

St. John

ENGINEERING, LLC

ENGINEERING • PLANNING • ENVIRONMENTAL CONSULTING

923 JACKSON STREET, MANCHESTER, TN 37355
PHONE: (931) 728-2638 FAX: (931) 728-6357

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LEWISBURG STORMWATER MANAGEMENT PROGRAM

EVALUATION OF LISTED THREATENED OR ENDANGERED SPECIES

PART 1 – PURPOSE

The City of Lewisburg, Tennessee is permitted to discharge stormwater runoff associated with a small municipal separate storm sewer system (MS4) under Small MS4 General NPDES Permit Number TNS000000. Lewisburg is permitted under Tracking Number TNS077615. Section 3.2 of the general permit requires the City of Lewisburg to perform an annual evaluation of whether or not stormwater discharges, allowable non-stormwater discharges, and discharge-related activities are likely to jeopardize the continued existence of any species that are listed as endangered or threatened under the Endangered Species Act (ESA) or result in the modification or destruction of habitat that is designated as critical under the ESA.

PART 2 – EVALUATION PROCEDURES

Several sources of information were reviewed as part of the process of evaluating the effects of Lewisburg's stormwater discharges, allowable non-stormwater discharges, and discharge-related activities on listed endangered or threatened species or critical habitats. The first source of information that was reviewed is the County listing of Federally Endangered Species maintained by the Cookeville, Tennessee office of the United States Fish and Wildlife Service (USFWS). This listing is the same listing provided by the United States Environmental Protection Agency (EPA). The listing for Marshall County, Tennessee was reviewed. This list, included in Appendix A of this report, contains a total of ten federally listed species that are located in Marshall County.

The Tennessee Wildlife Resources Agency (TWRA) also maintains a list of State Listed Endangered or Threatened Species as well as a list of species deemed In Need of Management. TWRA does not break down the lists by County, but a list of all species listed as endangered or threatened in the state is included with this report in Appendix B.

The Tennessee Department of Environment and Conservation, Division of Natural Heritage maintains a listing of State and Federally Listed Species that is broken down by MS4 area. These lists are very useful in narrowing down a search to a much smaller area than a County or even a watershed. The species listing for the Lewisburg MS4 Area is located in Appendix C of this report.

PART 3 – RESULTS

The County list of federally listed endangered and threatened species contained a total of ten different species listed for Marshall County. The Lewisburg MS4 list contained only one species for the Lewisburg MS4 area. This species is not listed as Federally Endangered.

PART 3.1 – FEDERAL ENDANGERED SPECIES

The Marshall County list of Federally endangered species contains a total of 10 species. Each of these 10 species has been evaluated, and it is believed that most of these species are found only within the Duck River in Marshall County. The Duck River is located well outside of the MS4 area of Lewisburg. The only federally listed species that it is believed could be located within the MS4 area of Lewisburg are the two bat species that are listed. They are the Indiana Bat (*Myotis sodalis*) and the Northern Long-Eared Bat (*Myotis septentrionalis*).

PART 3.2 – STATE ENDANGERED OR THREATENED SPECIES

The Tennessee Natural Heritage Program maintains lists of species that are considered to be endangered or threatened by the State of Tennessee. These lists can now be accessed by MS4 Area. The list for the Lewisburg MS4 area has been reviewed as part of this evaluation and is included in Appendix C of this report. Those species listed on the Lewisburg MS4 database are as follows:

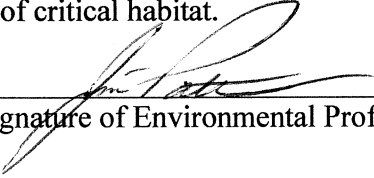
3.2.3 Redband Darter (*Etheostoma Luteovinctum*)

The Redband darter is a fish species that is listed in Tennessee as being in Need of Management. The species is not listed at the federal level. The Redband darter is typically associated with pool areas in the headwaters of rocky streams and is located within the Duck River Watershed. The species is listed as being located within Globe Creek and Big Rock Creek within the Lewisburg MS4.

PART 4 – CONCLUSION

As previously stated, there are no federally listed endangered species that are also shown to be within the MS4 Area of Lewisburg. The species listed in Part 3.2 are State listed only, but the City of Lewisburg will be conscious of the potential existence of these species and provide the same review of potential impacts to these species. The City of Lewisburg has developed a comprehensive stormwater management plan that will regulate stormwater discharges from construction, industrial, commercial, and residential facilities. It is the opinion of the City of Lewisburg that the Lewisburg Stormwater Program can only serve to improve the status of any of the endangered species listed above that may exist within the receiving streams of the MS4. It is reasonable to assume that any adverse impacts that could be caused to any of these species by the stormwater discharges of the MS4 would have occurred in the many years of discharges prior to development of the MS4 Stormwater Program. The MS4 program will not only be regulating stormwater discharges within its boundaries, but will also be providing education to the general public and regulated entities on the potential impacts of contaminated stormwater discharges and/or illicit discharges. The MS4 program will not be authorizing any discharge types that have not historically existed. The program will, however, be eliminating illicit discharges that should not be discharged to the MS4 or Waters of the State. Elimination of these types of discharges will certainly result in improved water quality within the MS4 jurisdictional area. The program also requires the protection of buffer zones along streams within the MS4 jurisdiction. The protection of

these areas has the potential to preserve critical habitat for the two bat species that are listed on the federal list. Therefore, based on the above described evaluation, the City of Lewisburg does not have reason to believe that the discharge and discharge related activities will jeopardize the continued existence of any species or result in the adverse modification or destruction of critical habitat.



Signature of Environmental Professional performing Evaluation

APPENDIX A
FEDERAL ENDANGERED SPECIES LISTS
FOR
MARSHALL COUNTY



U.S. Fish & Wildlife Service

Search ECOS



ECOS Environmental Conservation Online System

Conserving the Nature of America

[ECOS](#) / [Species Reports](#) / Species By County Report

Species By County Report

The following report contains Species that are known to or are believed to occur in this county. Species with range unrefined past the state level are now excluded from this report. If you are looking for the Section 7 range (for Section 7 Consultations), please visit the [IPaC](#) application.

County: Marshall, TN

<u>Group</u>	<u>Name</u>	<u>Population</u>	<u>Status</u>	<u>Lead Office</u>	<u>Recovery Plan Name</u>	<u>Recovery Plan Action Status</u>	<u>R P S</u>
Clams	Tubercled blossom (pearlymussel) (<i>Epioblasma torulosa torulosa</i>)	Entire Range; Except where listed as Experimental Populations	Endangered	Asheville Ecological Services Field Office	Three Pearly Mussels (3 spp.)	Implementation Progress	Fi
	Turgid blossom (pearlymussel) (<i>Epioblasma turgidula</i>)	Entire Range; Except where listed as Experimental Populations	Endangered	Tennessee Ecological Services Field Office	Three Pearly Mussels (3 spp.)	Implementation Progress	Fi
	Birdwing pearlymussel (<i>Lemiox rimosus</i>)	Entire Range; Except where listed as Experimental Populations	Endangered	Tennessee Ecological Services Field Office	Birdwing Pearly Mussel	Implementation Progress	Fi
	Tan riffleshell (<i>Epioblasma florentina walkeri</i> (=E. walkeri))	Entire	Endangered	Asheville Ecological Services Field Office	Tan Riffleshell Mussel	Implementation Progress	Fi

<u>Group</u>	<u>Name</u>	<u>Population</u>	<u>Status</u>	<u>Lead Office</u>	<u>Recovery Plan Name</u>	<u>Recovery Plan Action Status</u>	<u>R P S</u>
	<u>Oyster mussel</u> (<u><i>Epioblasma capsaeformis</i></u>)	Entire Range; Except where listed as Experimental Populations	Endangered	<u>Tennessee Ecological Services Field Office</u>	<u>Cumberland and Tennessee River Mussels (5 spp.)</u>	<u>Implementation Progress</u>	Fi
	<u>Fluted kidneyshell</u> (<u><i>Ptychobranchnus subtentum</i></u>)		Endangered	<u>Tennessee Ecological Services Field Office</u>	-	-	-
Flowering Plants	<u>Tennessee purple coneflower</u> (<u><i>Echinacea tennesseensis</i></u>)		Recovery	<u>Tennessee Ecological Services Field Office</u>	<u>Tennessee Purple Coneflower</u>	<u>Implementation Progress</u>	Fi R 1
	<u>Leafy prairie-clover</u> (<u><i>Dalea foliosa</i></u>)		Endangered	<u>Tennessee Ecological Services Field Office</u>	<u>Leafy Prairie-clover</u>	<u>Implementation Progress</u>	Fi
Mammals	<u>Indiana bat</u> (<u><i>Myotis sodalis</i></u>)	Entire	Endangered	<u>Bloomington Ecological Services Field Office</u>	<u>Indiana Bat (Myotis sodalis) Draft Recovery Plan: First Revision</u>	<u>Implementation Progress</u>	D R 1
	<u>Northern Long-Eared Bat</u> (<u><i>Myotis septentrionalis</i></u>)		Threatened	<u>Twin Cities Ecological Services Field Office</u>	-	-	-

Export options: [CSV](#) | [EXCEL](#) | [XML](#) | [PDF](#)

APPENDIX B

STATE OF TENNESSEE LIST
OF
ENDANGERED OR THREATENED SPECIES

TENNESSEE WILDLIFE RESOURCES COMMISSION PROCLAMATION 00-15 ENDANGERED OR THREATENED SPECIES

Pursuant to the authority granted by Tennessee Code Annotated, Sections 70-8-105 and 70-8-107, the Tennessee Wildlife Resources Commission does hereby declare the following species to be endangered or threatened subject to the regulations as herein provided.

SECTION I. ENDANGERED OR THREATENED SPECIES

MOLLUSKS

MUSSELS - Endangered

Common Name	Scientific Name	Fed*
Cumberland elktoe	<i>Alasmidonta atropurpurea</i>	E
Appalachian elktoe	<i>Alasmidonta raveneliana</i>	E
Birdwing pearly mussel	<i>Conradilla caelata (=Limiox rimosus)</i>	E
Fanshell Mussel	<i>Cyprogonia stegaria (=irrorata)</i>	E
Dromedary pearly mussel	<i>Dromus dromas</i>	E
Cumberlandian combshell	<i>Epioblasma brevidens</i>	E
Oyster mussel	<i>Epioblasma capsaeformis</i>	E
Yellow-blossom pearly mussel	<i>Epioblasma (=Dysnomia) florentina florentina</i>	E
Upland combshell	<i>E. metastriata</i>	E
Southern acornshell	<i>E. othcaloogensis</i>	E
Green-blossom pearly mussel	<i>E. (=Dysnomia) torulosa Gubernaculum</i>	E
Tubercled-blossom pearly mussel	<i>E. (=Dysnomia) torulosa Torulosa</i>	E
Turgid-blossom pearly mussel	<i>E. (=Dysnomia) turgidula</i>	E
Tan riffleshell	<i>E. (=Dysnomia) walkeri</i>	E
Purple Cat's Paw Pearlymussel	<i>E. (=Dysnomia) obliquata obliquata (=E. sulcata sulcata)</i>	E
Fine-rayed pigtoe	<i>Fusconaia cuneolus</i>	E
Shiny pigtoe	<i>F. cor (=edgariana)</i>	E
Cracking pearly mussel	<i>Hemistena (=Lastena) lata</i>	E

Pink mucket pearly mussel	<i>Lampsilis abrupta (=orbiculata)</i>	E
Alabama lamp pearly mussel	<i>L. virescens</i>	E
Coosa moccasinshell	<i>Medionidus parvulus</i>	E
Ring pink mussel	<i>Obovaria retusa</i>	E
Little-wing pearly mussel	<i>Pegias fabula</i>	E
White warty-back pearly mussel	<i>Plethobasus cicatricosus</i>	E
Orange-footed (=pimpleback) pearly mussel	<i>P. cooperianus</i>	E
Clubshell	<i>Pleurobema clava</i>	E
Southern clubshell	<i>P. decisum</i>	E
Southern pigtoe	<i>P. georgianum</i>	E
Cumberland pigtoe (=Cumberland pigtoe mussel)	<i>P. gibberum</i>	E
Ovate clubshell	<i>P. perovatum</i>	E
Rough pigtoe pearly mussel	<i>P. plenum</i>	E
Triangular kidneyshell	<i>Ptychobranthus greeni</i>	E
Rough rabbitsfoot	<i>Quadrula cylindrica strigillata</i>	E
Cumberland monkeyface pearly mussel	<i>Quadrula intermedia</i>	E
Winged mapleleaf mussel	<i>Q. fragosa</i>	E
Appalachian monkeyface pearly mussel	<i>Q. sparsa</i>	E
Pale lilliput pearly mussel	<i>Toxolasma (=Carunculina) cylindrella</i>	E
Cumberland bean pearly mussel	<i>Villosa (=Micromya) trabalis</i>	E
Purple bean	<i>Villosa perpurpurea</i>	E

SNAILS – Endangered

Common Name	Scientific Name	Fed*
Painted snake coiled forest snail	<i>Anguispira picta</i>	T
Anthony's riversnail	<i>Athearnia anthonyi</i>	E
Royal Snail	<i>Pyrgulopsis (=Marstonia) ogmorhapse</i>	E

MUSSELS – Threatened

Common Name	Scientific Name	Fed.*
Alabama moccasinshell	<i>Medionidus acutissimus</i>	T
Fine-lined pocketbook	<i>Lampsilis altilis</i>	T

FISH**FISH - Endangered**

Common Name	Scientific Name	Fed.*
Lake Sturgeon	<i>Acipenser fulvescens</i>	MC
Blue Shiner	<i>Cyprinella (=Notropis) caerulea (=caeruleus)</i>	T
Tuckasegee Darter	<i>Etheostoma blenniodes gutselli</i>	--
Bluemask (=jewel) Darter	<i>E. (Doration) sp</i>	E
Duskytail Darter	<i>E. (=Catonotus sp.)</i>	E
Crown Darter	<i>E. (=Catonotus sp.) corona</i>	MC
Barrens Darter	<i>E. (=Catonotus sp.) forbesi</i>	MC
Cumberland johnny darter	<i>Etheostoma nigrum susanae</i>	--
Egg-mimic Darter	<i>E. (=Catonotus) pseudovulatum</i>	MC
Boulder Darter	<i>E. (Nothonotus) wapiti</i>	E
Barrens Topminnow	<i>Fundulus julisia</i>	MC
Laurel Dace	<i>Phoxinus sp.</i>	--
Palezone Shiner	<i>Notropis sp. (cf. N. procne)</i>	E
Smoky Madtom	<i>Noturus baileyi</i>	E
Yellowfin Madtom	<i>Noturus flavipinnis</i>	T
Chucky madtom	<i>Noturus (Rabida) sp.</i>	MC
Pygmy Madtom	<i>Noturus stanauli</i>	E
Amber Darter	<i>Percina antesella</i>	E
Conasauga (=Reticulate)Logperch	<i>P. jenkinsi</i>	E

Pallid Sturgeon	<i>Scaphirhynchus albus</i>	E
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FISH – Threatened

Common Name	Scientific Name	Fed. *
Western Sand Darter	<i>Ammocrypta clara</i>	--
Blue Sucker	<i>Cycleptus elongatus</i>	MC
Spotfin chub	<i>Cyprinella (=Hybopsis) monacha</i>	T
Slender Chub	<i>Erimystax (=Hybopsis) cahni</i>	T
Slackwater Darter	<i>Etheostoma boschungii</i>	T
Ashy Darter	<i>Etheostoma cinereum</i>	MC
Striated darter	<i>Etheostoma striatulum</i>	MC
Coldwater Darter	<i>Etheostoma ditrema</i>	MC
Trispot Darter	<i>Etheostoma trisella</i>	MC
Coppercheek Darter	<i>Etheostoma aquali (cf. E.maculatum)</i>	MC
Holliday (=Elijay) Darter	<i>Etheostoma (=Ulocentra) sp.</i>	--
Silverjaw Minnow	<i>Notropis (=Ericymba) buccata</i>	--
Frecklebelly Madtom	<i>Noturus munitus</i>	MC
Duck River Saddled Madtom	<i>Noturus sp. (=elegans)</i>	MC
Longhead Darter	<i>Percina macrocephala</i>	MC
Snail Darter	<i>Percina tanasi</i>	T
Blackside Dace	<i>Phoxinus cumberlandensis</i>	T

AMPHIBIANS

THREATENED

Common Name	Scientific Name	Fed. *
Tennessee Cave Salamander	<i>Gyrinophilus palleucus</i>	MC

REPTILES

THREATENED

Common Name	Scientific Name	Fed. *
Bog Turtle	<i>Clemmys muhlenbergii</i>	MC
Northern Pine Snake	<i>Pituophis m. melanoleucus</i>	MC
Western Pigmy Rattlesnake	<i>Sistrurus miliarius streckeri</i>	--

BIRDS

BIRDS – Endangered

Common Name	Scientific Name	Fed. *
Bachman's Sparrow	<i>Aimophila aestivalis</i>	MC
Peregrine Falcon	<i>Falco peregrinus</i>	---
Least Tern	<i>Sterna antillarum</i>	E
Bewick=s Wren	<i>Thryomanes bewickii</i>	MC

BIRDS – Threatened

Common Name	Scientific Name	Fed. *
Saw-whet Owl	<i>Aegolius acadicus</i>	MC
Golden Eagle	<i>Aquila chrysaetos</i>	----
Lark Sparrow	<i>Chondestes grammacus</i>	----
Northern Raven	<i>Corvus corax</i>	----

MAMMALS

ENDANGERED

Common Name	Scientific Name	Fed. *
Carolina Northern Flying Squirrel	<i>Glaucomys sabrinus coloratus</i>	E
Gray Myotis	<i>Myotis grisescens</i>	E
Indiana Myotis	<i>M. sodalis</i>	E

CRUSTACEANS

CRAYFISH – Endangered

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Common Name	Scientific Name	Fed. *
Big South Fork Crayfish	<i>Cambarus bouchardi</i>	----
----	<i>Cambarus cymatilis</i>	MC
Valley Flame Crayfish	<i>Cambarus deweesae</i>	----
----	<i>Cambarus pristinus</i>	MC
----	<i>Cambarus williami</i>	----
Hatchie Burrowing Crayfish	<i>Fallicambarus hortonii</i>	----
Tennessee Cave Crayfish	<i>Orconectes incomptus</i>	MC
Nashville Crayfish	<i>Orconectes shoupi</i>	E
----	<i>Orconectes wrighti</i>	MC

CRAYFISH – Threatened

Common Name	Scientific Name	Fed. *
Chickamauga Crayfish	<i>Cambarus extraneus</i>	MC
Obey Crayfish	<i>Cambarus obeyensis</i>	MC

*Federal Status: E = Federally Endangered, T = Federally Threatened, MC = Management Concern, an unofficial indication that this species has been brought to federal attention for review for possible future federal listing

SECTION II. REGULATIONS

Except as provided for in Tennessee Code Annotated, Section 70-8-106 (d) and (e), it shall be unlawful for any person to take, harass, or destroy wildlife listed as threatened or endangered or otherwise to violate terms of Section 70-8-105 (c) or to destroy knowingly the habitat of such species without due consideration of alternatives for the welfare of the species listed in (1) of this proclamation, or (2) the

United States list of Endangered fauna.

SECTION III. REPEAL OF PRIOR PROCLAMATIONS

This Proclamation No. 00-21 amends Proclamation 00-15, dated August 23, 2000.

TENNESSEE WILDLIFE RESOURCES COMMISSION

Chairman

I certify that this is an accurate and complete copy of the proclamation lawfully promulgated and adopted by the Tennessee Wildlife Resources Commission on September 28, 2000.

Secretary

Subscribed and sworn to before me this the ___ day of _____, 2000

Notary Public

My commission expires on the ____ day of _____, 2000

Proclamation No 00-21 received and recorded this ___ day of _____, 2000

Riley C. Darnell, Secretary of State

Tennessee Wildlife Resources Commission
Proclamation 00-21 Amending proclamation 00-15
Proclaiming Endangered and Threatened Species

Pursuant to the authority granted by Tennessee Code Annotated Sections 70-8-105 and 70-8-

Proc. 00-01

107, the Tennessee Wildlife Resources Commission hereby proclaims the following amendment to Proclamation 00-15 proclaiming Endangered and Threatened Wildlife by:

Amending Section I. Endangered and Threatened Species by inserting alphabetically, by scientific name, in the "Fish – Endangered" section:

Cumberland johnny darter	<i>Etheostoma nigrum susanae</i>	
Laurel Dace	<i>Phoxinus sp.</i>	MC

Amending Section I. Endangered and Threatened Species by inserting alphabetically, by scientific name, in the "Fish –Threatened" section:

Duck River Saddled Madtom	<i>Noturus sp. (=elegans)</i>	MC
Longhead Darter	<i>Percina macrocephala</i>	MC

Amending Section I. Endangered and Threatened Species by changing the footnote, "MC = Federal Mgt. Concern" to "MC = Management Concern, an unofficial indication that this species has been brought to federal attention for review for possible future federal listing"

TENNESSEE WILDLIFE RESOURCES COMMISSION

Chairman

I certify that this is an accurate and complete copy of a proclamation lawfully promulgated and adopted by the Tennessee Wildlife Resources Commission on the 28th day of September, 2000.

Secretary

Subscribed and sworn to before me this the ____ day of _____, 20__.

Notary Public

My commission expires on the ____ day of _____, 20__.

Proclamation No. 00-21 received and recorded this _____ day of _____, 20__.

Riley C. Darnell, Secretary of State

A Guide to the Rare Animals of Tennessee

March 2009



Common Raven, *Corvus corax*, State Threatened

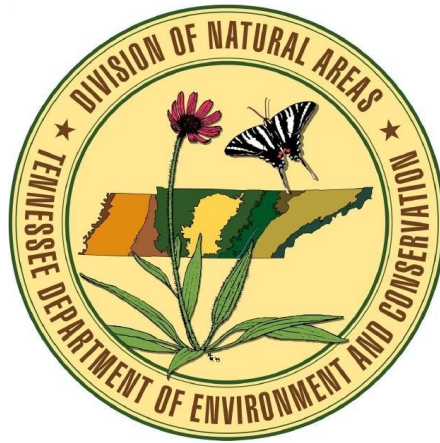
Then this ebony bird beguiling my sad fancy into smiling, By the grave and stern decorum of the countenance it wore, 'Though thy crest be shorn and shaven, thou,' I said, 'art sure no craven. Ghastly grim and ancient raven wandering from the nightly shore - Tell me what thy lordly name is on the Night's Plutonian shore!' Quoth the raven, 'Nevermore.' - Edgar Allan Poe



Tennessee Natural Heritage Program

Rare Animals List

March 2009



Tennessee Department of Environment & Conservation
Division of Natural Areas
7th Floor L&C Annex
401 Church Street
Nashville, TN 37243-0447
(615) 532-0431

<http://www.state.tn.us/environment/na/>

Compiled by David Ian Withers, Zoologist
Tennessee Natural Heritage Program

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**NATURAL HERITAGE RESOURCES OF TENNESSEE:
RARE ANIMAL SPECIES
MARCH 2009**

INTRODUCTION

The Tennessee Department of Environment and Conservation's Division of Natural Areas (DNA) is charged with protecting the state's biological diversity. The mission of the DNA is to conserve our state's natural environments by identifying and protecting significant natural communities and rare species, and by promoting understanding and application of ecological principles. DNA is responsible for (1) the location and designation of state natural areas, (2) the regulation of the state's ginseng trade, (3) conducting surveys for federally listed species, especially plants, (4) environmental reviews for public agencies and non-governmental organizations (NGOs), and (5) the location, identification, and documentation of rare plants* and animals in Tennessee. The last task is the charge of the Tennessee Natural Heritage Program (TNHP) within DNA, which was created with the assistance and direction of The Nature Conservancy (TNC). The TNHP was established in 1974, and was one of the first state Natural Heritage programs in the U.S. The TNHP relies on the use of computerized databases to record and report important information regarding the state's rare, threatened, and endangered plants, animals, and natural communities. In 2001, the data management arm of TNC was reorganized as a separate entity, NatureServe, which continues to provide centralized support to heritage programs, and coordinates the greater Natural Heritage Network.

Lists produced from the program's Biotics database help to accomplish the goals of conservation and protection of rare taxa. Federal, state, and private agencies, organizations, and individuals use species lists produced by the TNHP in the environmental review process. Currently 517 invertebrate taxa and 182 vertebrate taxa are actively tracked by the state, meaning that the TNHP has electronic occurrence information for these species, or that the program intends to acquire such data. Additionally, the TNHP maintains 185 invertebrates and 62 vertebrates on a "Watch" list- species for which information is accumulated passively and maintained only in hardcopy form. Some of these taxa may warrant active tracking at a later time. Species included on the watch list include possibly extirpated taxa, formerly tracked species found to be more abundant than originally speculated, and certain obscure taxa for which too little information exists to warrant active tracking.

If you do not have a list that has been revised in the past year, please visit our website at <http://www.state.tn.us/environment/na/> to download the latest version. Note that legal federal and/or state status may change before the next edition of this list is produced.

DNA encourages knowledgeable individuals to assist the TNHP staff in determining accurate rare animal list contents and ranking information. Please submit comments and justification to david.withers@state.tn.us for consideration. Your assistance is appreciated.

The legally defined federal and state status is indicated for each species on this list. Federally listed species are protected by the Endangered Species Act of 1973, as amended. The U.S. Fish and Wildlife Service (FWS) administers the act and assigns federal status designations to species that are threatened with extinction (endangered) and those which may become endangered in the foreseeable future (threatened). The state status of certain invertebrates (mollusks & crustaceans) is determined by the Tennessee Wildlife Resources Agency (TWRA)**. Generally, the TWRA designation will be at the same level (or higher) as the federal status. However, many species may be listed by the TWRA that do not have a federal status at present. Likewise, some federal species (including insects and arachnids) are not listed by TWRA. Many rare invertebrates are not currently afforded state or federal protection, but are tracked by the TNHP.

The nominations of new species or revision of statuses for currently listed species may change for the following reasons: (1) new information about the distribution of the species in Tennessee and/or throughout its range, (2) changes in the number of known populations in Tennessee, (3) the viability of these populations, (4) habitat specificity, (5) known or perceived threats to the species and its habitats, (6) the number of protected populations, (7) the difficulty of adequately protecting or managing habitats for the species' survival, (8) biological factors which influence their ability to reproduce or respond to disturbance, or (9) the species' dependence on other species that also may be in jeopardy.

Status and ranking are subject to change during the year, so periodically check our web site to make certain you have the most recent information. Additional detail about species listed by the TWRA and FWS may be found at www.state.tn.us/twra/nongame.html and www.fws.gov/angered/ respectively.

*T.C.A. 70-8-301 through 70-8-314, [Rare Plant Protection and Conservation Act of 1985](#)

**T.C.A. 70-8-101 through 70-8-112, [Tennessee Nongame and Endangered or Threatened Wildlife Species Conservation Act of 1974](#)

Rationale

Tennessee is one of the most biodiverse states in the nation, boasting over 300 species of fish, at least 80 mammal and 60 reptile species, approximately 70 amphibian taxa (including over 40 salamander species), and over 340 species of birds.

The invertebrates are no less impressive, with over 225 land snail taxa, 100 aquatic snail species, at least 120 mussel and 70 crayfish species, and thousands of insect taxa. Many of our rarer species are invertebrates, and some cave specialists (such as certain beetles, springtails, & pseudoscorpions) may be limited to just one or a very few sites.

With so many species, subspecies, and races, and in part thanks to our geography, geology, and climate, the number of habitat specialists is remarkable. Endemism is high, with at

least 74 animal species known only from Tennessee. Many other species exist on the periphery of their range in Tennessee (where evolutionary processes may act most quickly) or may range little outside of Tennessee.

It is the hope of the DNA that this list provides not only the nuts and bolts (the legal statuses) of rare species, but that it also instructs the reader as to the great diversity we all have inherited. Truly, its remarkable biodiversity makes Tennessee an outstanding state in which to live.

List Structure

Species included in the Rare Animals List are presented by major taxonomic grouping, then alphabetically by scientific name, and contain the following fields: scientific name, taxonomic authority, common (vernacular) name if assigned, the physiographic regions from which we have mapped records, habitat, federal status, state status, and global and state ranks (as assigned by NatureServe and TNHP, respectively).

Scientific Name

As presented by this list, each species' scientific name is generally that accepted by the International Commission on Zoological Nomenclature and recorded by NatureServe. The scientific name is followed by the taxonomic authority for the species. If the species has at some point been reassigned to a different genus, the name of the original authority appears in parentheses.

Common or Vernacular Name

It is a common misconception that vernacular names change more frequently than scientific names. That is not necessarily the case. What is true is that many more common names may exist simultaneously than the scientific parlance. This list presents common names generally adopted by the scientific community and presented in the corresponding authoritative publications.

Physiographic Province

The physiographic provinces of Tennessee are presented graphically on page xi, following designations adapted from The Geologic History of Tennessee: Department of Environment and Conservation, Division of Geology Bulletin 74 (R. A. Miller, 1974). From west to east they include the Mississippi Floodplain (MF), Coastal Plain (CP), West Tennessee Uplands (WU), Western Highland Rim (WR), Central Basin (CB), Eastern Highland Rim (EH), Cumberland Plateau (CU), Sequatchie Valley (SV), Cumberland Mountains (CM), Ridge & Valley (RV), and Blue Ridge Mountains (BR).

Habitat

General habitat requirements for each species are noted, including physiographic or watershed restrictions if known. Other habitats may exist for poorly studied or obscure species, and these habitat comments should not be construed to describe every possible location for the species in question.

Federal Status

Federally listed animals are protected by the Endangered Species Act of 1973 (as amended), and the list is maintained by the FWS. In Tennessee, listing and recovery responsibilities generally are divided between two FWS offices, in Cookeville, Tennessee, and Asheville, North Carolina. Please visit www.fws.gov/southeast/ for additional information about FWS activities in Tennessee.

The FWS simplified the assignment of various “candidate species” designations in 1997, and those changes are reflected here. Applicable federal statuses are defined as follows, based on nomenclature adopted by NatureServe and the TNHP:

LE	Listed Endangered	Taxon is threatened by extinction throughout all or a significant portion of its range
SAE	Endangered by Similarity of Appearance	Taxon is treated as an endangered species because it may not be easily distinguished from a listed species
LT	Listed Threatened	Taxon is likely to become an endangered species in the foreseeable future
SAT	Threatened by Similarity of Appearance	Taxon is treated as a threatened species because it may not be easily distinguished from a listed species
PE	Proposed Endangered	Taxon proposed for listing as endangered
PT	Proposed Threatened	Taxon proposed for listing as threatened
C	Candidate species***	Taxon for which the USFWS has sufficient information to support proposals to list the species as threatened or endangered, and for which the Service anticipates a listing proposal
(status, XN)	Nonessential experimental population in portion of range	Taxon which has been introduced or re-introduced in an area from which it has been extirpated, and for which certain provisions of the Act may not apply
PXN	Proposed nonessential experimental population	

(Modified from Federal Register, 50 CFR Part 17.11 {31 December 1999})

*** Taxa listed as candidate species may be added to the list of Endangered and Threatened species, and as such, consideration should be given to them in environmental planning. Taxa listed as LE, LT, PE, and PT must be given consideration in environmental planning involving federal funds, lands, or permits, and should be given consideration in all non-federal activities. For further information, please contact the Tennessee Field Office of the FWS, 446 Neal Street, Cookeville, TN 38501; (931) 528-6481.

State Status

In Tennessee, vertebrates, mollusks and crustaceans may be formally listed by the TWRA as Endangered, Threatened, or “Deemed in Need of Management” (T.C.A. 70-8-104, 70-8-105, 70-8-107). No insects or arachnids can be listed by the TWRA, but may be listed by the FWS.

E	Endangered	Any species or subspecies of wildlife whose prospects of survival or recruitment within the state are in jeopardy or are likely to become so within the foreseeable future
T	Threatened	Any species or subspecies of wildlife that is likely to become an endangered species within the foreseeable future
D	“Deemed in Need of Management”	Any species or subspecies of nongame wildlife which the executive director of the TWRA believes should be investigated in order to develop information relating to populations, distribution, habitat needs, limiting factors, and other biological and ecological data to determine management measures necessary for their continued ability to sustain themselves successfully. This category is analogous to “Special Concern.”

Comprehensive Wildlife Conservation Strategy

In 2004, TWRA and TNC began a joint partnership to develop a Comprehensive Wildlife Conservation Strategy (CWCS) for Tennessee, from which was produced a detailed list of species of Greatest Conservation Need (GCN). Recognizing the role the TWRA plays in the conservation of habitats- including those containing species that cannot be legally listed at the state level- the CWCS includes numerous insects, arachnids, millipedes, and other invertebrates not legally defined as wildlife. Details about the CWCS and GCN species may be found at www.state.tn.us/twra/cwcs/cwcsindex.html. Numerous GCN species are represented in the current rare animals list.

Note: Many species presented in the TNHP list may have neither a state nor federal designation, however are considered rare by the DNA, NatureServe, or other agencies, and should be evaluated during the environmental review process. Information is collected on

these species in order to minimize the necessity of listing these taxa as endangered or threatened.

Global and State Ranks

As a guide in setting conservation priorities, TNC developed a ranking system for estimating the abundance of plants and animals tracked by Natural Heritage programs. The Global Rank (GRANK) is assigned by NatureServe Central Zoology staff based on the best range-wide (global) abundance information for each taxon. A five-tier system (G1-G5) is used to describe rarity, from G1 (extremely rare) to G5 (widespread). The same system is applied by the TNHP to assign the State Rank (SRANK), which describes the species' abundance within our state borders. Numerous land management agencies, including the Cherokee National Forest, use GRANK to help determine sensitive species that occur on their properties.

SRANK and GRANK are based primarily upon the number of occurrences of the element (species) within the state and range-wide, respectively. For obscure or under-studied species, ranks are based on the best available information, and consideration may be given to other factors influencing the rarity of each taxon, including threats, abundance, population trends, and distribution.

SRANKs used in this list are defined below. GRANKs are similarly defined, except that ranking criteria apply range-wide (e.g. an S1 species is “critically imperiled” in the state, and a G1 species is “critically imperiled” range-wide).

S1	Extremely rare and critically imperiled in the state (often with five or fewer occurrences), or very few remaining individuals, or because of some special condition where the species is particularly vulnerable to extirpation
S2	Very rare and imperiled within the state, six to twenty occurrences, or few remaining individuals, or because of some factor(s) making it vulnerable to extirpation
S3	Vulnerable , rare, and uncommon in the nation or state due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors making it vulnerable to extirpation
S4	Uncommon but not rare, and apparently secure within the state, but with cause for long-term concern due to declines or other factors
S5	Demonstrably common, widespread, and secure in the state
SH	Of historical occurrence in Tennessee, e.g. formally part of the established biota, with the expectation that it may be rediscovered
SX	Believed extirpated from the state with little expectation of rediscovery
S#S#	Denotes a “range rank” because the rarity of the species is uncertain (e.g. S1S3)
S?, S_?	Unranked at this time or rank uncertain

_N	Conservation status refers to the non-breeding population of the species in Tennessee (mostly applies to vertebrates)
_B	Conservation status refers to the breeding population of the species in Tennessee (mostly applies to vertebrates)
_Q	Questionable taxonomy (GRANKs only)
_T#	Subspecific taxon rank (GRANKs only)
_NR	Not ranked
_U	Currently unrankable due to lack of information or due to substantially conflicting information about status or trends

Note: Those species having an SRANK of S1 to S3, state endemics, and species with limited distribution in Tennessee should be given special consideration in environmental planning. For further information contact DNA at (615) 532-0440.

HABITAT	PHYSIOGRAPHIC PROVINCES	STATE STATUS	FEDERAL STATUS	SRANK	GRANK
BIVALVIA (MUSSELS)					
Lampsilis ornata Creeks/small rivers with substrates of sand, mud, & gravel, & mod current; Conasauga River; Polk & Bradley cos.; Ridge & Valley.				S2S3	G5
(Conrad, 1835)					Southern Pocketbook
Lampsilis siliquoidea Slackwater with mud subst; Wolf R (Miss R trib); west TN; may occur at Reelfoot Lk; also rept Drakes Ck (Cumb R), Sumner Co.	CP			S2	G5
(Barnes, 1823)					Fatmucket
Lampsilis virescens Found in sand and gravel substrates in shoal areas of small-medium size rivers; middle and upper TN R system; poss extirpated in TN.	RV, CU	E	LE	S1	G1
(I. Lea, 1858)					Alabama Lampmussel
Lasmigona holstonia Spring runs, creeks, & small rivers, in subst of sand & mud; upper Tenn & Conasauga river watersheds; Blue Ridge & Ridge & Valley.				S2	G3
(I. Lea, 1838)					Tennessee Heelsplitter
Lasmigona sp. 1 cf. holstonia Streams of Barrens Plateau, in soft sediments near bank or in bank below waterline; upper Duck & Caney Fk R; E Highland Rim.				S1	GNR
					Barrens Toesplitter
Lasmigona subviridis Quiet waters; smaller streams in pools and eddies with gravelly and sandy bottoms; Watauga River upst of Watauga Lake; Blue Ridge.				S2	G3
(Conrad, 1835)					Green Floater
Lemiox rimosus Small-medium size rivers in riffle areas with sand and gravel substrates in mod-fast currents; Tennessee River system.	WR, CB, RV	E	LE	S1	G1
(Rafinesque, 1831)					Birdwing Pearlymussel
Lexingtonia dolabelloides Lg creeks to mod sized rivers, in riffles/shoals of sand, fine gravel, and cobble substrates with mod current; Tennessee R watershed.	WR, ER, CB, RV, BR		C	S2	G2
(I. Lea, 1840)					Slabside Pearlymussel
Medionidus acutissimus Small-large rivers in gravel & cobble shoals in shallow water with mod strong current; Conasauga River; Polk County.	RV	T	LT	S1	G2
(I. Lea, 1831)					Alabama Moccasinshell
Medionidus parvulus Highly oxygenated streams & small rivers with moderate to strong flow, in sand and gravel; Conasauga River, Polk County.	RV, BR	E	LE	S1	G1Q
(I. Lea, 1860)					Coosa Moccasinshell
Obovaria jacksoniana Rivers with medium-sized gravel substrates and low-mod current; Wolf & Hatchie rivers; Mississippi River watershed; west Tennessee.	CP			S1	G2
(Frierson, 1912)					Southern Hickorynut

HABITAT	PHYSIOGRAPHIC PROVINCES	STATE STATUS	FEDERAL STATUS	SRANK	GRANK
BIVALVIA (MUSSELS)					
Quadrula fragosa Medium-large size rivers, in riffles with mud, sand, and gravel; lower Tenn & Cumb river systems; Central Basin, W Uplands & W Rim.	(Conrad, 1835)			Winged Mapleleaf	
		E	LE	S1	G1
Quadrula intermedia Shallow riffle and shoal areas of headwater streams and bigger rivers, in coarse sand/gravel substrates; Tennessee River system.	(Conrad, 1836)	CB, RV	E	LE	Cumberland Monkeyface
				S1	G1
Quadrula sparsa Headwater sections of rivers in shallow riffles/runs with sand-gravel substrate & moderate current; upper Tennessee River drainage.	(I. Lea, 1841)	CB, RV	E	LE	Appalachian Monkeyface
				S1	G1
Simpsonaias ambigua In sand or silt under large, flat stones in areas of swift current; occurred historically in E Fk Stones R; 2005 obs in lower Duck R.	(Say, 1825)	WR, CB			Salamander Mussel
				S1	G3
Strophitus connasaugaensis Small-medium sized rivers, in shallow areas with current and substrates of of fine gravel, sand, & silt; Conasauga River; Polk County.	(I. Lea, 1858)	RV, BR			Alabama Creekmussel
				S1	G3
Toxolasma cylindrellus Small tributary rivers & streams, in firm rubble, gravel, and sand substrates in shallow riffles and shoals; lower Tenn. River system.	(I. Lea, 1868)	WR, ER, CB, SV, CU	E	LE	Pale Lilliput
				S1	G1
Toxolasma lividus Small-medium sized rivers & lg creeks, in mud, sand, & gravel substrates; Tenn. & Cumberland river systems in headwater areas.	(Rafinesque, 1831)	ER, CB, CU			Purple Lilliput
				S1S2	G2
Uniomereus declivis Typically found buried in a substrate of fine sand and mud in shallow sloughs and ditches; reported only from Hatchie R system.	(Say, 1831)	CP			Tapered Pondhorn
				S2	G5Q
Villosa fabalis Riffles of medium-small rivers & creeks, in gravel & sand substrates associated with <i>Justicia americana</i> ; Tennessee River watershed.	(I. Lea, 1831)	CB, RV		C	Rayed Bean
				S1	G2
Villosa nebulosa Creeks-medium size rivers in sand/gravel riffles in mod current; assoc. with <i>Justicia americana</i> ; Conasauga R system; Ridge & Valley.	(Conrad, 1834)				Alabama Rainbow
				S2	G3
Villosa perpurpurea Creeks to medium-sized rivers, headwaters, in riffles with coarse sand & gravel & some silt; upper Tennessee River watershed.	(I. Lea, 1861)	RV, CU	E	LE	Purple Bean
				S1	G1

HABITAT	PHYSIOGRAPHIC PROVINCES	STATE STATUS	FEDERAL STATUS	SRANK	GRANK
Etheostoma brevirostrum	Suttkus and Etnier, 1991			Holiday Darter	
Bedrock & gravel pools of creeks and small to medium rivers; Conasauga River watershed.	RV, BR	T		S1	G2
Etheostoma cervus	Powers and Mayden, 2003			Chickasaw Darter	
Small streams with slow to moderate current and predominantly sandy substrates; Forked Deer River watershed.				S2S3	G2G3
Etheostoma cinereum	Storer, 1845			Ashy Darter	
Small to medium upland rivers with bedrock or gravel substrate and boulders.	WR, ER, CB, RV, CM, CU	T		S2S3	G2G3
Etheostoma corona	Page and Ceas, 1992			Crown Darter	
Rocky pools and adjacent riffles of headwaters, creeks, and small rivers; Cypress Creek watershed.	WR, WU	E		S1S2	G3
Etheostoma denoncourti	Stauffer and van Snik, 1997			Golden Darter	
Medium to large rivers in shallow riffle areas of pea gravel; Tennessee River system.	WR, CB, RV, SV			S2	G2
Etheostoma ditrema	Ramsey and Suttkus, 1965			Coldwater Darter	
Limestone springs and slow spring runs; Conasauga River watershed.	RV	T		S1	G1G2
Etheostoma forbesi	Page and Ceas, 1992			Barrens Darter	
Headwaters of the Barren Fork & Hickory Creek drainages; Cumberland River watershed.	ER	E		S1	G1G2
Etheostoma gutselli	(Hildebrand, 1932)			Tuckasegee Darter	
Swift riffle areas with coarse rubble; Little Tennessee & Pigeon rivers.	BR	E		S1	G4
Etheostoma kantuckeense	Ceas and Page, 1997			Highland Rim Darter	
Upper Barren River system of the Highland Rim.				S1	G4
Etheostoma luteovinctum	Gilbert and Swain, 1887			Redband Darter	
Limestone streams; Nashville Basin & portions of Highland Rim.	WR, ER, CB	D		S4	G4
Etheostoma microlepidum	Raney and Zorach, 1967			Smallscale Darter	
Small rivers, in deep, strongly flowing riffles with gravel, boulder, and coarse rubble substrates; Cumberland River drainage.	WR, CB	D		S2	G2G3
Etheostoma neopterum	Howell and Dingerkus, 1978			Lollypop Darter	
Small to medium sized, gravelly, cool, spring-fed streams; Shoal Creek watershed.	WR			S1S2	G3

APPENDIX C
SPECIES LISTING
FOR
LEWISBURG MS4 AREA



[Rare Species by Watershed](#)
[Rare Species by County](#)
[Rare Species by Quadrangle](#)
[Stormwater Programs](#)

[Important Guidance](#)

- [Download Status and Ranks](#)

[Key to Status and Ranks](#)

Rare Species by Stormwater MS4 Program

Data Current as of January 2015.

Go Rows Actions

Row text contains 'Lewisburg'

1 - 2 of 2

Program Name	MS4 Permit	Huc 8	Huc 12	Huc 12 Name	Type	Category	Scientific Name	Common Name	Global Rank	State Rank	Fed Status	State Status	Habitat Description
Lewisburg	TNS077615	6040002	60400020601	Globe Creek	Vertebrate Animal	Zoological	Etheostoma luteovinctum	Redband Darter	G4	S4	--	D	Limestone streams; Nashville Basin & portions of Highland Rim.
Lewisburg	TNS077615	6040002	60400020502	Big Rock Creek	Vertebrate Animal	Zoological	Etheostoma luteovinctum	Redband Darter	G4	S4	--	D	Limestone streams; Nashville Basin & portions of Highland Rim.

1 - 2 of 2



If you have any questions or comments, Email ask.tdec@tn.gov or call at (888) 891-TDEC (8332).

