

Updated Roan Mountain Massif Faunal List



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Introduction

The purpose of this project was to update the existing Roan Mountain Faunal Species List Database and compile information on the conservation status of species listed therein. Information on species occurrences and conservation status can be used by conservation partners working on the Roan Mountain Massif to guide current management and monitoring decisions aimed at protecting natural heritage resources in the area. Out-of-date information on faunal species status and associated research needs exist in the key management documents, notably the *Roan Mountain Highlands Vegetation Management of the Grassy Balds Environmental Assessment* (1991), *Nantahala-Pisgah National Forest Land and Resource Management Plan* (1994), and the Cherokee National Forest's *Final Environmental Impact Statement for the Revised Land and Resource Management Plan* (2004). Furthermore, informed management and monitoring planning, especially as it relates to the Forest Service Plan revision planning process and faunal projects that are currently under development on the Roan Mountain Massif, can be informed by information on occurrences and conservation status presented in the updated faunal lists. Also, species occurrences records uncovered during this project compilation can be used to update state heritage files.

Methods

Information compiled for each taxa includes scientific name, common name, general taxonomic grouping, nativity, seasonal occurrence where applicable, conservation status, species synonymy for some species, general habitat associations for at least half of the species, references for occurrence records, and notable comments. During the course of this project, at least 45 persons were contacted at least once to acquire species information.

Compilation of species lists and associated references included searching through existing literature sources (both published and unpublished) to locate and verify documented occurrences of faunal species on the Roan Mountain Massif. Unpublished records were closely evaluated for accuracy and when an occurrence was dubious this was noted in files appending the lists or omitted at this time until a more thorough evaluation can occur. Literature searched included such sources as select documents housed at university libraries (e.g., Archives of Appalachia at ETSU-Roan Mountain collection, theses, dissertations, scientific publications, and biologists' reports). In other instances, sources searched included Friends of Roan Mountain naturalists' rally species lists, annual faunal counts, biologists' reports, and faunal reports and survey data housed by various state agencies and regional organizations.

Adding conservation status to faunal lists involved searching one species at a time through several databases in both TN and NC and included the following: natural heritage databases, U.S. Forest Service plans, U.S. Fish and Wildlife Service's federal species lists, state wildlife action plans, and the joint venture lists (Table 1). Conservation status documented in lists was based primarily on NC and TN Natural Heritage Program sources which were more current and comprehensive than most other sources.

Project Area

The faunal lists document faunal occurrences in portions of Carter, Mitchell and Avery counties on the Roan Mountain Massif in eastern Tennessee and western North Carolina. The boundaries encompass the area covered by Roan Rare Element Occurrences in both the TN and NC natural heritage programs, the Cranberry Mine Rare Element Occurrences in NC natural heritage programs, and adjacent areas immediately surrounding these rare element occurrence boundaries. More specifically, occurrence records came from observations made in the following areas: Hump Mountain, Houston Ridge area, Bradley Gap, Little Hump Mountain, Big Yellow Mountain, Roaring Creek Road / Yellow Mountain Gap area, Hampton Creek Cove State Natural Area, Grassy Ridge, Jane Bald, Engine Gap, Round Bald, Carver's Gap, Roan Mountain proper and adjacent cliff areas, Twin Springs, Roan Mountain State Park, Doe River above the town of Roan Mountain, Heaton Ridge, Panther Creek, and Toms Branch. The project area includes elevations from roughly 2,500 feet (most at or above 3,000 feet) to 6,285 feet.

Future Research

Although an additional 180 species and more than 100 additional literature sources were added to existing lists, there is still a need to search the literature further to document more species occurrences conducted on Roan

(Table 2). In particular, more student thesis and dissertations, agency and organization files (reports and databases), and museum collections should be added to the reference lists. Information on nativity and seasonal use needs to be updated further. Due to time constraints, information on “nativity” and “seasonal use” columns in species lists remains in draft form at this time; therefore, proceed with caution when using this information. Similarly, due to time constraints and the scope of this project it was impossible to search all potential Roan literature and to follow through on all information leads. Some specific suggestions for acquiring new and evaluating known literature are listed in appending electronic files (see “Future Research Needs” list in Excel folder). Building more robust reference lists over time will be valuable for partners identifying conservation priorities on Roan.

The conservation status of species will need to be updated periodically as new information becomes available at state and federal levels. Some plan revision processes that will affect decision making based on species priorities within the next couple of years include the following:

- NC State Wildlife Action Plan (NC SWAP) revision process is well under way, and notable changes have been made to species’ SWAP-priority status, monitoring needs, and management needs. The most notable changes have involved down-listing and up-listing mammals and herpetofauna. The new North Carolina SWAP is expected to be completed in either 2014 or 2015 (pers. comm., Kendrick Weeks and Chris Kelly with NC Wildlife Resources Commission).
- TN State Wildlife Action Plan revision process is well underway (pers. comm., Scott Dykes with Tennessee Wildlife Resources Agency).
- TN Rare Animal List is updated every 2-3 years (pers. comm., David Withers with TN Natural Heritage Program).
- NC Rare Animal List is updated every 2-3 years (pers. comm., Suzanne Mason with NC Natural Heritage Program).
- Forest Service Plans are typically updated every 10-15 years, but sometimes revisions take longer (pers. comm., Michael Hutchins with U.S. Forest Service).

Faunal Species Lists Summary

A total of 472 faunal species are known to occur on Roan Mountain Massif based on information provided in updated faunal lists. Of the 472 species documented in this project, there are 26 amphibians, 9 reptiles, 16 fishes, 48 mammals, 200 birds, 121 arthropods, 23 tardigrades, 28 molluscs, and 1 annelid (Table 3).

Federally listed species include 4 Endangered (3 species in TN and 4 species in NC) and 14 Species of Concern (14 species in NC) (Table 4 and Table 5). There are no federally Threatened species.

State Endangered and Threatened species include 5 Endangered and 5 Threatened (Table 4 and 6) between the two states. More specifically, there are 4 Endangered and 3 Threatened species in Tennessee, and 5 Endangered and 3 Threatened species in North Carolina (Table 4 and Table 6).

A total of 103 of the 472 species (22%) are tracked by the natural heritage programs and are currently assigned a Global Rank (i.e., 103 species have a Global Rank) (Table 3). The numbers of species within each taxon group which have a Global Rank include the following: 8 amphibians, 1 reptile, 1 fish, 25 mammals, 46 birds, 7 arthropods, 2 tardigrades, and 13 molluscs (Table 3). Sixty species are tracked in Tennessee and 87 species are tracked in North Carolina by state heritage programs (Tables 4). For a list of species and their Global Ranks, see Table 7.

Forty additional species have other notable conservation status (e.g., U.S. Forest Service and/or state SWAP designations) but do not have a Global Rank (Table 7). Therefore, a total of 143 species of the 472 species have some sort of current conservation status.

A total of 48 *terrestrial* faunal species are on the Cherokee National Forest’s Terrestrial Species Viability List, and 8 out of 48 of these species are on the Cherokee National Forest’s Threatened, Endangered and Sensitive

(TES) List (Table 4 and Table 7). (Note, there is no official Cherokee National Forest Aquatic Species Viability List.)

A total of 47 species are on the National Forests of North Carolina's rare *terrestrial and aquatic* species lists, and include 4 species on the Federally-listed PET list, 9 species on the Region 8 Sensitive list, and 34 species on the Forest Concern list (Table 4 and Table 7).

A total of 69 *terrestrial* species are on the North Carolina State Wildlife Action Plan's (NC SWAP) *Southern Blue Ridge Species Priority List* (Table 4 and Table 7). (Information on neither aquatic species nor invertebrates was included. Conservation status for the latter should be added to lists when the information becomes available in the NC SWAP or through other North Carolina Wildlife Resource Commission documentation.)

A total of 73 species are on the Tennessee State Wildlife Action Plan's (TN SWAP) *Southern Blue Ridge Species Priority List* (Table 4 and Table 7).

A total of 72 bird species out of 200 listed on Roan are on the Appalachian Mountain Joint Venture (AMJV) priority list (Table 4 and Table 8).

For more detailed information on number of species listed by taxon group, which have conservation status, see Table 9.

To view the comprehensive list of faunal species known to occur on the Roan Mountain Massif, see additional "**Comprehensive Roan Faunal List & Associated Files**" appending this report.

Deliverables to FORM

Deliverables for this project included an (1) poster presentation summarizing this proposed project at FORM naturalists' rally shortly after this project was initiated, and the following compilations which can be found on the appending CD:

- **Narrative folder**
 - report summarizing this project
- **Comprehensive Roan Faunal List & Associated Files Excel file**
 - **PURPLE-COLORED TABS**
 - **AllTaxaListsWithStatus-Combined tab** - comprehensive list of all species grouped by taxon, and associated conservation status of all species, habitat associations for some species, and general information on species records (presence/absence) in heritage files
 - **AllTaxaReferences-Combined tab** - references for all species grouped by taxon
 - **Codes tab** - descriptions of conservation status codes
 - **ORANGE-COLORED TABS**
 - **FutureResearchNeeds tab** - summary list of suggested research needs for future faunal list updates
 - **BLUE- AND GREEN-COLORED TABS**
 - raw data summaries and tables that can be used to readily update the faunal list in the future
- **Individual Roan Faunal Lists Excel file**
 - basic versions of each taxa list formatted specifically for posting on the Friends of Roan Mountain website
- **Sources folder**
 - electronic copies of sources used to document conservation status of species and several reference documents listed in the *AllTaxaReferences-Combined tab*

Table 1. Source of conservation status for taxa lists.

Code	Source	Availability
1	LeGrand, Jr., H.E., J.T. Finnegan, S.P. Hall, A.J. Leslie, and J.A. Ratcliffe. 2012. Natural Heritage Program List of the Rare Animal Species of North Carolina. North Carolina Natural Heritage Program, N.C. Department of Environment and Natural Resources, Raleigh, NC.	electronic file submitted
2	Withers, D. (Compiler). 2009. A Guide to the Rare Animals of Tennessee. Tennessee Natural Heritage Program, Tennessee Department of Environment & Conservation. Nashville, TN.	electronic file submitted
3	NC Natural Heritage Program. Unpublished. [Roan Mountain Massif EO records in NCNHP database dated April 26, 2010.]	electronic file submitted
4	Tennessee Natural Heritage Program. Unpublished. [Roan Mountain Massif EO records in TNNHP database dated February 17, 2009.]	electronic file submitted
5	U.S. Fish and Wildlife Service. 2003. Federal Endangered and Threatened Species of North Carolina. Asheville, North Carolina. <i>Website: http://www.fws.gov/asheville/</i>	electronic file submitted, plus website link
6	U.S. Fish and Wildlife Service. 2009. Threatened and Endangered Species in Tennessee. <i>Website: http://www.fws.gov/cookeville/docs/endspec_list.html</i>	electronic file submitted, plus website link
7	Appalachian Mountain Joint Venture. Appalachian Mountain Joint Venture priority species lists. <i>Website: http://amjv.org/index.php/conservation/category/species</i>	electronic file submitted, plus website link
9	U.S. Forest Service. Unpublished. [2009 National Forests of North Carolina TES, sensitive and forest concern species lists. Provided by Sheryl Bryan. Forests of North Carolina, Asheville, NC.]	electronic file submitted
8	U.S. Forest Service. 2004. Final Environmental Impact Statement for the Revised Land and Resource Management Plan. Cherokee National Forest. Management Bulletin R8-MB 114F. [Appendix E: Attachment A, Big Creek, Cherokee National Forest, Threatened, Endangered and Sensitive Species 2001 List, Revised 5/14/09.] <i>Website: http://www.fs.usda.gov/detail/charokee/landmanagement/planning</i>	electronic file submitted, plus website link
10	U.S. Forest Service. 2004. Final Environmental Impact Statement for the Revised Land and Resource Management Plan. Cherokee National Forest. Management Bulletin R8-MB 114F. [Appendix E: Terrestrial Species Viability lists, pages 274-285.] <i>Website: http://www.fs.usda.gov/main/charokee/landmanagement/planning</i>	electronic file submitted, plus website link
11	North Carolina Wildlife Resources Commission. 2005. North Carolina Wildlife Action Plan. Raleigh, NC., pages 83-148. <i>Website: http://www.ncwildlife.org/Conserving.aspx</i>	electronic file submitted, plus website link
12	Tennessee Wildlife Resources Agency. Unpublished. [List of Tennessee GCN species from 2005 Tennessee State Wildlife Action Plan. Provided by Scott Dykes.]	electronic file submitted
13	Tennessee Natural Heritage Program. Unpublished. [Roan Mountain Massif EO records in TNNHP database dated June 17, 2008.]	electronic file submitted
14	NC Natural Heritage Program. Unpublished. [Roan Mountain Massif EO records in NCNHP database dated November 5, 2012.]	electronic file submitted
15	NatureServe. 2013. [Online Database dated July 2013.] <i>Website: http://www.natureserve.org</i>	electronic file submitted, plus website link

Table 2. Number of faunal species for each taxon group added to the updated Roan Mountain fauna lists in comparison to former lists.

<u>Taxon Group</u>	<u>No. Species</u>	
	Former List	Updated List
VERTEBRATES		
Amphibians	21	5
Reptiles	4	5
Fishes	0	16
Mammals	39	9
Birds	169	31
INVERTEBRATES		
Arthropods	37	84
Tardigrades	22	1
Molluscs	0	28
Annelids	0	1
Totals	292	180

Table 3. Number of faunal species in each taxon group and number of faunal species with a Global Rank in each taxon occurring on the Roan Mountain Massif, Tennessee and North Carolina.

Taxon Group	No. Species	No. G-Ranked Species	Percentage of G-Ranked Species
VERTEBRATES			
Amphibians	26	8	31%
Reptiles	9	1	11%
Fishes	16	1	6%
Mammals	48	25	52%
Birds	200	46	23%
Total	299	81	27%
INVERTEBRATES			
Arthropods	121	7	6%
Tardigrades	23	2	9%
Molluscs	28	13	46%
Annelids	1	0	0%
Total	173	22	13%
Grand Total	472	103	22%

Table 4. Summary showing the number of faunal species which have a conservation status designation on the Roan Mountain Massif, Tennessee and North Carolina.

Source	No. Species		
	TN	NC	TN & NC
Natural Heritage Program Tracking (w/Global Rank)	60	87	103
Federal Status			
	Endangered	3	4
	Threatened	0	0
	Species of Concern	0	14
State Status			
	Rare Animal List	34	55
	Endangered	4	5
	Threatened	3	3
	Watch List		28/87
State Rank			
	Rare Animal List	60	87
Cherokee National Forest Status			
	Terrestrial & Aquatic Species Viability List	48	
	TES Species List	8	
National Forests of North Carolina Status			47
	Federally-listed (PET) Species List		4
	R8 Sensitive Species List		9
	Forest Concern Species List		34
NCWRC SWAP Priority			69
TWRA SWAP Priority		73	
	SWAP priority - tier 1	73	
	SWAP priority - tier 2	3	
	SWAP priority - tier 3	7	
AMJV Priorities			72
	Highest		11
	High		14
	Moderate		39
	Low		8
International Plans			42
PIF Regional Plans			4
PIF BCR 28 Regional Concern			31
USFWS BMC List			32
NC SWAP in AMJV			29
TN SWAP in AMJV			35
Notable Distributions			TBD
	Endemics		TBD
	Northern Disjuncts		TBD
	Northern Species at / near the southern end of their ranges		TBD
	Exotics		TBD
	Widespread		TBD

Table 5. Federally listed fauna occurring on the Roan Mountain Massif include 4 Endangered species and 14 Species of Concern.

Status	Scientific Name	Common Name	State
Federally Endangered			
Mammals			
	<i>Glaucomys sabrinus coloratus</i>	Carolina Northern Flying Squirrel	TN, NC
	<i>Corynorhinus (=Plecotus) townsendii virginianus</i>	Virginia Big-Eared Bat	NC
	<i>Myotis sodalis</i>	Indiana Myotis	TN, NC
Invertebrates			
	<i>Microhexura montivaga</i>	Spruce-fir Moss Spider	TN, NC
Federal Species of Concern			
Mammals			
	<i>Neotoma magister</i>	Allegheny Woodrat	NC
	<i>Sylvilagus obscurus</i>	Appalachian Cottontail	NC
	<i>Myotis leibii</i>	Eastern Small-footed Myotis	NC
Birds			
	<i>Aegolius acadicus</i> pop. 1	Southern Appalachian Northern Saw-whet Owl	NC
	<i>Contopus cooperi</i>	Olive-sided Flycatcher	NC
	<i>Thryomanes bewickii altus</i>	Appalachian Bewick's Wren	NC
	<i>Vermivora chrysoptera</i>	Golden-winged Warbler	NC
	<i>Dendroica cerulea</i>	Cerulean Warbler	NC
	<i>Ammodramus henslowii susurrans</i>	Eastern Henslow's Sparrow	NC
	<i>Loxia curvirostra</i> pop. 1	Southern Appalachian Red Crossbill	NC
Amphibians			
	<i>Cryptobranchus alleganiensis</i>	Eastern Hellbender	NC
	<i>Desmognathus organi</i>	Northern Pygmy Salamander	NC
Invertebrates			
	<i>Speyeria idalia</i>	Regal Fritillary	NC
	<i>Paravitrea varidens</i>	Roan Supercoil	NC

Table 6. State listed fauna occurring on the Roan Mountain Massif include 4 Endangered and 3 Threatened in Tennessee, and 5 Endangered and 3 Threatened in North Carolina.

Status	Scientific Name	Common Name	State
<u>State Endangered</u>			
Mammals			
	<i>Glaucomys sabrinus coloratus</i>	Carolina Northern Flying Squirrel	TN, NC
	<i>Corynorhinus townsendii virginianus</i>	Virginia Big-Eared Bat	NC
	<i>Myotis sodalis</i>	Indiana Myotis	TN, NC
Birds			
	<i>Falco peregrinus</i>	Peregrine Falcon	TN, NC
	<i>Thryomanes bewickii altus</i>	Appalachian Bewick's Wren	TN, NC
<u>State Threatened</u>			
Birds			
	<i>Aquila chrysaetos</i>	Golden Eagle	TN
	<i>Haliaeetus leucocephalus</i>	Bald Eagle	NC
	<i>Corvus corax</i>	Common Raven	TN
	<i>Aegolius acadicus</i> pop. 1	Southern Appalachian Northern Saw-whet Owl	TN, NC
Molluscs			
	<i>Paravitrea varidens</i>	Roan Supercoil	NC

Table 7. Globally Ranked faunal species (N=103) and faunal species with other notable conservation designations but no Global Rank (N=40) (e.g., Forest Service and/or state SWAP designations).

Scientific Name	Common Name	Federal Status ^{1,2,5,6}		Global Rank ^{1,2,15}		State Status ^{1,2}		State Rank ^{1,2,15}		CNF TES ⁸	CNF Status ¹⁰	CNF Rank ¹⁰	NFsNC TES ⁹	NFsNC Status ⁹	NFsNC Rank ⁹	NC SWAP Southern Blue Ridge Priorities ¹¹	TN SWAP Southern Blue Ridge Priorities ¹²		
		NC	TN	NC	TN	NC	TN	NC	TN								Tier 1	Tier 2	Tier 3
AMPHIBIANS																			
<i>Cryptobranchus alleganiensis</i>	Eastern Hellbender	FSC		G3G4	G3G4	SC	D	S3	S3						FC	X			
<i>Desmognathus carolinensis</i>	Carolina Mountain Dusky Salamander				G4				S2S3	S	O	F3							
<i>Desmognathus organi</i>	Northern Pigmy Salamander	FSC		G3	G3G4	SR	D	S2	S2S3		O	F1			FC	X	X		
<i>Plethodon glutinosus</i>	Northern Slimy Salamander			G5		W4		SU								X			
<i>Plethodon montanus</i>	Northern Gray-cheeked Salamander			G3		W3		S3?											
<i>Plethodon richmondi</i>	Southern Ravine Salamander			G5		W2		S3								X	X		
<i>Plethodon welleri</i>	Weller's Salamander			G3	G3	SC	D	S2	S2	S	S	F2		S		X	X		
<i>Plethodon yonahlossee</i>	Yonahlossee Salamander				G4				S2		O	F2					X		
REPTILES																			
* <i>Elaphe guttata guttata</i>	Corn Snake										O	F1							
<i>Lampropeltis triangulum triangulum</i>	Eastern Milk Snake			G5T5		W3		S2S3											
* <i>Terrapene carolina</i>	Eastern Box Turtle															X	X		
FISHES																			
<i>Notropis rubricroceus</i>	Saffron Shiner			G4G5		W5		S3											
MAMMALS																			
* <i>Tamiasciurus hudsonicus</i>	Red Squirrel																		X
<i>Glaucomys sabrinus coloratus</i>	Carolina Northern Flying Squirrel	E	E	G5T2	G5T1	E	E	S2	S1S2	E	F	F1	E			X			X
* <i>Ochrotomys nuttalli</i>	Golden Mouse																	X	
<i>Neotoma magister</i>	Allegheny Woodrat	FSC		G3G4	G5T4Q	SC	D	S2S3	S2		O	F1			FC	X	X		
* <i>Microtus pennsylvanicus</i>	Meadow Vole															X			
<i>Synaptomys cooperi stonei</i>	Southern Bog Lemming			G5TNR	G5	W2	D	S3	S4		O	F1						X	
<i>Napaeozapus insignis</i>	Woodland Jumping Mouse				G5		D		S4							X	X		
<i>Zapus hudsonius</i>	Meadow Jumping Mouse			G5	G5	W2	D	S3	S4							X	X		
<i>Sylvilagus obscurus</i>	Appalachian Cottontail	FSC		G4		SR - G		S3							FC	X			X
<i>Blarina brevicauda</i>	Northern Short-tailed Shrew			G5	G5			S5	S5										
<i>Sorex hoyi winnemana</i>	Southern Pygmy Shrew			G5T4				S3								X	X		
<i>Sorex cinereus</i>	Masked Shrew				G5		D		S4		O	F3				X	X		
<i>Sorex dispar</i>	Long-tailed Shrew			G4	G4	SC	D	S3	S2		O	F2			FC	X	X		

Table 7. Continued.

Scientific Name	Common Name	Fed Status ^{1,2,5,6}		Global Rank ^{1,2,15}		State Status ^{1,2}		State Rank ^{1,2,15}		CNF TES ⁸	CNF Status ¹⁰	CNF Rank ¹⁰	NFsNC TES ⁹	NFsNC Status ⁹	NFsNC Rank ⁹	NC SWAP Southern Blue Ridge Priorities ¹¹	TN SWAP Southern Blue Ridge Priorities ¹²		
		NC	TN	NC	TN	NC	TN	NC	TN								Tier 1	Tier 2	Tier 3
<i>Sorex fumeus</i>	Smoky Shrew				G5		D		S4							X	X		
<i>Sorex longirostris</i>	Southeastern Shrew				G5		D		S4										
<i>Condylura cristata</i>	Star-nosed Mole				G5		D		S2		O	F1						X	
<i>Parascalops breweri</i>	Hairy-tailed Mole				G5		D		S3		O	F1				X	X		
<i>Corynorhinus townsendii virginianus</i>	Virginia Big-eared Bat	E		G3G4T2		E		S1					E			X			X
<i>Lasiurus borealis</i>	Eastern Red Bat			G5	G5			S5	S5										
<i>Eptesicus fuscus</i>	Big Brown Bat			G5	G5			S5	S5										
<i>Perimyotis subflavus</i>	Tricolored Bat			G3	G3	SR		S3	S5										
<i>Myotis leibii</i>	Eastern Small-footed Myotis	FSC		G1G3	G1G3	SC	D	S2	S2S3		S	F2		S		X	X		
<i>Myotis lucifugus</i>	Little Brown Myotis			G3	G3	SR		S3	S5										
<i>Myotis septentrionalis</i>	Northern Myotis			G2G3	G2G3	SR		S3	S4							X			
<i>Myotis sodalis</i>	Indiana Myotis	E	E	G2		E	E	S1S2	S1		F	F1	E			X			X
<i>Spilogale putorius</i>	Eastern Spotted Skunk			G5	G3	SR-G		S3	S3		O	F1				X	X		
<i>Mustela frenata</i>	Long-tailed Weasel			G5		W3		S3S4								X			
<i>Mustela nivalis</i>	Least Weasel			G5		SR-G		S2	S2		O	F1		FC		X	X		
BIRDS																			
<i>Anas discors</i>	Blue-winged Teal			G5		W3		SHB, S2N											
* <i>Colinus virginianus</i>	Northern Bobwhite										O	F2				X			
<i>Phalacrocorax auritus</i>	Double-crested Cormorant			G5		SR		S1B, S5N											
<i>Ardea alba</i>	Great Egret				G5		D		S2B, S3N									X	
<i>Haliaeetus leucocephalus</i>	Bald Eagle			G5	G5	T	D	S3B, S3N	S3	S				S					
<i>Aquila chrysaetos</i>	Golden Eagle				G5		T		S1									X	
<i>Circus cyaneus</i>	Northern Harrier			G5	G5	SR	D	S1B, S4N	S4N						FC			X	
<i>Accipiter striatus</i>	Sharp-shinned Hawk			G5	G5	SR	D	S2B, S4N	S3B, S4N		O	F3			FC	X	X		
* <i>Accipiter cooperii</i>	Cooper's Hawk										O	F3				X			
<i>Accipiter gentilis</i>	Northern Goshawk			G5		W3		SUB											
<i>Falco sparverius</i>	American Kestrel			G5		W1, W5		S3B, S5N								X			
<i>Falco peregrinus</i>	Peregrine Falcon			G4	G4	E	E	S1B, S2N	S1B	S				S		X			X
<i>Rallus limicola</i>	Virginia Rail			G5		W3		S3B, S5N											
* <i>Scolopax minor</i>	American Woodcock										O	F2				X	X		
<i>Hydroprogne caspia</i>	Caspian Tern			G5		SR		S1B, S2N							FC				
* <i>Coccyzus americanus</i>	Yellow-billed Cuckoo															X			

Table 7. Continued.

Scientific Name	Common Name	Fed Status ^{1,2,5,6}		Global Rank ^{1,2,15}		State Status ^{1,2}		State Rank ^{1,2,15}		CNF TES ⁸	CNF Status ¹⁰	CNF Rank ¹⁰	NFsNC TES ⁹	NFsNC Status ⁹	NFsNC Rank ⁹	NC SWAP Southern Blue Ridge Priorities ¹¹	TN SWAP Southern Blue Ridge Priorities ¹²		
		NC	TN	NC	TN	NC	TN	NC	TN								Tier 1	Tier 2	Tier 3
<i>Coccyzus erythrophthalmus</i>	Black-billed Cuckoo			G5		SR		S2B							FC	X	X		
<i>Tyto alba</i>	Barn Owl			G5	G5	SR	D	S3B, S3N	S3							X	X		
<i>Asio flammeus</i>	Short-eared Owl			G5		W3		SUB, S3N									X		
<i>Aegolius acadicus</i> pop. 1	Southern Appalachian Northern Saw-whet Owl	FSC		G5TNR	G5	T	T	S2B,S2N	S1		O	F1			FC	X	X		
* <i>Chordeiles minor</i>	Common Nighthawk															X			
* <i>Caprimulgus vociferus</i>	Eastern Whip-poor-will										O	F3				X	X		
* <i>Melanerpes erythrocephalus</i>	Red-headed Woodpecker															X	X		
<i>Sphyrapicus varius</i>	Yellow-bellied Sapsucker			G5	G5	W2	D	S3B, S5N	S1B, S4N		O	F2			FC	X	X		
* <i>Picoides villosus</i>	Hairy Woodpecker															X			
* <i>Colaptes auratus</i>	Northern Flicker															X			
<i>Contopus cooperi</i>	Olive-sided Flycatcher	FSC		G4	G4	W3	D	SUB	S1						FC			X	
* <i>Contopus virens</i>	Eastern Wood-Pewee															X	X		
* <i>Empidonax virescens</i>	Acadian Flycatcher																	X	
<i>Empidonax alnorum</i>	Alder Flycatcher			G5	G5	SR		S2B	S1		O	F1			FC	X	X		
<i>Empidonax traillii</i>	Willow Flycatcher			G5		W2		S3B			O	F3				X			
<i>Empidonax minimus</i>	Least Flycatcher			G5		W2		S3B			O	F3						X	
* <i>Tyrannus tyrannus</i>	Eastern Kingbird															X			
<i>Lanius ludovicianus</i>	Loggerhead Shrike			G4	G4	W2, SC	D	S3B, S3N	S1B, S2N	S				S				X	
* <i>Vireo griseus</i>	White-eyed Vireo																	X	
* <i>Vireo flavifrons</i>	Yellow-throated Vireo																	X	
<i>Vireo gilvus</i>	Warbling Vireo			G5		SR		S2B							FC				
<i>Corvus corax</i>	Common Raven			G5	G5	W2	T	S3	S2		O	F1						X	
* <i>Eremophila alpestris</i>	Horned Lark															X			
<i>Riparia riparia</i>	Bank Swallow			G5		SR		S1B							FC				
<i>Sitta canadensis</i>	Red-breasted Nuthatch			G5		W2, W5		S3B, S4N			O	F3						X	
<i>Certhia americana</i>	Brown Creeper			G5		SC		S3B, S5N			O	F2				X	X		
<i>Thryomanes bewickii</i> altus	Appalachian Bewick's Wren	FSC		G5T2Q	G5	E	E	SXB	S1					S				X	
<i>Troglodytes hyemalis</i>	Winter Wren			G5		W2, W5		S3B, S5N			O	F3						X	
<i>Regulus satrapa</i>	Golden-crowned Kinglet			G5		W2, W5		S3S4B, S5N			O	F3						X	
<i>Catharus ustulatus</i>	Swainson's Thrush			G5		W3		SUB											
<i>Catharus guttatus</i>	Hermit Thrush			G5		SR		S2B, S5N							FC				
* <i>Hylocichla mustelina</i>	Wood Thrush															X	X		
<i>Vermivora cyanoptera</i>	Blue-winged Warbler			G5		SR		S2B							FC	X	X		
<i>Vermivora chrysoptera</i>	Golden-winged Warbler	FSC		G4	G4	SC	D	S3B	S3B		O	F2			FC	X	X		
* <i>Parula americana</i>	Northern Parula																	X	

Table 7. Continued.

Scientific Name	Common Name	Fed Status ^{1,2,5,6}		Global Rank ^{1,2,15}		State Status ^{1,2}		State Rank ^{1,2,15}		CNF TES ⁸	CNF Status ¹⁰	CNF Rank ¹⁰	NFsNC TES ⁹	NFsNC Status ⁹	NFsNC Rank ⁹	NC SWAP Southern Blue Ridge Priorities ¹¹	TN SWAP Southern Blue Ridge Priorities ¹²		
		NC	TN	NC	TN	NC	TN	NC	TN								Tier 1	Tier 2	Tier 3
*Setophaga pensylvanica	Chestnut-sided Warbler															X			
Setophaga magnolia	Magnolia Warbler			G5		SR		S2B		O	F1				FC	X			
*Setophaga caeruleascens	Black-throated Blue Warbler																X		
Setophaga coronata	Yellow-rumped Warbler			G5		SR		S1B, S5N							FC				
*Setophaga virens	Black-throated Green Warbler																X		
*Setophaga fusca	Blackburnian Warbler									O	F2								
*Setophaga dominica	Yellow-throated Warbler																	X	
*Setophaga discolor	Prairie Warbler															X	X		
Setophaga cerulea	Cerulean Warbler	FSC		G4	G4	SC	D	S2B	S3B	O	F1				FC	X	X	X	
*Helmitheros vermivorus	Worm-eating Warbler															X	X		
Limnothlypis swainsonii	Swainson's Warbler				G4		D		S3	O	F3					X	X		
*Seiurus motacilla	Louisiana Waterthrush																	X	
*Oporornis formosus	Kentucky Warbler															X	X		
*Wilsonia citrina	Hooded Warbler															X	X		
*Wilsonia canadensis	Canada Warbler															X			
*Spizella pusilla	Field Sparrow															X			
Poocetes gramineus	Vesper Sparrow			G5	G5	SC	D	S2B, S2N	S1B, S4N	O	F1				FC	X	X		
Passerculus sandwichensis	Savannah Sparrow			G5	G5	SR		S2B, S5N	S1B, S4N						FC	X	X		
Ammodramus savannarum	Grasshopper Sparrow			G5		W1, W5		S3B, S1N								X	X		
Ammodramus henslowii	Eastern Henslow's Sparrow	FSC		G4TU	G4	SC	D	S2B, S1N	S1B						FC				
*Pheucticus ludovicianus	Rose-breasted Grosbeak															X			
Dolichonyx oryzivorus	Bobolink			G5		SR		S1B							FC	X			
*Sturnella magna	Eastern Meadowlark															X			
Euphagus carolinus	Rusty Blackbird			G4		W1		S3N											
*Icterus spurius	Orchard Oriole															X	X		
Loxia curvirostra pop. 1	Southern Appalachian Red Crossbill	FSC		G5TNR		SC		S3B, S3N							FC	X			
Spinus pinus	Pine Siskin			G5		W3		SUB, S3N								X			
INVERTEBRATES																			
ARTHROPODA																			
Microhexura montivaga	Spruce-fir Moss Spider	E	LE	G1	G1	SR		S1	S1	E	F	F1	E			X			X
Erora laeta	Early Hairstreak			GU	GU	SR		S2S3	S2										
Erynnis martialis	Mottled Duskywing			G3		SR		S2											
Euphydryas phaeton	Baltimore Checkerspot			G4		SR		S2							FC				

Table 7. Continued.

Scientific Name	Common Name	Fed Status ^{1,2,5,6}		Global Rank ^{1,2,15}		State Status ^{1,2}		State Rank ^{1,2,15}		CNF TES ⁸	CNF Status ¹⁰	CNF Rank ¹⁰	NFsNC TES ⁹	NFsNC Status ⁹	NFsNC Rank ⁹	NC SWAP Southern Blue Ridge Priorities ¹¹	TN SWAP Southern Blue Ridge Priorities ¹²		
		NC	TN	NC	TN	NC	TN	NC	TN								Tier 1	Tier 2	Tier 3
<i>Hesperia sassacus</i>	Indian Skipper			G5		W2		S3											
<i>Polygonia progne</i>	Gray Comma			G4G5		SR		S1							FC				
<i>Speyeria idalia</i>	Regal Fritillary	FSC		G3		SR		SX						S					
* <i>Gazoryctra sciophanes</i>	Swift Moth																		X
* <i>Semiothisa fraserata</i>	Fraser Fir Geometrid Moth													S					
TARDIGRADA																			
<i>Calohypsibius schusteri</i>	Schuster's Tardigrade				GNR			S1											X
<i>Hypsibius roanensis</i>	Roan Tardigrade				GNR			S1											X
MOLLUSCA																			
<i>Allogona profunda</i>	Broad-banded Forestsnail			G5		SR		S2S3											
<i>Anguispira jessica</i>	Mountain Disc				G3G4			S3											
<i>Discus bryanti</i>	Sawtooth Disc			G3	G3	SC		S2	S1S2		O	F2			FC				X
<i>Fumonelix wheatleyi</i>	Cinnamon Covert			G4	G4	W3		S2	S3										X
<i>Haplotrema concavum</i>	Gray-foot				G2			S2			O	F1							X
<i>Inflectarius subpalliatu</i>	Velvet Covert			G2	G2	SC		S2	S2						FC				X
<i>Mesodon andrewsae</i>	Balsam Globe			G3	G3	SR		S2S3	S2S3		O	F2							X
<i>Mesomphix rugeli</i>	Wrinkled Button				G4			S3			O	F3							X
<i>Pallifera hemphilli</i>	Black Mantleslug			G4	G4	SC		S2S3	S2S3	S	O	F2		S					
<i>Paravitrea andrewsae</i>	High Mountain Supercoil			G2	G2	SC		S2	S2		O	F2			FC				X
<i>Paravitrea lamellidens</i>	Lamellate Supercoil			G2	G2	SC		S2	S2		O	F2			FC				X
<i>Paravitrea varidens</i>	Roan Supercoil	FSC		G1G2	G1G2	T		S1	S1S2		O	F1			FC				X
<i>Stenotrema altispira</i>	Highland Slitmouth			G3	G3	SR		S3?	S2?		O	F2							X
* <i>Ventridens arcellus</i>	Golden Dome										O	F2							

*No Global Rank but has other notable conservation designations (e.g., Forest Service and/or state SWAP designations).

Table 8. A list of Appalachian Mountain Joint Venture priority bird species (N=72) documented on the Roan Mountain Massif, Tennessee and North Carolina.

Common Name	AMJV Priority	Highest	High	Moderate	Low
Canada Goose	Highest	1			
Wood Duck	Moderate			1	
Mallard	Moderate			1	
Blue-winged Teal	Low				1
Bufflehead	Low				1
Northern Bobwhite	Moderate			1	
Ruffed Grouse	Moderate			1	
Wild Turkey	Low				1
Bald Eagle	Moderate			1	
Golden Eagle	High		1		
Northern Harrier	Moderate			1	
Sharp-shinned Hawk	Moderate			1	
Northern Goshawk	High		1		
Broad-winged Hawk	Moderate			1	
Peregrine Falcon	Moderate			1	
Virginia Rail	Moderate			1	
Sora	Low				1
Yellow Rail	Low				1
Sandhill Crane	Moderate			1	
Spotted Sandpiper	Moderate			1	
Solitary Sandpiper	Moderate			1	
Greater Yellowlegs	Low				1
American Woodcock	Highest	1			
Black-billed Cuckoo	High		1		
Short-eared Owl	Moderate			1	
Southern Appalachian Northern Saw-whet Owl	Moderate			1	
Eastern Whip-poor-will	High		1		
Chimney Swift	High		1		
Red-headed Woodpecker	Moderate			1	
Yellow-bellied Sapsucker	High		1		
Northern Flicker	Moderate			1	
Olive-sided Flycatcher	Moderate			1	
Eastern Wood-Pewee	Moderate			1	
Yellow-bellied Flycatcher	High		1		
Acadian Flycatcher	High		1		
Alder Flycatcher	Low				1
Willow Flycatcher	Moderate			1	
Loggerhead Shrike	Moderate			1	
Yellow-throated Vireo	Moderate			1	
Appalachian Bewick's Wren	Highest	1			
Sedge Wren	Moderate			1	
Marsh Wren	Moderate			1	
Wood Thrush	Highest	1			
Brown Thrasher	Moderate			1	
Blue-winged Warbler	Highest	1			

Table 8. Continued.

Common Name	AMJV Priority	Highest	High	Moderate	Low
Golden-winged Warbler	Highest	1			
Northern Parula	Moderate			1	
Blackburnian Warbler	Moderate			1	
Yellow-throated Warbler	Moderate			1	
Prairie Warbler	Highest	1			
Bay-breasted Warbler	Moderate			1	
Blackpoll Warbler	Low				1
Cerulean Warbler	Highest	1			
Black-and-white Warbler	Moderate			1	
Prothonotary Warbler	Moderate			1	
Worm-eating Warbler	Highest	1			
Swainson's Warbler	High		1		
Louisiana Waterthrush	High		1		
Kentucky Warbler	Highest	1			
Hooded Warbler	High		1		
Canada Warbler	High		1		
Yellow-breasted Chat	Moderate			1	
Eastern Towhee	Moderate			1	
Field Sparrow	High		1		
Grasshopper Sparrow	Moderate			1	
Eastern Henslow's Sparrow	Highest	1			
White-throated Sparrow	Moderate			1	
Summer Tanager	Moderate			1	
Scarlet Tanager	Moderate			1	
Indigo Bunting	Moderate			1	
Eastern Meadowlark	Moderate			1	
Southern Appalachian Red Crossbill	High		1		

Table 9. Detailed summary showing number of faunal species listed by taxon group, which have conservation status on the Roan Mountain Massif, Tennessee and North Carolina.

Conservation Code	Amphibians		Reptiles		Fishes		Mammals		Birds		Arthropods		Tardigrades		Molluscs		Annelids		TOTALS				
	TN	NC	TN	NC	TN	NC	TN	NC	TN	NC	TN	NC	TN	NC	TN	NC	TN	NC	TN	NC			
Federal Status																							
E or LE							2	3			1	1									3	4	
FSC		2						3		7		1				1					0	14	
TOTALS	0	2	0	0	0	0	2	6	0	7	1	2	0	0	0	1	0	0	3	18			
Global Rank																							
G1											1	1									1	1	
G1G2															1	1					1	1	
G1G3							1	1													1	1	
G2								1							4	3					4	4	
G2G3							1	1													1	1	
G2?Q																					0	0	
G3	1	3					3	2				2			3	3					7	10	
G3G4	2	1						1							1						3	2	
G3G4T2								1													0	1	
G4	2						1	2	7	6		1			3	2					13	11	
G4G5						1						1									0	2	
G4T2																					0	0	
G4T3																					0	0	
G4TU										1											0	1	
G5		2					11	7	13	33		1				1					24	44	
G5T1							1														1	0	
G5T2								1													0	1	
G5T4								1													0	1	
G5T5				1																	0	1	
G5T2Q										1											0	1	
G5T4Q							1														1	0	
G5TNR								1		2											0	3	
GU												1	1								1	1	
GNR														2							2	0	
TOTALS	5	6	0	1	0	1	19	19	20	43	2	7	2	0	12	10	0	0	60	87			
State Status																							
Rare List:																						0	0
E							2	3	2	2											4	5	
T										3	2					1					3	3	
D	3						11		13												27	0	
SC		2						3		7						5					0	17	
SR		1						3		14		6				3					0	27	
SR-G								3													0	3	
TOTALS	3	3	0	0	0	0	13	12	18	25	0	6	0	0	0	9	0	0	34	55			
Watch List:																							
W1										1												1	
W1, W5										2												2	
W2		1						2		5		1										9	
W2, W5										3												3	
W3		1		1				1		7						1						11	
W4		1																				1	
W5						1																1	
TOTALS		9		1		1		27		68		13		0		19		0				28	

Table 9. Continued.

Conservation Code	Amphibians		Reptiles		Fishes		Mammals		Birds		Arthropods		Tardigrades		Molluscs		Annelids		TOTALS		
	TN	NC	TN	NC	TN	NC	TN	NC	TN	NC	TN	NC	TN	NC	TN	NC	TN	NC	TN	NC	
State Rank																					
S1							1	1	5		1	2	2		1					9	4
S1B									2	2										2	2
S1B, S2N									1	2										1	2
S1B, S4N									3	1										3	1
S1B, S5N										2										0	2
S1S2							1	1							2					3	1
S2	2	2					4	3	1		1				4	5				12	10
S2?												2			1					1	2
S2B										6										0	6
S2B, S1N										1										0	1
S2B, S2N										2										0	2
S2B, S3N									1											1	0
S2B, S4N										1										0	1
S2B, S5N										2										0	2
S2S3	2			1			1	1				1			1	3				4	6
S3	1	2				1	2	9	3	1		1			2					8	14
S3?		1														1				0	2
S3B									2	3										2	3
S3B, S1N										1										0	1
S3B, S3N										4										0	4
S3B, S4N									1	1										1	1
S3B, S5N										5										0	5
S3S4								1												0	1
S3S4B, S4N																				0	0
S3S4B, S5N										1										0	1
S3N										1										0	1
S4							6													6	0
S5							6	3												6	3
S4N									1											1	0
SX												1								0	1
SXB										1										0	1
SU		1																		0	1
SUB										3										0	3
SUB, S3N										2										0	2
SH																				0	0
SHB																				0	0
SHB, S2N										1										0	1
TOTALS	5	6	0	1	0	1	21	19	20	43	2	7	2	0	10	10	0	0	60	87	
Forest Status & Rank / Viability Concern List																					
NFofNC:																					
Status - TES - E								3				1									4
Status - S		1						1		4		2				1					9
Rank - FC		2						4		21		2				5					34
TOTALS		3		0		0		8		25		5		0		6		0			47
CNF:																					
Status - TES - E							1				1										2
Status - TES - S	2								3						1						6
Status - S	1						1														2
Status - O	3			1			8		21						10						43
Status - F							2				1										3
Rank - F1	1			1			8		6		1				2						19
Rank - F2	2						2		6						7						17
Rank - F3	1						1		9						1						12
TOTALS	10			2			0		23		45		3		0		21		0		104

Table 9. Continued.

Conservation Code	Amphibians		Reptiles		Fishes		Mammals		Birds		Arthropods		Tardigrades		Molluscs		Annelids		<u>TOTALS</u>			
	TN	NC	TN	NC	TN	NC	TN	NC	TN	NC	TN	NC	TN	NC	TN	NC	TN	NC	TN	NC		
SWAP Priority																						
NC SWAP		5		1				18		44		1									69	
TN SWAP - tier 1	4		1				14		44						10						73	
TN SWAP - tier 2										1			2								3	
TN SWAP - tier 3							5		1		1										7	
TOTALS	4	5	1	1	0	0	19	18	45	44	2	1	2	0	10	0	0	0	0	0	83	69
AMJV Priority																						
AMJV Priorities																					72	
Highest																					11	
High																					14	
Moderate																					39	
Low																					8	
International Plans																					42	
PIF Regional Plans																					4	
PIF BCR 28 Regional Concern																					31/59	
USFWS BMC List																					32	
NC SWAP in AMJV																					29	
TN SWAP in AMJV																					35	