Conasauga RCOA spans over 465,000 acres, with over 82,000 acres in Tennessee and over 383,000 acres in Georgia. Many SGCN in this RCOA are aquatic (Fig. 7.14). The Conasauga River has its headwaters in Georgia, flows into Tennessee, and then back to Georgia before it joins with the Oostanaula River. Actions in the headwaters of the Conasauga River impact the Tennessee portion of the Conasauga River. While actions in Tennessee impact the downstream portions of the river in Georgia.



Blue Shiner (*Cyprinella caerulea*) Blue shiner is a RSGCN that is found in both TN and GA and is also federally listed as Threatened. / Ryan Hagerty, USFWS

The NatureServe Explorer Pro tool reports occurrences for 76 different species that are SGCN in both Tennessee and Georgia. Of those 76 species, 38 are also designated as RSGCN (Table 7.9). As the SWAPs are updated, data integration tools can be used to identify shared threats and management activities. These species and management activities could be starting points of

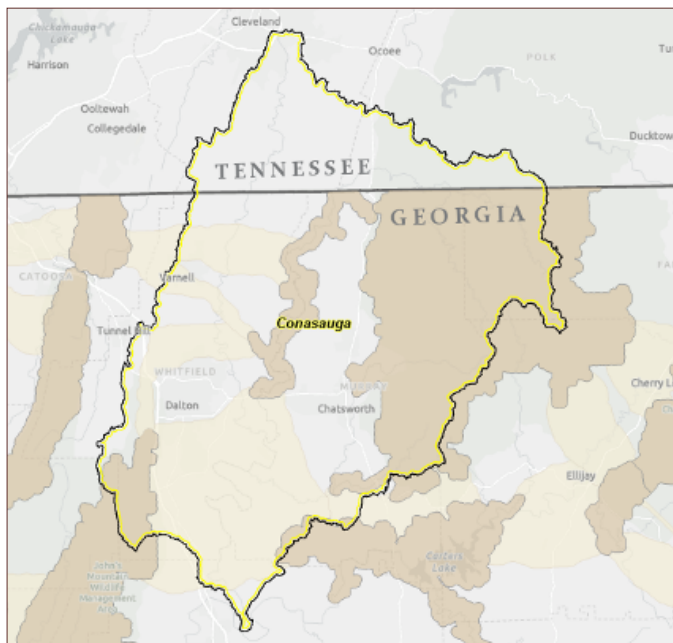


Figure 7.13 Map of Conasauga RCOA with overlapping COAs in Georgia

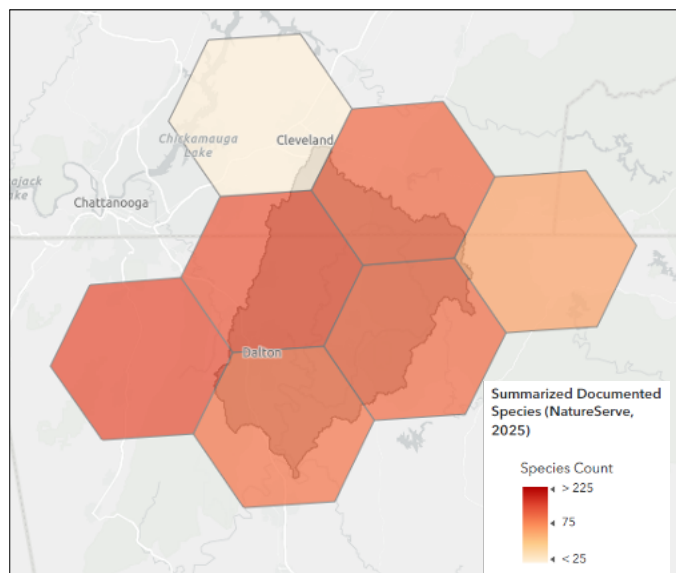


Figure 7.14 Map from NatureServe Explorer Pro illustrating areas around the Conasauga RCOA that have the highest density of species

conversations for biologists and local stakeholders to develop local conservation initiatives.

Table 7.10 lists the 76 species that are SGCN for both Tennessee and Georgia and are assumed to fall within the Conasauga RCOA. If the species is also federally listed under the ESA, its status is also listed. If the species is recognized as RSGCN, it is labeled as well.

Table 7.9 Total counts of species by taxa groups found within the Conasauga RCOA

Taxa Group	Listed in TN & GA only	Listed in TN, GA, and are RSGCN	Grand Totals
Amphibian	1	2	3
Bat	6	2	8
Bird		1	1
Bivalve	1	15	16
Crustacean		3	3
Fish	1	15	16
Insect	3		3
Mammal	3		3
Plant	23		23
Grand Totals	38	38	76



Swainson’s Warbler (*Limnothlypis swainsonii*) is a shared RSGCN that occurs in both TN and GA portions of the Conasauga RCOA / Alan Schmierer

Table 7.10. List of species designated as SGCN in both Tennessee and Georgia within the Conasauga RCOA

Taxa	Scientific Name	Common Name	ESA Status	RSGCN
Amphibian	<i>Cryptobranchus alleganiensis</i> (including <i>alleganiensis</i> and <i>bishopi</i>)	Hellbender		Yes
Amphibian	<i>Aneides aeneus</i>	Green Salamander		
Amphibian	<i>Eurycea aquatica</i>	Brown-backed Salamander		Yes
Bat	<i>Myotis lucifugus</i>	Little Brown Bat	Under Review	Yes
Bat	<i>Myotis grisescens</i>	Gray Bat	Endangered	Yes
Bat	<i>Myotis sodalis</i>	Indiana Bat	Endangered	Yes
Bat	<i>Myotis leibii</i>	Eastern Small-footed Bat		Yes
Bat	<i>Myotis septentrionalis</i>	Northern Long-eared Bat	Endangered	Yes
Bat	<i>Perimyotis subflavus</i>	Tri-colored Bat	Proposed endangered	Yes
Bat	<i>Lasiurus cinereus</i>	Northern Hoary Bat		
Bat	<i>Corynorhinus rafinesquii</i>	Rafinesque's Big-eared Bat (Eastern and Mountain pop)		Yes
Bird	<i>Limnothlypis swainsonii</i>	Swainson's Warbler		Yes
Bivalve	<i>Elliptio arca</i>	Alabama Spike	Under Review	Yes
Bivalve	<i>Elliptio arctata</i>	Delicate Spike	Under Review	Yes
Bivalve	<i>Pleuroaia barnesiana</i>	Tennessee Pigtoe	Proposed endangered	Yes
Bivalve	<i>Hamiota altilis</i>	Finelined Pocketbook	Threatened	Yes
Bivalve	<i>Lasmigona holstonia</i>	Tennessee Heelsplitter (including Barrens)		Yes
Bivalve	<i>Pleuroaia dolabelloides</i>	Slabside Pearlymussel	Endangered	Yes
Bivalve	<i>Medionidus acutissimus</i>	Alabama Moccasinshell	Threatened	Yes
Bivalve	<i>Medionidus parvulus</i>	Coosa Moccasinshell	Endangered	Yes
Bivalve	<i>Pleurobema georgianum</i>	Southern Pigtoe	Endangered	Yes
Bivalve	<i>Pleurobema hanleyianum</i>	Georgia Pigtoe	Endangered	Yes
Bivalve	<i>Pleurobema decisum</i>	Southern Clubshell	Endangered	
Bivalve	<i>Ptychobranhus foremanianus</i>	Rayed Kidneyshell		Yes

Table 7.10. List of species designated as SGCN in both Tennessee and Georgia within the Conasauga RCOA

Taxa	Scientific Name	Common Name	ESA Status	RSGCN
Bivalve	<i>Pseudodontoideus connasaugaensis</i>	Alabama Creekmussel		Yes
Bivalve	<i>Cambarunio nebulosus</i>	Alabama Rainbow	Under Review	Yes
Bivalve	<i>Leaunio vanuxemensis</i>	Mountain Creekshell		Yes
Bivalve	<i>Leaunio umbrans</i>	Coosa Creekshell	Under Review	Yes
Crustacean	<i>Cambarus connasaugaensis</i>	Mountain Crayfish		Yes
Crustacean	<i>Cambarus cymatilis</i>	Conasauga Blue Burrower		Yes
Crustacean	<i>Cambarus manningi</i>	Greensaddle Crayfish		Yes
Fish	<i>Acipenser fulvescens</i>	Lake Sturgeon		Yes
Fish	<i>Hemitremia flammea</i>	Flame Chub		Yes
Fish	<i>Hybopsis lineapunctata</i>	Lined Chub		Yes
Fish	<i>Notropis asperifrons</i>	Burrhead Shiner		Yes
Fish	<i>Chrosomus tennesseensis</i>	Tennessee Dace		Yes
Fish	<i>Cyprinella caerulea</i>	Blue Shiner	Threatened	Yes
Fish	<i>Macrhybopsis etnieri</i>	Coosa Chub		Yes
Fish	<i>Noturus munitus</i>	Frecklebelly Madtom		Yes
Fish	<i>Etheostoma ditrema</i>	Coldwater Darter		Yes
Fish	<i>Etheostoma rupestre</i>	Rock Darter		Yes
Fish	<i>Etheostoma trisella</i>	Trispot Darter	Threatened	Yes
Fish	<i>Etheostoma brevirostrum</i>	Holiday Darter		Yes
Fish	<i>Percina antesella</i>	Amber Darter	Endangered	Yes
Fish	<i>Percina aurolineata</i>	Goldline Darter	Threatened	Yes
Fish	<i>Percina jenkinsi</i>	Conasauga Logperch	Endangered	Yes
Fish	<i>Percina kusha</i>	Bridled Darter		
Insect	<i>Argynnis diana</i>	Diana Fritillary		
Insect	<i>Stenogomphurus consanguis</i>	Cherokee Clubtail	Under Review	
Insect	<i>Ophiogomphus edmundo</i>	Edmund's Snaketail	Under Review	
Mammal	<i>Sorex cinereus</i>	Cinereus Shrew		

Table 7.10. List of species designated as SGCN in both Tennessee and Georgia within the Conasauga RCOA

Taxa	Scientific Name	Common Name	ESA Status	RSGCN
Mammal	<i>Tamiasciurus hudsonicus</i>	North American Red Squirrel		
Mammal	<i>Spilogale putorius</i>	Alleghanian Spotted Skunk		
Plant	<i>Megaceros aenigmaticus</i>	Headwaters Hornwort		
Plant	<i>Drepanolejeunea appalachiana</i>	Appalachian Threadwort		
Plant	<i>Lejeunea blomquistii</i>	Blomquist Leafy Liverwort		
Plant	<i>Panax quinquefolius</i>	American Ginseng		
Plant	<i>Asclepias purpurascens</i>	Purple Milkweed		
Plant	<i>Coreopsis latifolia</i>	Broadleaf Tickseed		
Plant	<i>Silene ovata</i>	Ovate Catchfly		
Plant	<i>Sedum nevii</i>	Nevius' Stonecrop		
Plant	<i>Thermopsis fraxinifolia</i>	Ashleaf Bush-pea		
Plant	<i>Sabatia capitata</i>	Appalachian Rose-gentian		
Plant	<i>Ribes curvatum</i>	Granite Gooseberry		
Plant	<i>Fothergilla major</i>	Mountain Witch-alder		
Plant	<i>Agastache scrophulariifolia</i>	Purple Giant-hyssop		
Plant	<i>Scutellaria montana</i>	Large-flower Skullcap	Threatened	
Plant	<i>Monotropsis odorata</i>	Sweet Pinesap		
Plant	<i>Lysimachia fraseri</i>	Fraser's Loosestrife		
Plant	<i>Trientalis borealis</i>	Northern Starflower		
Plant	<i>Aureolaria patula</i>	Spreading Yellow False Foxglove		
Plant	<i>Cymophyllus fraserianus</i>	Fraser's Sedge		
Plant	<i>Xerophyllum asphodeloides</i>	Eastern Turkeybeard		
Plant	<i>Platanthera grandiflora</i>	Large Purple Fringed Orchid		

Table 7.10. List of species designated as SGCN in both Tennessee and Georgia within the Conasauga RCOA

Taxa	Scientific Name	Common Name	ESA Status	RSGCN
Plant	<i>Platanthera integrilabia</i>	White Fringeless Orchid	Threatened	
Plant	<i>Xyris tennesseensis</i>	Tennessee Yellow-eyed-grass	Endangered	

Blue Ridge Regional Conservation Opportunity Area

The Blue Ridge RCOA overlaps North Carolina and part of Virginia. Half of the RCOA (1.2 million acres) covers Tennessee, with 1 million acres in North Carolina and 103,000 acres in Virginia, totaling approximately 2.3 million acres (Fig. 7.15).

The NatureServe Explorer Pro tool reports occurrences for 331 different species that are SGCN in both Tennessee and North Carolina. (At the time of this report, the Virginia SGCN list was not available.) (Fig. 7.16). See the “Lake Sturgeon Highlight” for information about regional collaboration to conserve this wide-ranging ancient fish in TN, NC, GA, and KY. However, most of the Blue Ridge shared SGCN are plants, showcasing that this area of the Southern Appalachians is home to incredible plant biodiversity.

Table 7.11 Total counts of species by taxa groups found within the Blue Ridge RCOA

Taxa Group	Listed in TN & NC only	Listed in TN, NC, and are RSGCN	Grand Total
Amphibian	2	6	8
Bat	1	8	9
Bird	13	4	17
Bivalve	3	16	19
Crustacean	3	1	4
Fish	2	16	18
Freshwater Snails	1		1
Insect	12	1	13
Mammal	13	5	18
Other Terrestrial or Freshwater Invertebrates	2		2
Plant	194		194
Reptile		3	3
Terrestrial Snails	15		15
Grand Total	261	60	321

Table 7.11 shows that 60 species are Regional SGCN in the Blue Ridge RCOA.

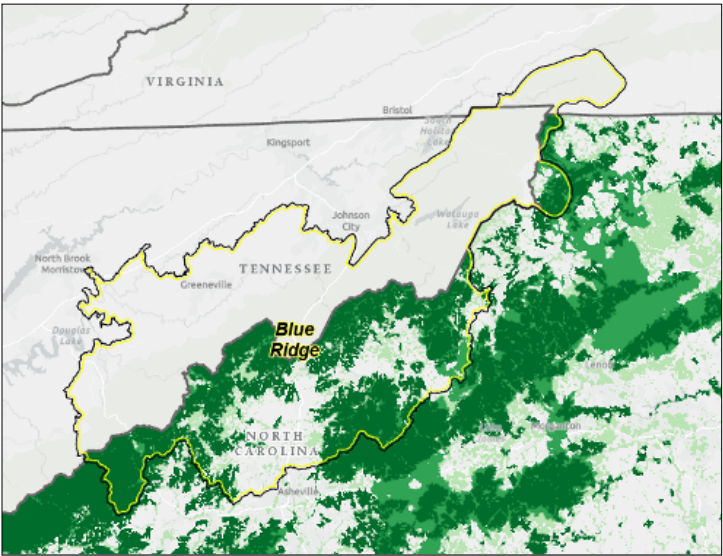


Figure 7.15 Map of Blue Ridge RCOA showing overlap in North Carolina and Virginia

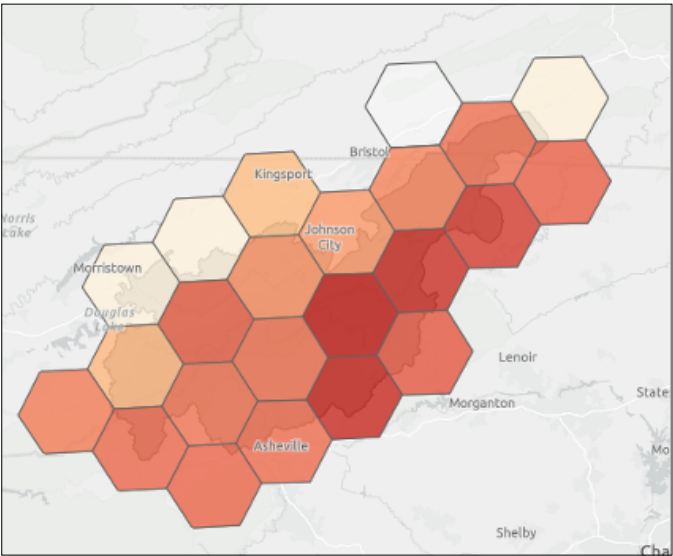


Figure 7.16 Map from NatureServe Explorer Pro illustrating areas around the Blue Ridge RCOA that have the highest density of species.

LAKE STURGEON: BACK FROM THE BRINK IN TN

By the late 1980s, water pollution in Tennessee had improved, the Tennessee Valley Authority (TVA) had developed a reservoir release improvement program to benefit aquatic life, and the **Lake Sturgeon** (*Acipenser fulvescens*) had been designated a protected species under the state Endangered Species Act. There was only one problem: Lake Sturgeon had already disappeared from the state entirely.

It had been almost 20 years since the last sighting of Lake Sturgeon below Cordell Hull dam (the Cumberland River system). The species had disappeared from the Tennessee River system by 1960. However, wildlife biologists are rarely pessimists about the species they value, and in 1998 the Tennessee Aquarium Conservation Institute spearheaded the TN Lake Sturgeon Reintroduction Working Group.

Composed of experts from TVA, TWRA, USFWS, and the Aquarium, the working group tackled the question of how to start a Lake Sturgeon reintroduction program for the Cumberland and Tennessee Rivers. Befitting the dawn of a new millennium, the first official stocking of sturgeon back into Tennessee waters took place in 2000. Lake Sturgeon have been re-introduced every year since that time with the exception of the Covid year 2020. The fish can now be found in the Holston, French Broad, Tennessee and Cumberland Rivers, and biologists expect to find solid evidence of successful breeding any year now.



Lake Sturgeon fry / Brandon Simcox, TWRA

THE COMPLEX REINTRODUCTION OF A SPECIES THAT HAS DISAPPEARED

Tennessee's Lake Sturgeon are a study in the complexity of bringing back an aquatic species once it has disappeared. While the public is accustomed to managed stocking programs that supplement their catch with fish that would not otherwise occur in an area, the Lake Sturgeon effort aims to bring back thriving populations of naturally reproducing fish at a level that will be self-sustaining over the long term.



Lake
Sturgeon /
B. Simcox,
TWRA

Problem #1 is figuring out and addressing the problems that contribute to decline (see below). Problem #2 for Lake Sturgeon is that these are long-lived and slow-reproducing fish. Males live to age 50 to 55, while females can live to age 80 to 100. It takes 15-20 years for Lake Sturgeon to reach reproductive age, and females typically spawn only every three to five years.

As one of the oldest fish in the fossil record for Tennessee, the Lake Sturgeon is a living dinosaur, growing to six feet and several hundred pounds—no other sturgeon in Tennessee approaches this size.

Since the reintroduction program began, there have been tantalizing hints of reproductive success. A male fish collected from the Tennessee River was producing milt (sperm). Reportedly large numbers of sturgeon grouped together at night in a tributary to the Cumberland (a behavior associated with spawning).

DEATH BY A THOUSAND CUTS

Lake Sturgeon in Tennessee succumbed to a pattern of species overuse familiar from earlier decades: the White-tailed Deer, Wood Duck, and Wild Turkey have all come close to extirpation in the state. Human beings seem to consistently underestimate their impacts on wildlife species and habitats—or to overestimate the resilience of nature in the face of awe-inspiring abundance.

The Lake Sturgeon range spans North America from the Hudson Bay to the Mississippi, Tennessee, and Coosa Rivers. In the early 1900s, they were so numerous that in the northern part of their range they were considered trash fish—commonly thrown onto riverbanks and dried to be burned as “cordwood” on steamships! Yet in a natural world built on dynamic equilibrium among many species, removal of this large fish can have consequences. **Michael Fulghum, Warm Springs National Fish Hatchery (NFH) project leader** and hatchery manager for the USFWS, explains, “They eat mollusks, macroinvertebrates, crustaceans, and they scavenge. When Lake Sturgeon were removed from the system, they were no longer present to keep things in check. The populations of their prey could have increased, eating more algae and plankton. Since algae and plankton are the base of the food chain, it likely affected the whole ecosystem.”

After overexploitation for fuel, meat, and caviar, Lake Sturgeon were impacted by water pollution, habitat alteration from hydroelectric dams that altered flows and created anoxic zones, and habitat fragmentation from silt that smothered spawning shoals. Until its addition to the Tennessee state Threatened and Endangered List in 1989, sturgeon fishing was subject to no regulation at all. The listing automatically provided the protections of no harvest (for caviar) and no fishing.



Jason Henegar (left, Fisheries Division Chief) and Brandon Simcox shown holding a young Lake Sturgeon caught in Chickamauga Reservoir on the Tennessee River / TWRA

Partners for Lake Sturgeon Reintroduction

[Tennessee Valley Authority \(TVA\)](#)

[Tennessee Aquarium](#)

[Tennessee Wildlife Resources Agency \(TWRA\)](#)

[University of Tennessee](#)

[US Fish and Wildlife Service \(USFWS\) National Fish Hatchery System](#)

[Wisconsin Dept. of Natural Resources](#)

Additional states in the Southeast Lake Sturgeon Working Group

Georgia

North Carolina

Kentucky

LEAVING A LEGACY FOR FUTURE GENERATIONS

The reintroduction program, funded by TN sportfish restoration and federal endangered species funds, gathers fertilized eggs from Wisconsin each year to be raised by Warm Springs NFH. It has put ~4,000 fingerlings (7-8 in. size) per year back into Tennessee Rivers (along with another 65,000 fry shared with other fish hatcheries around the Southeast). The original working group has also expanded across the Southeast (see “Partners” at right). Population monitoring occurs via annual sampling as well as an innovative [Angler Recognition program](#), both of which indicate excellent success. Biologists are now capturing fish from all the year classes that have been stocked since 2000. As a result of these efforts and the strength of the collaborative partnerships, TWRA’s proposal to downlist the Lake Sturgeon in TN from state endangered to threatened was accepted in 2023.

An effort begun by people who have never seen spawning of Lake Sturgeon in Tennessee may take decades to reach a point where the newly established wild populations are consistently spawning. For **Brandon Simcox, Statewide Rivers and Streams Program Coordinator** for TWRA, this is highly motivating. “It’s exciting because it feels like we are leaving a legacy. Many of the fish stocked as part of this project will outlive me, as they can live upwards of 100 years. Our work will have long-lasting generational impact.” Fulghum adds, “I’m thankful not only to be a citizen of the US but also to do such cool work for the rest of US citizens.” In 2023, fish caught in Georgia’s Coosa River were precisely aged to the year 2020, the Covid year in which no fish were introduced! This is a strong indicator of natural recruitment in the population. For Tennessee, it is only a matter of time.

As the SWAPs are updated, data integration tools can be used to identify shared threats and management activities. These species and management activities could be starting points of conversations for biologists and local stakeholders to develop local conservation initiatives.

Table 7.12 lists the 265 species that are SGCN for both Tennessee and North Carolina and are assumed to fall within the Blue Ridge RCOA. If the species is also federally listed under the ESA, its status is also listed. If the species is recognized as RSGCN, it is labeled as well.



Four Blue Ridge RSGCN clockwise from top left: Brook Trout (*Salvelinus fontinalis*) / USFWS; Loggerhead Shrike (*Lanius ludovicianus*) / Alan Schmierer; Timber Rattlesnake (*Crotalus horridus*) / Daniel Istvanko, TWRA; Tangerine Darter (*Percina aurantiaca*) photographed during a survey / Sally Petre, TWRA

Table 7.12. List of species designated as SGCN in both Tennessee and North Carolina within the Blue Ridge RCOA

Group	Scientific Name	Common Name	ESA Status	Regional
Amphibian	<i>Cryptobranchus alleganiensis</i>	Hellbender		Yes
Amphibian	<i>Desmognathus wrighti</i>	Pygmy Salamander		Yes
Amphibian	<i>Desmognathus organi</i>	Northern Pygmy Salamander		Yes
Amphibian	<i>Eurycea junaluska</i>	Junaluska Salamander		Yes
Amphibian	<i>Hemidactylium scutatum</i>	Four-toed Salamander		
Amphibian	<i>Plethodon welleri</i>	Weller's Salamander		Yes
Amphibian	<i>Plethodon yonahlossee</i>	Yonahlossee Salamander		Yes
Amphibian	<i>Necturus maculosus</i>	Mudpuppy		
Bird	<i>Accipiter striatus</i>	Sharp-shinned Hawk		
Bird	<i>Aquila chrysaetos</i>	Golden Eagle		
Bird	<i>Falco sparverius</i>	American Kestrel		
Bird	<i>Falco peregrinus</i>	Peregrine Falcon		
Bird	<i>Aegolius acadicus</i>	Northern Saw-whet Owl		
Bird	<i>Sphyrapicus varius</i>	Yellow-bellied Sapsucker		
Bird	<i>Riparia riparia</i>	Bank Swallow		
Bird	<i>Poecile atricapillus</i>	Black-capped Chickadee		
Bird	<i>Certhia americana</i>	Brown Creeper		
Bird	<i>Thryomanes bewickii</i>	Bewick's Wren		
Bird	<i>Troglodytes hiemalis</i>	Winter Wren		
Bird	<i>Lanius ludovicianus</i>	Loggerhead Shrike		Yes
Bird	<i>Vermivora chrysoptera</i>	Golden-winged Warbler	Under Review	Yes
Bird	<i>Setophaga cerulea</i>	Cerulean Warbler		Yes
Bird	<i>Limnothlypis swainsonii</i>	Swainson's Warbler		Yes
Bird	<i>Poocetes gramineus</i>	Vesper Sparrow		
Bird	<i>Dolichonyx oryzivorus</i>	Bobolink		
Fish	<i>Polyodon spathula</i>	Paddlefish		
Fish	<i>Salvelinus fontinalis</i>	Brook Trout		Yes

Table 7.12. List of species designated as SGCN in both Tennessee and North Carolina within the Blue Ridge RCOA

Group	Scientific Name	Common Name	ESA Status	Regional
Fish	<i>Chrosomus tennesseensis</i>	Tennessee Dace		Yes
Fish	<i>Erimonax monachus</i>	Spotfin Chub	Threatened; Experimental population, non-essential	Yes
Fish	<i>Erimystax dissimilis</i>	Streamline Chub		Yes
Fish	<i>Erimystax insignis</i>	Blotched Chub		Yes
Fish	<i>Carpionodes velifer</i>	Highfin Carpsucker		Yes
Fish	<i>Cycleptus elongatus</i>	Blue Sucker		Yes
Fish	<i>Noturus crypticus</i>	Chucky Madtom	Endangered	Yes
Fish	<i>Etheostoma gutselli</i>	Tuckasegee Darter		Yes
Fish	<i>Nothonotus microlepidus</i>	Smallscale Darter		Yes
Fish	<i>Nothonotus acuticeps</i>	Sharphead Darter		Yes
Fish	<i>Nothonotus vulneratus</i>	Wounded Darter		Yes
Fish	<i>Percina aurantiaca</i>	Tangerine Darter		Yes
Fish	<i>Percina squamata</i>	Olive Darter		Yes
Fish	<i>Percina tanasi</i>	Snail Darter	Delisted	Yes
Fish	<i>Percina williamsi</i>	Sickle Darter	Threatened	Yes
Fish	<i>Percina burtoni</i>	Blotchside Logperch		
Mammal	<i>Sorex cinereus</i>	Cinereus Shrew		
Mammal	<i>Sorex hoyi</i>	Eastern Pygmy Shrew		
Mammal	<i>Sorex longirostris</i>	Southeastern Shrew		
Mammal	<i>Sorex fumeus</i>	Smoky Shrew		
Mammal	<i>Sorex dispar</i>	Long-tailed Shrew		
Mammal	<i>Sorex albibarbis</i>	Eastern Water Shrew		
Mammal	<i>Parascalops breweri</i>	Hairy-tailed Mole		
Mammal	<i>Condylura cristata</i>	Star-nosed Mole		
Bat	<i>Myotis lucifugus</i>	Little Brown Myotis	Under Review	Yes
Bat	<i>Myotis grisescens</i>	Gray Myotis	Endangered	Yes
Bat	<i>Myotis sodalis</i>	Indiana Myotis	Endangered	Yes

Table 7.12. List of species designated as SGCN in both Tennessee and North Carolina within the Blue Ridge RCOA

Group	Scientific Name	Common Name	ESA Status	Regional
Bat	<i>Myotis leibii</i>	Eastern Small-footed Myotis		Yes
Bat	<i>Myotis septentrionalis</i>	Northern Myotis	Endangered	Yes
Bat	<i>Perimyotis subflavus</i>	Tricolored Bat	Proposed endangered	Yes
Bat	<i>Lasiurus cinereus</i>	Northern Hoary Bat		
Bat	<i>Corynorhinus townsendii virginianus</i>	Virginia Big-eared Bat	Endangered	Yes
Bat	<i>Corynorhinus rafinesquii</i>	Rafinesque's Big-eared Bat		Yes
Mammal	<i>Sylvilagus obscurus</i>	Appalachian Cottontail		Yes
Mammal	<i>Glaucomys sabrinus coloratus</i>	Carolina Northern Flying Squirrel	Endangered	Yes
Mammal	<i>Neotoma floridana haematoreia</i>	Southern Appalachian Woodrat		Yes
Mammal	<i>Neotoma magister</i>	Allegheny Woodrat		Yes
Mammal	<i>Microtus chrotorrhinus carolinensis</i>	Southern Rock Vole		Yes
Mammal	<i>Synaptomys cooperi</i>	Southern Bog Lemming		
Mammal	<i>Zapus hudsonius</i>	Meadow Jumping Mouse		
Mammal	<i>Napaeozapus insignis</i>	Woodland Jumping Mouse		
Mammal	<i>Mustela nivalis</i>	Least Weasel		
Mammal	<i>Spilogale putorius</i>	Alleghanian Spotted Skunk		
Reptile	<i>Glyptemys muhlenbergii</i>	Bog Turtle	Threatened; Threatened due to similarity of appearance	Yes
Reptile	<i>Plestiodon anthracinus</i>	Coal Skink		Yes
Reptile	<i>Crotalus horridus</i>	Timber Rattlesnake		Yes
Crustacean	<i>Pseudobaicalasellus incurvus</i>	Incurved Cave Isopod		
Crustacean	<i>Caecidotea recurvata</i>	Southwestern Virginia Cave Isopod		
Crustacean	<i>Stygobromus barryi</i>	a cave obligate amphipod		

Table 7.12. List of species designated as SGCN in both Tennessee and North Carolina within the Blue Ridge RCOA

Group	Scientific Name	Common Name	ESA Status	Regional
Crustacean	<i>Cambarus reburus</i>	French Broad Crayfish		Yes
Insect	<i>Pseudanophthalmus paradoxus</i>	Ridgetop Cave Beetle		
Insect	<i>Atheta annexa</i>	Annexed Minute Rove Beetle		
Insect	<i>Bombus affinis</i>	Rusty-patched Bumble Bee	Endangered	Yes
Insect	<i>Argynnis diana</i>	Diana Fritillary		
Insect	<i>Stenogomphurus consanguis</i>	Cherokee Clubtail	Under Review	
Insect	<i>Ophiogomphus edmundo</i>	Edmund's Snaketail	Under Review	
Insect	<i>Ophiogomphus howei</i>	Pygmy Snaketail		
Insect	<i>Macromia margarita</i>	Mountain River Cruiser	Under Review	
Insect	<i>Allocapnia brooksi</i>	Sevier Snowfly	Under Review	
Insect	<i>Megaleuctra williamsae</i>	Smokies Needlefly	Under Review	
Insect	<i>Oconoperla innubila</i>	Hairy Springfly		
Insect	<i>Microhexura montivaga</i>	Spruce-fir Moss Spider	Endangered	
Insect	<i>Nesticus paynei</i>	a cave cobweb spider		
Bivalve	<i>Alasmidonta marginata</i>	Elktoe		
Bivalve	<i>Alasmidonta raveneliana</i>	Appalachian Elktoe	Endangered	Yes
Bivalve	<i>Cumberlandia monodonta</i>	Spectaclecase	Endangered	Yes
Bivalve	<i>Epioblasma brevidens</i>	Cumberlandian Combshell	Endangered; Experimental population, non-essential	Yes
Bivalve	<i>Epioblasma capsaeformis</i>	Oyster Mussel	Endangered; Experimental population, non-essential	Yes
Bivalve	<i>Epioblasma triquetra</i>	Snuffbox	Endangered	Yes
Bivalve	<i>Pleuroaia barnesiana</i>	Tennessee Pigtoe	Proposed endangered	Yes

Table 7.12. List of species designated as SGCN in both Tennessee and North Carolina within the Blue Ridge RCOA

Group	Scientific Name	Common Name	ESA Status	Regional
Bivalve	<i>Fusconaia cor</i>	Shiny Pigtoe	Endangered; Experimental population, non-essential	Yes
Bivalve	<i>Fusconaia cuneolus</i>	Finerayed Pigtoe	Endangered; Experimental population, non-essential	Yes
Bivalve	<i>Lampsilis abrupta</i>	Pink Mucket	Endangered	Yes
Bivalve	<i>Lasmigona holstonia</i>	Tennessee Heelsplitter		Yes
Bivalve	<i>Lasmigona subviridis</i>	Green Floater	Proposed threatened	Yes
Bivalve	<i>Lemiox rimosus</i>	Birdwing Pearlymussel	Endangered; Experimental population, non-essential	Yes
Bivalve	<i>Pleuroaia dolabelloides</i>	Slabside Pearlymussel	Endangered	Yes
Bivalve	<i>Pegias fabula</i>	Littlewing Pearlymussel	Endangered	Yes
Bivalve	<i>Pleurobema oviforme</i>	Tennessee Clubshell	Proposed endangered	Yes
Bivalve	<i>Ptychobranhus subtentus</i>	Fluted Kidneyshell	Endangered	Yes
Bivalve	<i>Strophitus undulatus</i>	Creeper		
Bivalve	<i>Venustaconcha trabalis</i>	Tennessee Bean	Endangered	
Terrestrial Snails	<i>Vertigo clappi</i>	Cupped Vertigo Snail		
Terrestrial Snails	<i>Vertigo parvula</i>	Smallmouth Vertigo		
Terrestrial Snails	<i>Helicodiscus notius specus</i>	Hollow Coil		
Terrestrial Snails	<i>Discus bryanti</i>	Sawtooth Disc		
Terrestrial Snails	<i>Pilsbryna vanattai</i>	Honey Bud		
Terrestrial Snails	<i>Paravitrea lamellidens</i>	Lamellate Supercoil		
Terrestrial Snails	<i>Paravitrea tridens</i>	Whitefoot Supercoil		
Terrestrial Snails	<i>Paravitrea umbilicaris</i>	Open Supercoil		

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Group	Scientific Name	Common Name	ESA Status	Regional
Terrestrial Snails	<i>Pilsbryna aurea</i>	Ornate Bud		
Terrestrial Snails	<i>Pseudohyalina exigua</i>	Ribbed Striate Snail		
Terrestrial Snails	<i>Ventridens coelaxis</i>	Bidentate Dome		
Terrestrial Snails	<i>Ventridens decussatus</i>	Crossed Dome		
Terrestrial Snails	<i>Inflectarius subpalliatu</i> s	Velvet Covert		
Terrestrial Snails	<i>Stenotrema altispira</i>	Highland Slitmouth		
Terrestrial Snails	<i>Triodopsis anteridon</i>	Carter Threetooth		
Freshwater Snails	<i>Io fluvialis</i>	Spiny Riversnail	Under Review	
Other Terrestrial or Freshwater Invertebrates	<i>Calohypsibius schusteri</i>	Schuster's Tardigrade		
Other Terrestrial or Freshwater Invertebrates	<i>Hypsibius roanensis</i>	a tardigrade		
Plant	<i>Megaceros aenigmaticus</i>	Headwaters Hornwort		
Plant	<i>Acrobolbus ciliatus</i>	a liverwort		
Plant	<i>Sphenolobus saxicola</i>	Curled Notchwort		
Plant	<i>Bazzania nudicaulis</i>	a liverwort		
Plant	<i>Cephaloziella massalongoi</i>	a liverwort		
Plant	<i>Cephaloziella spinicaulis</i>	a liverwort		
Plant	<i>Drepanolejeunea appalachiana</i>	Appalachian Threadwort		
Plant	<i>Gymnomitrium laceratum</i>	a liverwort		
Plant	<i>Lejeunea blomquistii</i>	Blomquist Leafy Liverwort		
Plant	<i>Leptoscyphus cuneifolius</i> ssp. <i>cuneifolius</i>	Wedge Flapwort		
Plant	<i>Lophocolea muricata</i>	a crestwort		

Table 7.12. List of species designated as SGCN in both Tennessee and North Carolina within the Blue Ridge RCOA

Group	Scientific Name	Common Name	ESA Status	Regional
Plant	<i>Lophocolea appalachiana</i>	Appalachian Crestwort		
Plant	<i>Marsupella funckii</i>	a liverwort		
Plant	<i>Plagiochila exigua</i>	a liverwort		
Plant	<i>Sphenolobopsis pearsonii</i>	Horsehair Threadwort		
Plant	<i>Brachydontium trichodes</i>	Peak Moss		
Plant	<i>Leptodontium viticulosoides</i> <i>var. sulphureum</i>	Grandfather Mountain Leptodontium Moss		
Plant	<i>Mielichhoferia elongata</i>	Mielichhofer's Copper Moss		
Plant	<i>Scopelophila cataractae</i>	Agoyan Cataract Moss		
Plant	<i>Tetradontium brownianum</i> <i>var. brownianum</i>	Brown's Four-toothed Moss		
Plant	<i>Syntrichia ammonsiana</i>	Ammons' Screw Moss		
Plant	<i>Leptohymenium sharpii</i>	Mount Leconte Moss		
Plant	<i>Heracleum maximum</i>	Cow-parsnip		
Plant	<i>Hydrocotyle americana</i>	American Water-pennywort		
Plant	<i>Thaspium pinnatifidum</i>	Cutleaf Meadow-parsnip		
Plant	<i>Panax quinquefolius</i>	American Ginseng		
Plant	<i>Hexastylis virginica</i>	Virginia Heartleaf		
Plant	<i>Chrysogonum virginianum</i>	Green-and-gold		
Plant	<i>Coreopsis latifolia</i>	Broadleaf Tickseed		
Plant	<i>Eutrochium steelei</i>	Steele's Joe-pyeweed		
Plant	<i>Helianthus glaucophyllus</i>	Whiteleaf Sunflower		
Plant	<i>Krigia montana</i>	False Dandelion		
Plant	<i>Liatris virgata</i>	Wand Gayfeather		
Plant	<i>Prenanthes alba</i>	White Rattlesnake-root		

Table 7.12. List of species designated as SGCN in both Tennessee and North Carolina within the Blue Ridge RCOA

Group	Scientific Name	Common Name	ESA Status	Regional
Plant	<i>Packera schweinitziana</i>	New England Ragwort		
Plant	<i>Silphium wasiotense</i>	Appalachian Rosinweed		
Plant	<i>Solidago spithamea</i>	Blue Ridge Goldenrod	Threatened	
Plant	<i>Solidago lancifolia</i>	Broadleaf Goldenrod		
Plant	<i>Rugelia nudicaulis</i>	Rugel's Ragwort		
Plant	<i>Symphyotrichum pratense</i>	Barrens Silky Aster		
Plant	<i>Symphyotrichum praealtum</i>	Willow Aster		
Plant	<i>Berberis canadensis</i>	American Barberry		
Plant	<i>Caulophyllum giganteum</i>	Giant Blue Cohosh		
Plant	<i>Alnus viridis ssp. crispa</i>	Mountain Alder		
Plant	<i>Betula cordifolia</i>	Heartleaf Paper Birch		
Plant	<i>Onosmodium molle ssp. hispidissimum</i>	Soft-Hairy False Gromwell		
Plant	<i>Turritis glabra</i>	Tower-mustard		
Plant	<i>Arabis patens</i>	Spreading Rockcress		
Plant	<i>Arabis pycnocarpa</i>	Cream-flower Rockcress		
Plant	<i>Cardamine clematitis</i>	Small Mountain Bittercress		
Plant	<i>Cardamine flagellifera</i>	Blue Ridge Bittercress		
Plant	<i>Cardamine rotundifolia</i>	American Bittercress		
Plant	<i>Draba ramosissima</i>	Branched Whitlow-grass		
Plant	<i>Campanula aparinoides</i>	Marsh Bellflower		
Plant	<i>Minuartia godfreyi</i>	Godfrey's Stitchwort	Under Review	
Plant	<i>Minuartia groenlandica</i>	Mountain Sandwort		
Plant	<i>Paronychia argyrocoma</i>	Silverling		

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Group	Scientific Name	Common Name	ESA Status	Regional
Plant	<i>Silene ovata</i>	Ovate Catchfly		
Plant	<i>Stellaria alsine</i>	Trailing Stitchwort		
Plant	<i>Stellaria longifolia</i>	Longleaf Stitchwort		
Plant	<i>Paxistima canbyi</i>	Canby's Mountain-lover		
Plant	<i>Crocانthemum propinquum</i>	Low Frostweed		
Plant	<i>Hypericum ellipticum</i>	Pale St. John's-wort		
Plant	<i>Hypericum graveolens</i>	Mountain St. John's-wort		
Plant	<i>Hypericum mitchellianum</i>	Blue Ridge St. John's-wort		
Plant	<i>Triadenum fraseri</i>	Fraser's Marsh-St. John's-wort		
Plant	<i>Diervilla lonicera</i>	Northern Bush-honeysuckle		
Plant	<i>Diervilla rivularis</i>	Mountain Bush-honeysuckle		
Plant	<i>Lonicera canadensis</i>	American Fly-honeysuckle		
Plant	<i>Lonicera dioica</i>	Mountain Honeysuckle		
Plant	<i>Drosera rotundifolia</i>	Roundleaf Sundew		
Plant	<i>Leucothoe racemosa</i>	Fetterbush		
Plant	<i>Menziesia pilosa</i>	Minniebush		
Plant	<i>Pieris floribunda</i>	Mountain Fetterbush		
Plant	<i>Vaccinium macrocarpon</i>	Large Cranberry		
Plant	<i>Acalypha deamii</i>	Deam's Copperleaf		
Plant	<i>Thermopsis fraxinifolia</i>	Ashleaf Bush-pea		
Plant	<i>Thermopsis mollis</i>	Allegheny Mountain Golden-banner		
Plant	<i>Trifolium reflexum</i>	Buffalo Clover		
Plant	<i>Castanea dentata</i>	American Chestnut		

Table 7.12. List of species designated as SGCN in both Tennessee and North Carolina within the Blue Ridge RCOA

Group	Scientific Name	Common Name	ESA Status	Regional
Plant	<i>Adlumia fungosa</i>	Climbing Fumitory		
Plant	<i>Capnoides sempervirens</i>	Pale Corydalis		
Plant	<i>Gentiana linearis</i>	Narrowleaf Gentian		
Plant	<i>Fothergilla major</i>	Mountain Witch-alder		
Plant	<i>Hydrophyllum virginianum</i>	John's-cabbage		
Plant	<i>Juglans cinerea</i>	Butternut		
Plant	<i>Agastache scrophulariifolia</i>	Purple Giant-hyssop		
Plant	<i>Meehania cordata</i>	Heartleaf Meehania		
Plant	<i>Pycnanthemum beadleii</i>	Beadle's Mountainmint		
Plant	<i>Stachys clingmanii</i>	Clingman's Hedge-nettle		
Plant	<i>Utricularia cornuta</i>	Horned Bladderwort		
Plant	<i>Didiplis diandra</i>	Water-purslane		
Plant	<i>Monotropsis odorata</i>	Sweet Pinesap		
Plant	<i>Chamerion angustifolium</i>	Fireweed		
Plant	<i>Epilobium ciliatum</i>	Hairy Willowherb		
Plant	<i>Epilobium leptophyllum</i>	Linear-leaf Willowherb		
Plant	<i>Oenothera parviflora</i>	Northern Evening-primrose		
Plant	<i>Fallopia cilinodis</i>	Fringed Black-bindweed		
Plant	<i>Phlox subulata</i>	Moss Phlox		
Plant	<i>Lysimachia hybrida</i>	Lanceleaf Loosestrife		
Plant	<i>Lysimachia terrestris</i>	Swamp Loosestrife		
Plant	<i>Trientalis borealis</i>	Northern Starflower		
Plant	<i>Pyrola americana</i>	American Wintergreen		

Table 7.12. List of species designated as SGCN in both Tennessee and North Carolina within the Blue Ridge RCOA

Group	Scientific Name	Common Name	ESA Status	Regional
Plant	<i>Aconitum reclinatum</i>	White Monkshood		
Plant	<i>Caltha palustris</i>	Marsh-marigold		
Plant	<i>Actaea rubifolia</i>	Appalachian Bugbane		
Plant	<i>Delphinium exaltatum</i>	Tall Larkspur		
Plant	<i>Rhamnus alnifolia</i>	Alderleaf Buckthorn		
Plant	<i>Geum aleppicum</i>	Yellow Avens		
Plant	<i>Geum geniculatum</i>	Bent Avens		
Plant	<i>Geum laciniatum</i>	Rough Avens		
Plant	<i>Geum radiatum</i>	Spreading Avens	Endangered	
Plant	<i>Prunus virginiana</i>	Choke Cherry		
Plant	<i>Sanguisorba canadensis</i>	Canada Burnet		
Plant	<i>Spiraea virginiana</i>	Virginia Spiraea	Threatened	
Plant	<i>Spiraea alba</i>	Narrowleaf Meadowsweet		
Plant	<i>Sibbaldiopsis tridentata</i>	Three-toothed Cinquefoil		
Plant	<i>Galium asprellum</i>	Rough Bedstraw		
Plant	<i>Galium palustre</i>	Marsh Bedstraw		
Plant	<i>Houstonia purpurea</i> var. <i>montana</i>	Mountain Bluet	Endangered	
Plant	<i>Zanthoxylum americanum</i>	Northern Prickly-ash		
Plant	<i>Buckleya distichophylla</i>	Piratebush		
Plant	<i>Parnassia grandifolia</i>	Largeleaf Grass-of-Parnassus		
Plant	<i>Micranthes caroliniana</i>	Carolina Saxifrage		
Plant	<i>Micranthes pensylvanica</i>	Swamp Saxifrage		
Plant	<i>Chelone obliqua</i>	Red Turtlehead		

Table 7.12. List of species designated as SGCN in both Tennessee and North Carolina within the Blue Ridge RCOA

Group	Scientific Name	Common Name	ESA Status	Regional
Plant	<i>Collinsia verna</i>	Spring Blue-eyed Mary		
Plant	<i>Pedicularis lanceolata</i>	Swamp Lousewort		
Plant	<i>Veronica americana</i>	American Speedwell		
Plant	<i>Veronica scutellata</i>	Marsh Speedwell		
Plant	<i>Symplocos tinctoria</i>	Horsesugar		
Plant	<i>Abies fraseri</i>	Fraser Fir		
Plant	<i>Tsuga caroliniana</i>	Carolina Hemlock	Under Review	
Plant	<i>Taxus canadensis</i>	Canadian Yew		
Plant	<i>Symplocarpus foetidus</i>	Skunk-cabbage		
Plant	<i>Carex argyrantha</i>	Hay Sedge		
Plant	<i>Carex bromoides ssp. montana</i>	Brome-like Sedge		
Plant	<i>Carex buxbaumii</i>	Buxbaum's Sedge		
Plant	<i>Carex canescens ssp. disjuncta</i>	Silvery Sedge		
Plant	<i>Carex folliculata</i>	Long Sedge		
Plant	<i>Carex hitchcockiana</i>	Hitchcock's Sedge		
Plant	<i>Carex interior</i>	Inland Sedge		
Plant	<i>Carex misera</i>	Wretched Sedge		
Plant	<i>Carex pallescens</i>	Pale Sedge		
Plant	<i>Carex roanensis</i>	Roan Mountain Sedge		
Plant	<i>Carex ruthii</i>	Ruth's Sedge		
Plant	<i>Carex manhartii</i>	Manhart's Sedge		
Plant	<i>Carex fumosimontana</i>			
Plant	<i>Carex fraseriana</i>	Fraser's Sedge		

Table 7.12. List of species designated as SGCN in both Tennessee and North Carolina within the Blue Ridge RCOA

Group	Scientific Name	Common Name	ESA Status	Regional
Plant	<i>Eriophorum virginicum</i>	Tawny Cotton-grass		
Plant	<i>Trichophorum cespitosum</i>	Tufted Clubrush		
Plant	<i>Juncus brachycephalus</i>	Small-head Rush		
Plant	<i>Allium tricoccum</i> var. <i>burdickii</i>	Narrowleaf Wild Leek		
Plant	<i>Lilium grayi</i>	Gray's Lily		
Plant	<i>Maianthemum stellatum</i>	Starflower Solomon's-plume		
Plant	<i>Melanthium latifolium</i>	Broadleaf Bunchflower		
Plant	<i>Melanthium woodii</i>	Ozark Bunchflower		
Plant	<i>Streptopus amplexifolius</i>	Clasping Twisted-stalk		
Plant	<i>Streptopus lanceolatus</i>	Rosy Twisted-stalk		
Plant	<i>Trillium rugelii</i>	Southern Nodding Trillium		
Plant	<i>Xerophyllum asphodeloides</i>	Eastern Turkeybeard		
Plant	<i>Corallorhiza maculata</i>	Spotted Coralroot		
Plant	<i>Cypripedium reginae</i>	Showy Lady's-slipper		
Plant	<i>Goodyera repens</i>	Dwarf Rattlesnake-plantain		
Plant	<i>Isotria medeoloides</i>	Small Whorled Pogonia	Threatened	
Plant	<i>Liparis loeselii</i>	Loesel's Twayblade		
Plant	<i>Listera smallii</i>	Kidneyleaf Twayblade		
Plant	<i>Platanthera flava</i> var. <i>herbiola</i>	Pale-green Orchid		
Plant	<i>Platanthera grandiflora</i>	Large Purple Fringed Orchid		
Plant	<i>Platanthera psycodes</i>	Small Purple Fringed Orchid		
Plant	<i>Spiranthes lucida</i>	Shining Ladies'-tresses		
Plant	<i>Spiranthes ochroleuca</i>	Yellow Nodding Ladies'-tresses		

Table 7.12. List of species designated as SGCN in both Tennessee and North Carolina within the Blue Ridge RCOA

Group	Scientific Name	Common Name	ESA Status	Regional
Plant	<i>Brachyelytrum aristosum</i>	Northern Shorthusk		
Plant	<i>Calamagrostis cainii</i>	Cain's Reedgrass		
Plant	<i>Calamagrostis porteri</i>	Porter's Reedgrass		
Plant	<i>Glyceria canadensis</i> var. <i>laxa</i>	Limp Mannagrass		
Plant	<i>Glyceria nubigena</i>	Smoky Mountains Mannagrass		
Plant	<i>Milium effusum</i> var. <i>cisatlanticum</i>	Tall Millet Grass		
Plant	<i>Poa palustris</i>	Fowl Bluegrass		
Plant	<i>Potamogeton epihydrus</i>	Nuttall's Pondweed		
Plant	<i>Sparganium androcladum</i>	Branching Bur-reed		
Plant	<i>Athyrium filix-femina</i> ssp. <i>angustum</i>	Northeastern Ladyfern		
Plant	<i>Dryopteris carthusiana</i>	Spinulose Shieldfern		
Plant	<i>Dryopteris cristata</i>	Crested Shieldfern		
Plant	<i>Woodsia appalachiana</i>	Appalachian Woodsia		
Plant	<i>Hymenophyllum tayloriae</i>	Taylor's Filmy Fern		
Plant	<i>Dendrolycopodium dendroideum</i>	Treelike Clubmoss		
Plant	<i>Huperzia appalachiana</i>	Appalachian Fir-clubmoss		
Plant	<i>Lycopodiella inundata</i>	Bog Clubmoss		
Plant	<i>Botrychium jenmanii</i>	Alabama Grapefern		
Plant	<i>Botrychium oneidense</i>	Blunt-lobe Grapefern		
Plant	<i>Botrychium simplex</i>	Least Grapefern		
Plant	<i>Botrychium matricariifolium</i>	Chamomile Grapefern		
Plant	<i>Phegopteris connectilis</i>	Northern Beech Fern		

7.6. Implementing Regional Conservation

Multi-state shared species lists and the collaborative conservation planning that has already occurred across state boundaries make an excellent starting point for collaboration and prioritizing actions across jurisdictions and RCOAs. To date, all TN SWAP Steering Committee (SC) members have agreed to report on an annual basis the species-specific and landscape management projects implemented by their respective agencies/organizations.

In addition, the SC's Landscape Scale Management Working Group will focus on identifying recommendations based on landscape objectives and multi-agency initiatives ongoing in the state. Inviting other state experts that represent projects and initiatives in shared RCOAs could be a potential next step.

There is some discussion of a COA Coordinator that rotates between partner organizations to organize yearly meetings with stakeholders in COAs, which would focus on achieving the following:

- Enhance collaboration among partners.
- Enhance collaboration across state borders.
- Discuss and update priorities.
- Share data.
- Co-fundraise.