

Tri-state comprehensive study:
Alabama-Coosa-Tallapoosa and Apalachicola-Chattahoochee-
Flint River Basins
Inventory for Endangered, Threatened and Candidate species

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TRI-STATE COMPREHENSIVE STUDY
ALABAMA/COOSA/TALLAPOOSA AND APALACHICOLA/CHATTAHOOCHEE/FLINT
RIVER BASINS

Geomys pinetis
Southeastern pocket gopher

Geomysidae
Pocket gophers

SYNONYMS

LEGALSTATUS

State Protected (Alabama Regulations: Game, Fish, and **Furbearing** Animals, Nongame Species Regulation, 220-2-.92).

REASONS FOR CURRENT STATUS

In Alabama, the species has disappeared from Tuscaloosa and Bibb counties, and it appears to have been extirpated from other formerly inhabited areas. Other subspecies (species?) in Georgia have become extinct.

DESCRIPTION

A medium-sized rodent with small eyes and ears, a bare tail, short fur, small hind limbs, and large fore limbs with elongated front claws. Fur color is brown above and buff below.

DISTRIBUTION

G. pinetis occurs in the Coastal Plain from the Black **Warrior/Tombigbee** rivers in Alabama eastward to the Savannah River in Georgia. Its range extends southward into most of the Florida peninsula.

HABITAT

Terrestrial: **Forest/Woodlands, Scrub/Shrub**, Grasslands. Deep-well-drained sandy soils along roadsides, in open pine or **pine/hardwood** forests, and in fields.

OTHER BIOLOGICAL DATA

Pocket gophers have a low reproductive rate and a limited ability to disperse, making it difficult to recolonize areas after extirpation. Of approximately 80 species of arthropods reported from pocket gopher burrows, 14 are apparently unable to exist elsewhere.

POTENTIAL THREATS

Habitat loss to development, agriculture, and certain **silvicultural** practices. Fragmentation of populations by roads and other habitat losses.

REFERENCES

Burt, W.H. and R.P. **Grossenheider**. 1976. A field guide to the mammals. Houghton Mifflin Co., Boston.

French, T.W. 1986. Southeastern pocket gopher, *Geomys pinetis*. Page 115 in Mount, R.H. (ed.), Vertebrate Animals of Alabama in Need of Special Attention. **Ala. Agr. Expt. Sta., Auburn Univ.** 124 pp.

TRI-STATE COMPREHENSIVE STUDY
ALABAMA/COOSA/TALLAPOOSA AND APALACHICOLA/CHATTAHOOCHEE/FLINT
RIVER BASINS

Tadarida brasiliensis
Brazilian free-tailed bat

Molossidae
Free-tailed bats

SYNONYMS

LEGAL STATUS

State Protected (Alabama Regulations: Game, Fish, and **Furbearing** Animals, Nongame Species Regulation, 220-2-.92).

REASONS FOR CURRENT STATUS

At the time of listing as "Special Concern" in Alabama (1983), no recently verified occurrences were known in the state. It has since found to be more common than previously thought.

DESCRIPTION

A large bat, with wingspan 290-325 mm. Fur is dark brown to dark gray, velvety. Distal half of tail not joined to interfemoral membrane. Facial area and snout black. Ears roughly triangular and leathery, almost touching in the middle of forehead.

DISTRIBUTION

Throughout the **ACT/ACF** study area, but only locally. Occurs in Atlantic and Gulf coastal states from North Carolina to Louisiana and Texas.

HABITAT

Terrestrial. **Forest/Woodlands**. Roosting habitat in the study area is buildings and other **manmade** structures. In the southwestern **U.S.** the species roosts in caves. Foraging habitat includes forest edges, open areas, and areas over lakes and ponds.

OTHER BIOLOGICAL DATA

Feeds almost exclusively on **small** moths. Unlike other bats in this area, free-tailed bats mate in early spring before leaving their **hibernacula**.

POTENTIAL THREATS

Loss of **manmade** roosting habitats **through modern** construction of "bat-proof" buildings and the gradual disappearance of older structures. Pesticides may be a threat.

REFERENCES

- Burt, W.H. and R.P. Grossenheider. 1976. A field guide to the mammals. Houghton Mifflin Co., Boston.
- Jordan, J.R. 1986. **Brazilian** free-tailed bat, *Tadarida brasiliensis* (Geof. St.-Hilaire). Pages 113-114 in Mount, R.H. (ed.), Vertebrate Animals of Alabama in Need of Special Attention. Ala. Agr. Expt. Sta., Auburn Univ. 124 pp.
- Harvey, M.J. Bats of the eastern United States. 1992. Arkansas Game & Fish **Commission**.46 pp.

TRI-STATE COMPREHENSIVE STUDY
ALABAMA/COOSA/TALLAPOOSA AND APALACHICOLA/CHATTAHOOCHEE/FLINT
RIVER BASINS

Mustela frenata olivacea
Southeastern weasel

Mustelidae
Weasels, skunks and allies

SYNONYMS: *Mustela peninsulae olivacea*

LEGAL STATUS State Protected [as long-tailed weasel] (Alabama Regulations: Game, Fish, and Furbearing Animals; Nongame Species Regulation, 220-2-.92).

REASONS FOR CURRENT STATUS

Considered scarce in Alabama.

DESCRIPTION

A small mustelid, with pelage chestnut brown dorsally and yellowish white ventrally. Chin and upper lips are white. The terminal two-thirds of the tail is black.

DISTRIBUTION

The subspecies *M. f. olivacea* ranges from southern North Carolina west to eastern Mississippi and south to the northern third of peninsular Florida. The species is widespread throughout North America.

HABITAT: Terrestrial: Forest/Woodland, Scrub/Shrub. Palustrine: Forested. Specific habitat preferences are not known, and this weasel can be expected to occur wherever food and shelter are adequate. Weasels are known to use hollow trees, burrows, and the burrows of other animals, including gopher tortoises (*Gopherus polyphemus*) and southeastern pocket gophers (*Geomys pinetis*).

OTHER BIOLOGICAL DATA

As far back as 1921, A.H. Howell considered this weasel to be "scarce everywhere in the Southern States". Perceived rarity led to this species being recently reclassified from a furbearer to a nongame species in Alabama. It is also fully protected in Florida.

POTENTIAL THREATS

No specific threats have been identified. Ongoing losses of various habitat types are undoubtedly having some adverse effect.

REFERENCES

- Burt, W.H. and R.P. Grossenheider. 1976. A field guide to the mammals. Houghton Mifflin Co., Boston.
- Howell, A.H. 1921. North American Fauna No. 45: A biological survey of Alabama. I. physiography and life zones. II. the mammals. Government Printing Office, Washington, D.C.
- Frank, P.A. 1992. Southeastern weasel, *Mustela frenata olivacea*. Pages 310-314 in Humphrey, S.R. (ed.), Rare and endangered biota of Florida, Vol. I, mammals. Univ. Press of Florida, Gainesville.

TRI-STATE COMPREHENSIVE STUDY
ALABAMA/COOSA/TALLAPOOSA AND APALACHICOLA/CHATTAHOOCHEE/FLINT
RIVER BASINS

Ursus americanus floridanus
Florida black bear

Ursidae
Bears

SYNONYMS

LEGAL STATUS

Candidate Category 2. *Federal Register*, Vol. 56, No. 255. November 21, 1991. No Open Season (Alabama Regulations: Game, Fish, and Furbearing Animals; 1993-94 Hunting Seasons, 220-2-.01).

REASONS FOR CURRENT STATUS

Extremely low numbers in Alabama (perhaps fewer than 50); vast majority of former range is now uninhabited.

DESCRIPTION: The only bear in the eastern U.S. Largest mammal in Alabama. Not likely to be confused with other species.

DISTRIBUTION

Historically occurred throughout the ACT/ACF area. In Alabama, confined primarily to the swamp and river bottom area just north of Mobile Bay. Single individuals occur sporadically elsewhere in the state.

HABITAT

Terrestrial: Forest/Woodland. Dense thickets, along waterways and swamps.

OTHER BIOLOGICAL DATA

Major food items are acorns, blueberries, and gallberries. Insects are the most important animal food, with honey bees (*Apis*), yellow jackets (*Vespula*), carpenter ants (*Campanotus*), and bessie bugs (*Odontotaenius*) being most prevalent in the diet of bears in Florida. Vertebrates are occasionally taken, including armadillo (*Dasypus novemcinctus*) and white-tailed deer (*Odocoileus virginianus*). Black bears have very large home ranges and a very low reproductive rate, making the species sensitive to excess mortality.

POTENTIAL THREATS

Expanding urbanization, agricultural development, and increased use of wild areas for recreation are primary threats. Roadkill mortality and illegal killing continue to keep populations low.

REFERENCES

- Burt, W.H. and R.P. Grossenheider. 1976. A field guide to the mammals. Houghton Mifflin Co., Boston.
- Dusi, J.L. 1986. Black bear, *Ursus americanus* (Pallas). Pages 116-117 in Mount, R.H. (ed.), Vertebrate Animals of Alabama in Need of Special Attention. Ala. Agr. Expt. Sta., Auburn Univ. 124 pp.
- Maehr, D.S. 1992. Florida black bear, *Ursus americanus floridanus*. Pages 265-275 in Humphrey, S.R. (ed.), Rare and endangered biota of Florida, Vol. I, mammals. Univ. Press of Florida, Gainesville.

TRI-STATE COMPREHENSIVE STUDY
ALABAMA/COOSA/TALLAPOOSA AND APALACHICOLA/CHATTAHOOCHEE/FLINT
RIVER BASINS

Myotis austroriparius
Southeastern myotis

Vespertilionidae
Vespertilionid bats

SYNONYMS

LEGAL STATUS

Candidate Category 2. *Federal Register*, Vol. 56, No. 255. November 21, 1991. State Protected (Alabama Regulations: Game, Fish, and Furbearing Animals; Nongame Species Regulation, 220-2-.92).

REASONS FOR CURRENT STATUS

Appears to be declining rangewide. Status is poorly known in Alabama.

DESCRIPTION

A medium-sized *Myotis* having a wingspan of 238-270 mm. Fur is dull brown to gray above and buff to whitish below. Long hairs on toes extend well beyond the tips of the claws, calcar not keeled.

DISTRIBUTION

No known occurrences within the ACT/ACF study area in Alabama. Summer roosts are known from southern Alabama, and several specimens have been collected from caves in northern Alabama in fall and winter. Ranges from North Carolina west to Texas and southeastern Oklahoma. Occurs northward to western Kentucky.

HABITAT

Terrestrial: Forest/Woodland, Caves. Roosts in caves, hollow trees, and may use buildings, mines, culverts. Maternity colonies are typically in caves. Summer foraging habitat is similar to that of *M. grisescens*.

OTHER BIOLOGICAL DATA

Foraging is typically over water (beaver ponds, large streams, impoundments). Unlike other *Myotis* bats of North America which have single young, about 90 percent of *M. austroriparius* females produce twins.

POTENTIAL THREATS

Human disturbance at cave sites is the primary threat. Because of this species' dependence on open water for foraging habitat, any loss of river/reservoir surface area by water diversion projects could be expected to have negative impacts.

REFERENCES

- Burt, W.H. and R.P. Grossenheider. 1976. A field guide to the mammals. Houghton Mifflin Co., Boston.
- Harvey, M.J. Bats of the eastern United States. 1992. Arkansas Game & Fish Commission..46 pp.
- Jordan, J.R. Southeastern myotis, *Myotis austroriparius* Rhoads. Pages 111-112 in Mount, R.H. (ed.), Vertebrate Animals of Alabama in Need of Special Attention. Ala. Agr. Expt. Sta., Auburn Univ. 124 pp.

**TRI-STATE COMPREHENSIVE STUDY
ALABAMA-COOSA-TALLAPOOSA AND APALACHICOLA-CHATTAHOOCHEE-FLINT
RIVER BASINS**

The oblong rocksnail occurred in the Cahaba River and Buck Creek in Shelby County. This species was not documented during recent surveys.

HABITAT

Riverine, mainstream.

Leptoxis foremani (Lea, 1843)
Interrupted Rocksnail

SYNONYMS

Anculosa foremani Lea, 1842
Anculosa downiei Lea, 1868
Anculosa modesta Smith in Goodrich, 1922

LEGAL STATUS

Candidate Category 2, Federal Register, 56(225):58820, November 21, 1991.

DISTRIBUTION

This species was known from the main channel of the Coosa River, at Three Island Shoals, Talladega, County to Butting Ram Shoals, Coosa County. It was not collected during recent surveys and is presumed extinct.

HABITAT

Riverine, mainstream.

Leptoxis formosa (Lea, 1860)
Maiden Rocksnail

SYNONYMS

Anculosa formosa Lea, 1860

LEGAL STATUS

Candidate Category 2, Federal Register, 56(225):58820, November 21, 1991.

DISTRIBUTION

This species of river snail was known from Talladega Creek, Talladega County, Yellowleaf Creek, Shelby County and in the Coosa River from Minnesota Bend, Gadsden, Etowah County, to Wetumpka, Elmore County. This species was not collected during recent survey work and may be extinct.

HABITAT

Riverine, mainstream, tributary.

**TRI-STATE COMPREHENSIVE STUDY
ALABAMA-COOSA-TALLAPOOSA AND APALACHICOLA-CHATTAHOOCHEE-FLINT
RIVER BASINS**

LEGAL STATUS

Candidate Category 2, Federal Register, 56(225):58820, November 21, 1991.

DISTRIBUTION

The Coosa River at Wetumpka, Cahaba River, and Little Cahaba River east of Piper, Bibb, County is the historic range. Recent collections identified this species from 19 localities in the Cahaba River in Bibb and Shelby counties.

HABITAT

Riverine, mainstream.

This species utilizes smooth, clean rocks in the current.

Leptoxis clipeata (Smith in Goodrich, 1922)
Agate Rocksnail

SYNONYMS

Anculosa clipeata Smith in Goodrich, 1922

LEGAL STATUS

Candidate Category 2, Federal Register, 56(225):58820, November 21, 1991.

DISTRIBUTION

This species was known from the main channel of the Coosa River, from below Riverside, St. Clair, County to Butting Ram Shoals. Recent surveys failed to collect this species and it may be extinct.

HABITAT

Riverine, mainstream

Leptoxis compacta (Anthony, 1854)
Oblong Rocksnail

SYNONYMS

Melania compacta Anthony 1854
Melania fuscocincta Anthony, 1854
Melania germana Anthony, 1860
Oxytrema germana (Anthony, 1860)
Lithasia nuclea Lea, 1860
Anculosa compacta (Anthony, 1854)

LEGAL STATUS

Candidate Category 2, Federal Register, 56(225):58820, November 21, 1991.

DISTRIBUTION

DATE PRINTED: August 1, 1994

ALABAMA NATURAL HERITAGE PROGRAM
BASED ON BEST SCIENTIFIC DATA

TRI-STATE COMPREHENSIVE STUDY
ALABAMA/COOSA/TALLAPOOSA AND APALACHICOLA/CHATTAHOOCHEE/FLINT
RIVER BASINS

Myotis grisescens
Gray bat

Vespertilionidae
Vespertilionid bats

SYNONYMS

LEGAL STATUS

Endangered (41 FR 17740, April 28, 1976). State Protected (Alabama Regulations: Game, Fish, and Furbearing Animals; Nongame Species Regulation, 220-2-.92).

REASONS FOR CURRENT STATUS:A rangewide population decline of approximately 80 percent was documented by surveys conducted in the 1960s and 1970s. Gray bats have responded well to management, and could possibly be removed from the endangered list in the foreseeable future.

DESCRIPTION

A large *Myotis*. Total length 80-105 mm, hind foot 9-12 mm; ear length 14-16 mm; wingspread 275-300 mm, weight 7-14 g. Most likely to be confused with *M. lucifugus*, *M. austroriparius*, *M. sodalis*, and *M. septentrionalis*. Recognized from these by uniform-colored dorsal fur from base to tip (all others have contrasting bi- or tri-colored dorsal fur) and by attachment of wing membranes at ankle, not base of toe.

DISTRIBUTION

Within the study area in Alabama, known occurrences include one cave in Shelby County (Cahaba River drainage) and two caves in DeKalb County (Coosa River drainage). Additional populations are known from northwestern Georgia, presumably from within the Coosa drainage. The principal range of the species is centered on karst areas in Alabama, Tennessee, Kentucky, Missouri, and northern Arkansas.

HABITAT

Terrestrial. Forest/Woodland, Caves. More restricted to caves than any other U.S. mammal. Roosts year-round in caves. Summer caves are nearly always located within 1 km of rivers and reservoirs over which the bats forage. Gray bats do not feed in areas along rivers or reservoirs where the forest has been cleared.

OTHER BIOLOGICAL DATA

Nine winter caves support approximately 95 percent of the entire population during hibernation. Over one-half of the population hibernates in a single cave in the Tennessee Valley in Alabama.

POTENTIAL THREATS

Human disturbance at cave sites is the primary threat. Because of this species' dependence on open water for foraging habitat, any loss of river/reservoir surface area by water diversion projects could be expected to have negative impacts.

REFERENCES

- Burt, W.H. and R.P. Grossenheider. 1976. A field guide to the mammals. Houghton Mifflin Co., Boston.
- Evans, J.E., N. Drilling, and R.L. Henson. 1992. Element stewardship abstract for *Myotis grisescens*. The Nature Conservancy, Arlington, Virginia.
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TRI-STATE COMPREHENSIVE STUDY
ALABAMA/COOSA/TALLAPOOSA AND APALACHICOLA/CHATTAHOOCHEE/FLINT
RIVER BASINS

Jordan, J.R. 1986. Gray bat, *Myotis grisescens* Howell. Pages 106-107 in Mount, R.H. (ed.), Vertebrate Animals of Alabama in Need of Special Attention. Ala. Agr. Expt. Sta., Auburn Univ. 124 pp.

LaVal, R.K., R.L. Clawson, M.L. LaVal, and W. Claire. 1977. Foraging behavior and nocturnal activity patterns of Missouri bats, with emphasis on the endangered species *Myotis grisescens* and *Myotis sodalis*. J. Mammal. 58:592-599.

Tuttle, M.D. 1979. Status, cause of decline, and management of endangered gray bats. J. Wildlife Mgmt. 43:1-17.

TRI-STATE COMPREHENSIVE STUDY
ALABAMA/COOSA/TALLAPOOSA AND APALACHICOLA/CHATTAHOOCHEE/FLINT
RIVER BASINS

Myotis sodalis
Indiana bat

Vespertilionidae
Vespertilionid bats

SYNONYMS

LEGAL STATUS

Endangered (32 FR 4001; March 11, 1967). State Protected (Alabama Regulations: Game, Fish, and Furbearing Animals; Nongame Species Regulation, 220-2-.92).

REASONS FOR CURRENT STATUS

Despite strict conservation efforts at winter caves, substantial rangewide declines have been documented over the past four decades.

DESCRIPTION

A medium-sized *Myotis*. Total length 75-102 mm, hind foot 7-11 mm, ear length 11-15 mm, wingspread 240-267 mm, weight 5-11 g. Foot small; hairs on foot do not extend beyond toes; calcar has a definite keel. Fur gray to brown or nearly black, fine textured, not glossy; dorsal fur is tricolored, the basal two-thirds brownish-black followed by a grayish band and cinnamon tips. Distinguished from similar species as follows: *M. lucifugus* has long hairs on toes, no keel on calcar, foot is greater than 10 mm, and fur has a glossy sheen; *M. grisescens* has fur of the same color from base to tip, and web attached to ankle; *M. austroriparius* has long hairs on toes and foot is greater than 10 mm.

DISTRIBUTION

In Alabama, Indiana bats are known only from the northeastern one-third of the state, especially from Tennessee Valley caves. Disjunct hibernating populations have been reported from caves in northwestern Florida. Aside from this disjunct hibernating area, the known range of *M. sodalis* includes much of the midwestern and eastern United States from Vermont and new Hampshire southward to Tennessee and northern Alabama.

HABITAT

Terrestrial. Forest/Woodland, Caves. *M. sodalis* is migratory and uses very different winter and summer roost habitats. Winter habitats include limestone caves for hibernation, forest habitat near cave entrances, and nearby riparian foraging areas. Summer habitat includes dead trees used by the maternity colonies and nearby riparian foraging areas. The bats typically roost beneath the exfoliating bark of dead trees.

OTHER BIOLOGICAL DATA

Indiana bats have been found to use the same nest sites in successive summers. In Illinois, reproductively active females showed a preference for foraging in floodplain forests with closed canopies and impounded water.

POTENTIAL THREATS

Loss of summer habitat may be the primary threat to the species. Forest management practices that remove riparian forest foraging habitat, dead trees, or prevent trees from reaching maturity are detrimental to the species. Human disturbance during hibernation and commercialization of caves can destroy populations.

REFERENCES

TRI-STATE COMPREHENSIVE STUDY
ALABAMA/COOSA/TALLAPOOSA AND APALACHICOLA/CHATTAHOOCHEE/FLINT
RIVER BASINS

Garner, J.D. 1991. Determination of summer distribution and habitat utilization of the Indiana gray bat (*Myotis sodalis*) in Indiana. Final report to the Illinois Natural History Survey. 23 pp.

Jordan, J.R. 1986. Indiana myotis, *Myotis sodalis* Miller and Allen. Pages 107-108 in Mount, R.H. (ed.), Vertebrate Animals of Alabama in Need of Special Attention. Ala. Agr. Expt. Sta., Auburn Univ. 124 pp.

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Evans, J.E., N. Drilling, and R.L. Henson. 1992. Element stewardship abstract for *Myotis sodalis*. The Nature Conservancy, Arlington, Virginia.

TRI-STATE COMPREHENSIVE STUDY
ALABAMA/COOSA/TALLAPOOSA AND APALACHICOLA/CHATTAHOOCHEE/FLINT
RIVER BASINS

Plecotus rafinesquii
Rafinesque's big-eared bat

Vespertilionidae
Vespertilionid bats

SYNONYMS

LEGAL STATUS

Candidate Category 2. *Federal Register*, Vol. 56, No. 255. November 21, 1991. State Protected (Alabama Regulations: Game, Fish, and Furbearing Animals; Nongame Species Regulation, 220-2-.92).

REASONS FOR CURRENT STATUS

Within Alabama, there are very few known occurrences. Nowhere within its range is the species abundant, and it is perhaps the least known of all eastern U.S. bats.

DESCRIPTION

A medium sized bat, wingspan 265-301 mm; ears large (>25 mm). Color: dark gray to brown above, whitish below. Snout with two conspicuous dorsolateral lumps.

DISTRIBUTION

Throughout the ACT/ACF study area, locally distributed. Throughout Atlantic and Gulf coastal states from Virginia to Texas and southeastern Oklahoma. Range extends northward through Kentucky, southern Illinois, Indiana, Ohio, and West Virginia.

HABITAT

Terrestrial: Forest/Woodland, Caves. Maternity colonies, consisting of a few dozen adults, are usually found in abandoned buildings. Roosting habitat for males in summer is usually buildings or hollow trees. Foraging habitat is among the high branches of large trees.

OTHER BIOLOGICAL DATA

Big-eared bats emerge later in the evening than most bats to forage. Females usually bear one young, in late May or early June.

POTENTIAL THREATS

Destruction of old buildings and cutting of den trees eliminates roost sites. Pesticides may have played a role in the apparent decline.

REFERENCES

Burt, W.H. and R.P. Grossenheider. 1976. A field guide to the mammals. Houghton Mifflin Co., Boston.

Harvey, M.J. Bats of the eastern United States. 1992. Arkansas Game & Fish Commission. 46 pp.

Jordan, J.R. Rafinesque's big-eared bat, *Plecotus rafinesquii* Lesson. Pages 112-113 in Mount, R.H. (ed.), Vertebrate Animals of Alabama in Need of Special Attention. Ala. Agr. Expt. Sta., Auburn Univ. 124 pp.

TRI-STATE COMPREHENSIVE STUDY
ALABAMA/COOSA/TALLAPOOSA AND APALACHICOLA/CHATTAHOOCHEE/FLINT
RIVER BASINS

Zapus hudsonius
Meadow jumping mouse

Zapodidae
Jumping mice

SYNONYMS

LEGAL STATUS

State Protected (Alabama Regulations: Game, Fish, and Furbearing Animals; Nongame Species Regulation, 220-2-.92).

REASONS FOR CURRENT STATUS

The meadow jumping mouse appears to be very scarce in Alabama. A 1977 study on its distribution and ecology in the state met with limited success.

DESCRIPTION

A medium-sized mouse, 76-85 mm head-body length. White belly, yellowish-brown above with a darker dorsal band. Hind limbs much larger and longer than forelimbs and tail up to 1.5 times longer than the head and body.

DISTRIBUTION

Within the ACT/ACF study area, meadow jumping mice are probably confined to the Piedmont and Ridge and Valley physiographic provinces. It is not known from the Coastal Plain.

HABITAT

Terrestrial:Forest/Woodlands. Prefers wet, grassy places, especially those grading into weedy and shrubby habitats, but is found in drier areas.

OTHER BIOLOGICAL DATA

Primarily nocturnal. Feeds on seeds, insects, fruits.

POTENTIAL THREATS

No specific threats have been identified.

REFERENCES

Burt, W.H. and R.P. Grossenheider. 1976. A field guide to the mammals. Houghton Mifflin Co., Boston.

Dusi, J.L. 1986. Meadow jumping mouse, *Zapus hudsonius* (Zimmermann). Pages 116 in Mount, R.H. (ed.), Vertebrate Animals of Alabama in Need of Special Attention. Ala. Agr. Expt. Sta., Auburn Univ. 124 pp.

Whittaker, J.O., Jr. 1972. *Zapus hudsonius*. Mammalian Species 11:1-7.

TRI-STATE COMPREHENSIVE STUDY
ALABAMA/COOSA/TALLAPOOSA AND APALACHICOLA/CHATTAHOOCHEE/FLINT
RIVER BASINS

Accipiter cooperi
Cooper's Hawk

Falconiformes: Accipitridae
Kites, hawks, eagles, and ospreys

SYNONYMS

LEGAL STATUS

State Protected (Alabama Regulations: Game, Fish, and Furbearing Animals; Nongame Species Regulation, 220-2-.92).

REASONS FOR CURRENT STATUS

Considered a "Species of Special Concern" in Alabama. Due to the species' secretive habits, available data is insufficient to accurately determine its status.

DESCRIPTION

A crow-sized hawk, 380-510 mm in length with a wingspan of 710 mm. Adult plumage slate-blue above with underparts barred with reddish-brown on a creamy-white background. Tail feathers white-tipped and rounded, with three black bars.

DISTRIBUTION

Occurs throughout the study area. Confined to North America. The entire range extends from the southward limits of deciduous forests to the northern limit of tropical forests.

HABITAT

Terrestrial: Forest/Woodlands. Deciduous forests where openings occur.

OTHER BIOLOGICAL DATA

Primary prey is birds. The secretive nature of its sit-and-wait hunting technique can lead to an underestimation of its numbers. Nesting is generally in the tops of tall trees, and the clutch size ranges from 3 to 6.

POTENTIAL THREATS

No significant threats have been identified. Clearing hardwood forests destroys habitat.

REFERENCES

- Imhof, T.A. 1976. Alabama birds, 2nd Edition. The University of Alabama Press, Tuscaloosa, AL.
- Rogers, D.T. 1986. Cooper's Hawk, *Accipiter cooperi* Bonaparte. Pages 87-88 in Mount, R.H. (ed.), Vertebrate Animals of Alabama in Need of Special Attention. Ala. Agr. Expt. Sta., Auburn Univ. 124 pp.
- Teres, John K. 1987. The Audubon Society encyclopedia of North American birds. Alfred A. Knopf, New York. 1109 pp.

TRI-STATE COMPREHENSIVE STUDY
ALABAMA/COOSA/TALLAPOOSA AND APALACHICOLA/CHATTAHOOCHEE/FLINT
RIVER BASINS

Aquila chrysaetos
Golden Eagle

Falconiformes: Accipitridae
Kites, hawks, eagles, and ospreys

SYNONYMS

LEGAL STATUS

State Protected (Alabama Regulations: Game, Fish, and Furbearing Animals; Nongame Species Regulation, 220-2-.92).

REASONS FOR CURRENT STATUS

Never has been abundant in Alabama, and its rarity is the basis for its protected status.

DESCRIPTION

A large, dark brown eagle, about the same size as the Bald Eagle. Length 82-97 cm, wingspan 183-214 cm.

DISTRIBUTION

Occurs only in the winter in the study area. In Alabama, most records have come from the extensive floodplains along the Alabama and Tombigbee rivers and from the extreme northern portion of the state. Formerly bred as far south as Tennessee in the Appalachians.

HABITAT

Terrestrial: Grasslands. Hilly terrain with substantial amounts of open land.

OTHER BIOLOGICAL DATA

Age at first reproduction: 4 years. Lifespan in the wild: up to 30 years. Golden eagles will take carrion, but they usually kill their prey, which is usually medium to small-sized mammals.

POTENTIAL THREATS

Direct persecution by humans, incidental killing by traps or poison baits set out for other species.

REFERENCES

- Imhof, T.A. 1976. Alabama birds, 2nd Edition. The University of Alabama Press, Tuscaloosa, AL.
- Rogers, D.T. 1986. Golden Eagle, *Aquila chrysaetos* Linnaeus. Pages 80-81 in Mount, R.H. (ed.), Vertebrate Animals of Alabama in Need of Special Attention. Ala. Agr. Expt. Sta., Auburn Univ. 124 pp.
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TRI-STATE COMPREHENSIVE STUDY
ALABAMA/COOSA/TALLAPOOSA AND APALACHICOLA/CHATTAHOOCHEE/FLINT
RIVER BASINS

Haliaeetus leucocephalus
Bald Eagle

Falconiformes: Accipitridae
Kites, hawks, eagles, and ospreys

SYNONYMS

LEGAL STATUS

Endangered (32 FR 4001; March 11, 1976 and 43 FR 6233; February 14, 1978). State Protected (Ala. Regulations: Game, Fish, and Furbearing Animals; Nongame Species Regulation, 220-2-.92).

REASONS FOR CURRENT STATUS: A severe decline in numbers occurred in the 1960s, and populations in the Southeast have only recently begun to recover. Special attention is afforded this species also because of its status as national symbol.

DESCRIPTION

A large bird, up to 1 meter total length. Adults have white heads and tails, a brownish black body, and yellow eyes, bill, and feet. Young birds lack white feathers on the tail or head until the age of 4 or 5 years.

DISTRIBUTION

Within the study area in Alabama, breeding has occurred recently along the Alabama River (Wilcox County) and the Chattahoochee River (Henry County). Bald eagles are normally found near water but may occur in almost any area during migration. The species breeds from Alaska and much of Canada to the Florida peninsula and Baja California, although distribution is not continuous.

HABITAT

Terrestrial: Forest/Woodlands. Near lakes and large streams in the vicinity of large trees.

OTHER BIOLOGICAL DATA

Feeds primarily on fish, either self-caught or stolen from ospreys. Also eats carrion and crippled waterfowl. Nests may be 8 feet across and as high as 150 feet above ground.

POTENTIAL THREATS

Human disturbance at nest sites, loss of nest trees, loss of waterside habitat from human occupation, reduction of river flow volumes by proposed diversion projects.

REFERENCES

- Imhof, T.A. 1976. Alabama birds, 2nd Edition. The University of Alabama Press, Tuscaloosa, AL.
- Dusi, J.L. 1986. Bald Eagle, *Haliaeetus leucocephalus* Linnaeus. Pages 75-76 in Mount, R.H. (ed.), Vertebrate Animals of Alabama in Need of Special Attention. Ala. Agr. Expt. Sta., Auburn Univ. 124 pp.
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TRI-STATE COMPREHENSIVE STUDY
ALABAMA/COOSA/TALLAPOOSA AND APALACHICOLA/CHATTAHOOCHEE/FLINT
RIVER BASINS

Pandion haliaetus
Osprey

Falconiformes: Accipitridae
Kites, hawks, eagles, and ospreys

SYNONYMS: Some authorities place ospreys in the family Pandionidae.

LEGAL STATUS

State Protected (Alabama Regulations: Game, Fish, and Furbearing Animals; Nongame Species Regulation, 220-2-.92).

REASONS FOR CURRENT STATUS

Current low numbers are a result of precipitous declines in the 1960s due to interference of reproductive physiology by DDT.

DESCRIPTION

A very large hawk, up to 635 mm total length. Head is mostly white, dark stripe through eye. Back dark brown, undersides mostly white.

DISTRIBUTION

Throughout the tri-state study area wherever there are large bodies of water. Occurs essentially worldwide.

HABITAT

Terrestrial:Forest/Woodlands; Riverine:Mainstream:Pool; Lacustrine: Limnetic, Littoral; Palustrine: Open. Found in vicinity of larger streams, impoundments, and natural lakes and ponds having large numbers of uncontaminated fish. Nests in large dead trees, cliffs, and on utility poles and towers.

OTHER BIOLOGICAL DATA

Feeds almost exclusively on fish, which are captured at the surface. Populations are recovering in the Southeast since the dramatic decline of the 1960s. Ospreys readily accept artificial nesting platforms, and the Alabama Department of Conservation and Natural Resources' Nongame Wildlife Program has helped restore ospreys in parts of the state.

POTENTIAL THREATS

Human disturbance at nest sites, loss of nest trees, wanton shooting, reduction of foraging habitat through reduced river flow volume (and reservoir size) by proposed diversion projects.

REFERENCES

- Imhof, T.A. 1976. Alabama birds, 2nd Edition. The University of Alabama Press, Tuscaloosa, AL.
- Rogers, D.T. 1986. Osprey, *Pandion haliaetus* Linnaeus. Pages 86-87 in Mount, R.H. (ed.), Vertebrate Animals of Alabama in Need of Special Attention. Ala. Agr. Expt. Sta., Auburn Univ. 124 pp.
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TRI-STATE COMPREHENSIVE STUDY
ALABAMA/COOSA/TALLAPOOSA AND APALACHICOLA/CHATTAHOOCHEE/FLINT
RIVER BASINS

Charadrius melodus
Piping Plover

Charadriiformes: Charadriidae
Plovers

SYNONYMS

LEGAL STATUS

Threatened (50 FR 50733; December 11, 1985). State Protected (Alabama Regulations: Game, Fish, and Furbearing Animals; Nongame Species Regulation, 220-2-.92).

REASONS FOR CURRENT STATUS

Drastically decreased numbers (fewer than 2,500 breeding pairs in 1991) are attributable to: direct and inadvertent harassment by people, dogs, and vehicles; destruction of beach habitat for development projects; and water level policies that endanger nesting habitat on the Missouri, Platte, and Niobrara rivers. Has disappeared as a breeder from Wisconsin, Illinois, Indiana, Ohio, Pennsylvania.

DESCRIPTION

A small plover (17-18 cm long) showing a single black neck band. Combination of very short and stout bill, very pale upperparts, and orange legs important in separating *C. melodus* from Snowy Plover (*C. alexandrinus*), Semipalmated Plover (*C. semipalmatus*), and Wilson's Plover (*C. wilsonia*). Of these species, only the Piping Plover shows a complete white band across upper tail coverts in flight.

DISTRIBUTION

Occurs within tri-state study area only in migration. Winters along coastal sand/mudflats from Florida to northern Mexico, has been reported from Eufaula National Wildlife Refuge (Chattahoochee River).

HABITAT

Terrestrial: Sand/Barren. Within the tri-state study area, piping plovers may occur in migration on sandbars and mudflats along large rivers.

OTHER BIOLOGICAL DATA

Three breeding populations have been identified: Great Lakes, Northern Great Plains, and Atlantic Coast.

POTENTIAL THREATS

Within the tri-state study area, the most significant threat is disturbance and/or loss of stopover points used in migration. Reduction of river flow volumes by proposed diversion projects could negatively affect this habitat, as can ORV use, recreation, and loose pets. Breeding colonies elsewhere are extremely sensitive to human disturbance.

REFERENCES

Baldassarre, G.A. 1986. Piping Plover, *Charadrius melodus* Ord. Pages 90-91 in Mount, R.H. (ed.), Vertebrate Animals of Alabama in Need of Special Attention. Ala. Agr. Expt. Sta., Auburn Univ. 124 pp.

Dyer, R.W., A. Hecht, C. Raithel, K. Terwilliger, and S. Melvin. 1987. Atlantic Coast Piping Plover recovery plan. U.S. Fish & Wildlife Service, Newton Corner, MA.

Haig, S.M. Piping Plover. In The Birds of North America, No. 2 (A. Poole, P. Stettenheim, and F. Gill,

TRI-STATE COMPREHENSIVE STUDY
ALABAMA/COOSA/TALLAPOOSA AND APALACHICOLA/CHATTAHOOCHEE/FLINT
RIVER BASINS

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The American Ornithologists' Union.

Haig, S.M., W. Harrison, R. Lock, L. Pfanmuller, E. Pike, M. Ryan, and J. Sidle. 1988. Recovery plan for Piping Plovers of the Great Lakes and Northern Great Plains. U.S. Fish & Wildlife Service, Twin Cities, MN.

Imhof, T.A. 1976. Alabama birds, 2nd Edition. The University of Alabama Press, Tuscaloosa, AL.

Teres, John K. 1987. The Audubon Society encyclopedia of North American birds. Alfred A. Knopf, New York. 1109 pp.

TRI-STATE COMPREHENSIVE STUDY
ALABAMA/COOSA/TALLAPOOSA AND APALACHICOLA/CHATTAHOOCHEE/FLINT
RIVER BASINS

Columbina passerina
Common Ground Dove

Columbiformes: Columbidae
Pigeons and doves

SYNONYMS

LEGAL STATUS

State Protected (Alabama Regulations: Game, Fish, and Furbearing Animals; Nongame Species Regulation, 220-2-.92).

REASONS FOR CURRENT STATUS

Ground doves appear to be declining in the Southeast, although no causative agent has been identified.

DESCRIPTION

A small, grayish, sparrow-sized dove. Tail is short, dark, and rounded. Wings show rufous color when in flight.

DISTRIBUTION

In the tri-state study area, ground doves occur locally as permanent breeding residents throughout the Coastal Plain, and are present but rare above the Fall Line. The species occurs throughout the southern and southwestern U.S. into Mexico.

HABITAT

Terrestrial: Forest/Woodlands, Scrub/Shrub, Grasslands, Sand/Barren. Prefers sandy, open areas such as roadsides, cultivated fields, sparse grasslands, and open pine woods.

OTHER BIOLOGICAL DATA

Walks about, eating seeds of weeds and native grasses, also insects. Often nests in a slight depression on the ground with little or no nest material, but will build a slight nest of twigs and grass in low bushes, vines, top of stump or fence, or on low tree limb.

POTENTIAL THREATS

Data are lacking, but some authorities have suggested that the decline of ground doves may be due to predation by the imported fire ant (*Solenopsis* sp.) at ground nests.

REFERENCES

- Imhof, T.A. 1976. Alabama birds, 2nd Edition. The University of Alabama Press, Tuscaloosa, AL.
- Keeler, J.E. 1986. Common Ground Dove, *Columbina passerina*. Pages 93-94 in Mount, R.H. (ed.), Vertebrate Animals of Alabama in Need of Special Attention. Ala. Agr. Expt. Sta., Auburn Univ. 124 pp.
- Teres, John K. 1987. The Audubon Society encyclopedia of North American birds. Alfred A. Knopf, New York. 1109 pp.

TRI-STATE COMPREHENSIVE STUDY
ALABAMA/COOSA/TALLAPOOSA AND APALACHICOLA/CHATTAHOOCHEE/FLINT
RIVER BASINS

Mycteria americana
Wood Stork

Ciconiiformes: Ciconiidae
Storks

SYNONYMS

LEGAL STATUS

Endangered (49 FR 7335; February 28, 1984). State Protected (Alabama Regulations: Game, Fish, and Furbearing Animals; Nongame Species Regulation, 220-2-.92).

REASONS FOR CURRENT STATUS

Loss of foraging and breeding habitat. Once nested along the Atlantic and Gulf coasts from South Carolina to Texas in the U.S., but now virtually all wood storks occurring in the U.S. breed in the Everglades. Water diversion projects and logging of cypress there have resulted in a population decline of 90% between 1939 and 1960 and another 52% between 1960 and 1980.

DESCRIPTION

A large, long-legged wading bird with a long, heavy bill. The head and upper neck lack feathers, with exposed skin dark gray. Body feathers are white, but the flight feathers are black, giving the entire rear margin of the wing a broad black margin.

DISTRIBUTION

In the tri-state study area, wood storks occur locally at swamps and other wetlands in summer and fall after dispersing northward from the Everglades in search of suitable foraging areas. The breeding range extends from South Carolina to Florida along the Atlantic Seaboard, parts of the Gulf Coast and the Greater Antilles, both coasts of Mexico and Central America, and most of the interior of South America down to Argentina.

HABITAT

Palustrine:Forested, Emergent. Wood storks feed chiefly in freshwater ponds and marshes, preferring areas where water levels are dropping and fish become concentrated and trapped in isolated pools.

OTHER BIOLOGICAL DATA

Most prey is taken by groping about in isolated pools. Prey includes fish (up to 10 inches in length), crayfish, mollusks, young alligators, turtles, rodents, and small birds.

POTENTIAL THREATS

Wood storks could be greatly impacted by artificial alteration of flow regimes in the ACT/ACF area. The species is very sensitive to water level fluctuations of its foraging habitat, requiring shallow waters where prey are concentrated. Both flooding and drought can cause abandonment of a site. Reduction of flow can cause shallow swamps associated with river systems to become dry, eliminating significant areas of foraging habitat.

REFERENCES

Imhof, T.A. 1976. Alabama birds, 2nd Edition. The University of Alabama Press, Tuscaloosa, AL.

Dusi, J.L. 1986. Wood Stork, *Mycteria americana* Linnaeus. Pages 74-75 in Mount, R.H. (ed.), Vertebrate

TRI-STATE COMPREHENSIVE STUDY
ALABAMA/COOSA/TALLAPOOSA AND APALACHICOLA/CHATTAHOOCHEE/FLINT
RIVER BASINS

Animals of Alabama in Need of Special Attention. Ala. Agr. Expt. Sta., Auburn Univ. 124 pp.

Teres, John K. 1987. The Audubon Society encyclopedia of North American birds. Alfred A. Knopf, New York. 1109 pp.

TRI-STATE COMPREHENSIVE STUDY
ALABAMA/COOSA/TALLAPOOSA AND APALACHICOLA/CHATTAHOOCHEE/FLINT
RIVER BASINS

Aimophila aestivalis
Bachman's Sparrow

Passeriformes: Emberizidae
Perching birds

SYNONYMS

LEGAL STATUS

Candidate Category 2. *Federal Register*, Vol. 56, No. 255. November 21, 1991. Endangered and threatened wildlife and plants; animal candidate review for listing as endangered or threatened species, proposed rule.

REASONS FOR CURRENT STATUS

Rangewide decline, probably due to loss of suitable open pine woods and abandoned field habitat.

DESCRIPTION

A sparrow, 5.75 inches long. Adults rusty brown, streaked above, yellow at bend of wing, unstreaked and dingy white below, buff breast.

DISTRIBUTION

Throughout the ACT/ACF study area. Breeds from southeastern Missouri, northeastern Illinois, southwestern Pennsylvania, and Maryland south to central Texas, the northern Gulf Coast, and Florida. Winters from northeastern Texas, northern Alabama, and central North Carolina to southeastern Texas and southern Florida.

HABITAT

Terrestrial: Forest/Woodlands, Grassland.

OTHER BIOLOGICAL DATA

Forages on the ground for insects and seeds.

POTENTIAL THREATS

Habitat loss, including clearing and planting abandoned fields.

REFERENCES

- Imhof, T.A. 1976. Alabama birds, 2nd Edition. The University of Alabama Press, Tuscaloosa, AL.
- Teres, John K. 1987. The Audubon Society encyclopedia of North American birds. Alfred A. Knopf, New York. 1109 pp.

TRI-STATE COMPREHENSIVE STUDY
ALABAMA/COOSA/TALLAPOOSA AND APALACHICOLA/CHATTAHOOCHEE/FLINT
RIVER BASINS

Falco columbarius
Merlin

Falconiformes: Falconidae
Caracaras and falcons

SYNONYMS

LEGAL STATUS

State Protected (Alabama Regulations: Game, Fish, and Furbearing Animals; Nongame Species Regulation, 220-2-.92).

REASONS FOR CURRENT STATUS

Rarity in Alabama, even during migration.

DESCRIPTION

A small falcon, total length 25-30 cm. Adult males with bluish dorsum, dark brown streaked venter. Tail feathers white-tipped with four broad dark bands. Females and immatures are similar but are brown dorsally.

DISTRIBUTION

Occurs in ACT/ACF area as a transient only during spring and fall migration. A few individuals overwinter on Alabama's Gulf Coast. Breeds well to the north of Alabama. Occurs in North America, Europe, and Asia.

HABITAT

Terrestrial: Grasslands, Sand/Barren, Scrub/Shrub. Palustrine: Emergent. Lives in open parklike grasslands, shrubby barrens, bogs; hunts along woods openings, marshes, and along edges of ponds and lakes.

OTHER BIOLOGICAL DATA

Preys on small birds, mammals, reptiles, dragonflies, butterflies, grasshoppers, and other invertebrates.

POTENTIAL THREATS

Pesticides, loss of open grassland and marsh habitat.

REFERENCES

Imhof, T.A. 1976. Alabama birds, 2nd Edition. The University of Alabama Press, Tuscaloosa, AL.

Rogers, D.T. 1986. Merlin, *Falco columbarius* Linnaeus. Pages 88-89 in Mount, R.H. (ed.), Vertebrate Animals of Alabama in Need of Special Attention. Ala. Agr. Expt. Sta., Auburn Univ. 124 pp.

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TRI-STATE COMPREHENSIVE STUDY
ALABAMA/COOSA/TALLAPOOSA AND APALACHICOLA/CHATTAHOOCHEE/FLINT
RIVER BASINS

Falco peregrinus
Peregrine Falcon

Falconiformes: Falconidae
Caracaras and falcons

SYNONYMS

Falco peregrinus anatum (American peregrine falcon)
Falco peregrinus tundrius (Arctic peregrine falcon)

LEGAL STATUS

Endangered (49 FR 10526; March 20, 1984). State Protected (Alabama Regulations: Game, Fish, and Furbearing Animals; Nongame Species Regulation, 220-2-.92).

REASONS FOR CURRENT STATUS

Failure to recover from worldwide precipitous decline in 1950s and 60s from DDT poisoning. No longer occurs as a breeder in Alabama.

DESCRIPTION

A large falcon, total length to 56 cm. Slate gray dorsal plumage, ventral plumage white with gray streaks. Dark "sideburn" markings through and below eyes.

DISTRIBUTION

Subspecies *F. p. tundrius* occurs in ACT/ACF area as a transient only during spring and fall migration. *F. p. anatum* formerly occurred in Alabama, breeding in the Tennessee Valley, but probably no longer exists in the state. Formerly occurred essentially worldwide (except Antarctica), but a severe and rapid nesting decline from 1950 to about 1965 has resulted in its absence from much of its former range.

HABITAT

Terrestrial: All subcategories. Habitat ranges from treeless tundra to dense forests and sea cliffs.

OTHER BIOLOGICAL DATA

The Alabama Nongame Wildlife Program is attempting to establish a small population of peregrine falcons in downtown Birmingham. Birds that formerly bred in the Southeast used, in addition to cliffs, tree hollows, open tops of cypress, sycamore, and cottonwood.

POTENTIAL THREATS

Pesticides, loss of coastal beaches and marshes along flyways, direct persecution.

REFERENCES

- Imhof, T.A. 1976. Alabama birds, 2nd Edition. The University of Alabama Press, Tuscaloosa, AL.
- Imhof, T.A. 1986. Peregrine Falcon, *Falco peregrinus* Tunstall. Pages 81-82 in Mount, R.H. (ed.), Vertebrate Animals of Alabama in Need of Special Attention. Ala. Agr. Expt. Sta., Auburn Univ. 124 pp.
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TRI-STATE COMPREHENSIVE STUDY
ALABAMA/COOSA/TALLAPOOSA AND APALACHICOLA/CHATTAHOOCHEE/FLINT
RIVER BASINS

Falco sparverius paulus
Southeastern American Kestrel

Falconiformes: Falconidae
Caracaras and falcons

SYNONYMS

LEGAL STATUS: Candidate Category 2. *Federal Register*, Vol. 56, No. 255. November 21, 1991.
Endangered and threatened wildlife and plants; animal candidate review for listing as endangered or threatened species, proposed rule. No special legal status in Alabama.

REASONS FOR CURRENT STATUS

Slow recovery in some parts of its range from DDT poisoning.

DESCRIPTION

The smallest North American falcon: to 30 cm total length; head with black and white pattern with dark vertical marks; slender, pointed wings; rufous-red back and tail.

DISTRIBUTION

Rare and local in the ACT/ACF area, although the nonresident nominate subspecies is common in winter and on migration. Southeastern U.S.

HABITAT

Terrestrial: Forest/Woodlands, Scrub/Shrub, Grassland, Sand/Barren. Prefers borders of woodlands, open fields, pastures with scattered trees, highways.

OTHER BIOLOGICAL DATA

Eats insects almost exclusively. Nests in natural cavities and abandoned woodpecker holes.

POTENTIAL THREATS

Pesticides, loss of open areas, loss of mature cavity trees.

REFERENCES

- Imhof, T.A. 1976. Alabama birds, 2nd Edition. The University of Alabama Press, Tuscaloosa, AL.
- Teres, John K. 1987. The Audubon Society encyclopedia of North American birds. Alfred A. Knopf, New York. 1109 pp.

TRI-STATE COMPREHENSIVE STUDY
ALABAMA/COOSA/TALLAPOOSA AND APALACHICOLA/CHATTAHOOCHEE/FLINT
RIVER BASINS

Pelecanus erythrorhynchos
American White Pelican

Pelecaniformes: Pelecanidae
Pelicans

SYNONYMS

LEGAL STATUS

State Protected (Alabama Regulations: Game, Fish, and Furbearing Animals; Nongame Species Regulation, 220-2-.92).

REASONS FOR CURRENT STATUS

Alteration of coastal habitats and a marked increase in human activities in upper Mobile Bay has left few areas where the birds can remain undisturbed.

DESCRIPTION

Large white bird (total length 125 cm) with black wing tips, large orange bill, webbed feet.

DISTRIBUTION

Occurs very rarely in the ACT/ACF area on migration. Breeds inland, in the western U.S. and Canada. In Alabama, winters on the Gulf Coast, especially upper Mobile Bay.

HABITAT

Estuarine: Subtidal. Uses shallow salt and brackish water in winter and salt or freshwater lakes in summer.

OTHER BIOLOGICAL DATA

Feeds on fish; does not dive as does the Brown Pelican.

POTENTIAL THREATS

None in the ACT/ACF area. Alteration of coastal habitats and human activities in upper Mobile Bay are the main threats in Alabama.

REFERENCES

- Imhof, T.A. 1976. Alabama birds, 2nd Edition. The University of Alabama Press, Tuscaloosa, AL.
- Keeler, J.E. 1986. American White Pelican, *Pelecanus erythrorhynchos* Gmelin. Pages 83-84 in Mount, R.H. (ed.), Vertebrate Animals of Alabama in Need of Special Attention. Ala. Agr. Expt. Sta., Auburn Univ. 124 pp.
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TRI-STATE COMPREHENSIVE STUDY
ALABAMA/COOSA/TALLAPOOSA AND APALACHICOLA/CHATTAHOOCHEE/FLINT
RIVER BASINS

Picoides borealis
Red-cockaded Woodpecker

Piciformes: Picidae
Woodpeckers

SYNONYMS

LEGAL STATUS

Endangered (35 FR 1047; October 13, 1970). State Protected (Alabama Regulations: Game, Fish, and Furbearing Animals; Nongame Species Regulation, 220-2-.92).

REASONS FOR CURRENT STATUS

Dramatic decline in this century resulting from certain timber practices and habitat loss.

DESCRIPTION

A small woodpecker with a black-and-white cross-barred back, black cape and neck, and white cheeks.

DISTRIBUTION

Present but extremely rare and local in the ACT/ACF study area. Occurs as a local resident in open pine forests from eastern Oklahoma and eastern Texas eastward to north Georgia, northward to eastern Tennessee, Kentucky, and southern Virginia, and south to Florida and the Gulf Coast.

HABITAT

Terrestrial: Forest/Woodlands. Mature, open stands of longleaf pine (*Pinus palustris*), slash pine (*Pinus elliottii*), loblolly pine (*Pinus taeda*), or shortleaf pine (*Pinus echinata*).

OTHER BIOLOGICAL DATA

Red-cockaded woodpeckers live in family groups and nest in cavities excavated in living pines. Cavity trees are usually infected with a fungus and are older than 80 years of age, and modern silvicultural practices within the species' range rarely allow significant stands of pine to attain maturity.

POTENTIAL THREATS

Impacts from the proposed water diversions in the ACT/ACF area could come from flooding nesting or foraging habitat. The primary threats are logging of mature pine forests and exclusion of fire, which maintains the open conditions required by the birds.

REFERENCES

- Imhof, T.A. 1976. Alabama birds, 2nd Edition. The University of Alabama Press, Tuscaloosa, AL.
- Keeler, J.E. 1986. Red-cockaded Woodpecker, *Picoides borealis* (Viellot). Pages 78-79 in Mount, R.H. (ed.), Vertebrate Animals of Alabama in Need of Special Attention. Ala. Agr. Expt. Sta., Auburn Univ. 124 pp.
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TRI-STATE COMPREHENSIVE STUDY
ALABAMA/COOSA/TALLAPOOSA AND APALACHICOLA/CHATTAHOOCHEE/FLINT
RIVER BASINS

Thryomanes bewickii altus
Appalachian Bewick's Wren

Passeriformes: Troglodytidae
Perching birds

LEGAL STATUS: Candidate Category 2. *Federal Register*, Vol. 56, No. 255. November 21, 1991.
Endangered and threatened wildlife and plants; animal candidate review for listing as endangered or threatened species, proposed rule.

State Protected (Alabama Regulations: Game, Fish, and Furbearing Animals; Nongame Species Regulation, 220-2-.92).

REASONS FOR CURRENT STATUS: Drastic reduction in range since 1960. Pesticide usage, competition with house wrens, and forest succession on formerly cleared lands have been identified as possible reasons for the decline.

DESCRIPTION

A large wren, 13 cm long, reddish brown above and whitish below with a white stripe above the eye and a dark brown line through the eye. Resembles the Carolina Wren, except that it lacks the buffy belly and has white side spots on its long uptilted tail.

DISTRIBUTION

Formerly bred as far south as the Fall Line (Prattville, Autauga County) in Alabama. Since about 1960, mainly restricted to the Tennessee Valley and the Ridge and Valley physiographic provinces in Alabama.

HABITAT

Terrestrial. Forest/Woodland, Grasslands. Most often frequents houses, especially old barns, sheds, fencerows, hedgerows, orchards, and thickets.

OTHER BIOLOGICAL DATA

Often frequents the same areas as House Wrens, and the two species are intolerant of each other. One species is invariably driven away. Nests in cavities, from late March to July.

POTENTIAL THREATS

REFERENCES

Imhof, T.A. 1976. Alabama birds, 2nd Edition. The University of Alabama Press, Tuscaloosa, AL.

Imhof, T.A. 1986. Bewick's Wren, *Thryomanes bewickii* (Audubon). Pages 82-83 in Mount, R.H. (ed.), Vertebrate Animals of Alabama in Need of Special Attention. Ala. Agr. Expt. Sta., Auburn Univ. 124 pp.

Teres, John K. 1987. The Audubon Society encyclopedia of North American birds. Alfred A. Knopf, New York. 1109 pp.

TRI-STATE COMPREHENSIVE STUDY
ALABAMA/COOSA/TALLAPOOSA AND APALACHICOLA/CHATTAHOOCHEE/FLINT
RIVER BASINS

Lanius ludovicianus
Loggerhead Shrike

Passeriformes
Perching birds

SYNONYMS

REASONS FOR CURRENT STATUS: Declining throughout its range for reasons poorly known. Pesticides reduced populations in the 1960s. Removal of its hedgerow habitat and loss of closely grazed pastures has been a factor in some areas.

DESCRIPTION: Total length: 230 mm. Adult is gray above, white below, with a conspicuous black "mask" through the eyes. Bill heavy and hooked. Wings black except for a white patch at the base of the primaries and a white line at the distal end of the secondaries.

DISTRIBUTION: Throughout the ACT/ACF study area. Breeds throughout the coterminous United States, southcentral and southeast Canada, Mexico, and Baja California.

HABITAT: Terrestrial: Forest/Woodlands, Grasslands. Open country around farms, woods borders, and meadows. Individuals occupy exposed perches, often on wires and fences.

OTHER BIOLOGICAL DATA: Eats insects and, to a lesser extent, small rodents. Impales prey on thorns or barbed wire, either for ease of tearing into smaller pieces or for storage.

POTENTIAL THREATS: Removal of hedgerows and reforestation or row-cropping of former grazed pastures has reduced some populations.

REFERENCES

Fraser, J.D. 1991. Loggerhead shrike, *Lanius ludovicianus* Linnaeus. Pages 520-522 in Terwilliger, K. (ed.), Virginia's endangered species. VA Dept. of Game & Inland Fisheries.

Imhof, T.A. 1976. Alabama birds, 2nd Edition. The University of Alabama Press, Tuscaloosa, AL.

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TRI-STATE COMPREHENSIVE STUDY
ALABAMA/COOSA/TALLAPOOSA AND APALACHICOLA/CHATTAHOOCHEE/FLINT
RIVER BASINS

Dendroica cerulea
Cerulean Warbler

Passeriformes
Perching birds

SYNONYMS

LEGAL STATUS

Candidate Category 2. *Federal Register*, Vol. 56, No. 255. November 21, 1991.

REASONS FOR CURRENT STATUS

Declining numbers; requires large blocks of intact deciduous forest.

DESCRIPTION

4-5 inches long. The only blue-backed, white throated warbler (males).

DISTRIBUTION

Uppermost portions of ACT/ACF study area. Not likely to occur in Coastal Plain. Breeding range extends from Nebraska to Alabama.

HABITAT

Terrestrial: forest/woodlands.

OTHER BIOLOGICAL DATA

Nests in tallest trees (to 90 ft high). Requires large blocks of relatively undisturbed deciduous forest.

POTENTIAL THREATS

Logging of interior portions of hardwood forest.

REFERENCES

Imhof, T.A. 1976. Alabama birds, 2nd Edition. The University of Alabama Press, Tuscaloosa, AL.

Teres, John K. 1987. The Audubon Society encyclopedia of North American birds. Alfred A. Knopf, New York. 1109 pp.

TRI-STATE COMPREHENSIVE STUDY
ALABAMA/COOSA/TALLAPOOSA AND APALACHICOLA/CHATTAHOOCHEE/FLINT
RIVER BASINS

Alligator mississippiensis
American alligator

Alligatoridae
Alligators

SYNONYMS

LEGAL STATUS

Threatened due to similarity of appearance (52 FR 21063; June 4, 1987). State Protected (Alabama Regulations: Game, Fish, and Furbearing Animals; Alligator Protection Regulation, 220-2-.97).

REASONS FOR CURRENT STATUS

The American alligator has recovered to the point that it is no longer threatened biologically. The "threatened due to similarity of appearance" designation, as a control on the illegal taking of alligators, ensures that hides of other protected (and imperiled) crocodylians are not illegally traded as "alligator".

DESCRIPTION

A large (to 5 m) lizardlike reptile, the alligator is not likely to be mistaken for any other animal within the ACT/ACF study area.

DISTRIBUTION

Coastal Plain of the ACT/ACF study area in swamps, ponds, lakes, and rivers. Range extends from North Carolina to southeastern Texas.

HABITAT

Riverine, Palustrine. Open water, swamps, river sloughs, beaver ponds.

OTHER BIOLOGICAL DATA

Alligators make depressions in the bottoms of lakes, ponds, or marshes during periods of drought, providing water-containing refugia for other aquatic species that otherwise may be unable to survive the drought.

POTENTIAL THREATS

Draining of wetlands, loss of habitat. Proposed water diversion projects would probably reduce available habitat.

REFERENCES

- Mount, R.H. 1975. The reptiles and amphibians of Alabama. Ala. Agr. Expt. Sta., Auburn. 347 pp.
- Dobie, J.L. 1986. American alligator, *Alligator mississippiensis*. Pages 45-46 in Mount, R.H. (ed.), Vertebrate Animals of Alabama in Need of Special Attention. Ala. Agr. Expt. Sta., Auburn Univ. 124 pp.

TRI-STATE COMPREHENSIVE STUDY
ALABAMA/COOSA/TALLAPOOSA AND APALACHICOLA/CHATTAHOOCHEE/FLINT
RIVER BASINS

Macrolemys temminckii
Alligator snapping turtle

Chelydridae
Snapping turtles

SYNONYMS

LEGAL STATUS

Candidate Category 2. *Federal Register*, Vol. 56, No. 255. November 21, 1991. State Protected (Alabama Regulations: Game, Fish, and Furbearing Animals; Nongame Species Regulation, 220-2-.92).

REASONS FOR CURRENT STATUS

Declines due to past commercial overexploitation, water pollution, draining of oxbows.

DESCRIPTION

An extremely large freshwater turtle, up to 282 inches carapace length and weighing to 265 pounds. Carapace broad and flat, with three longitudinal keels. Head and neck with fleshy projections. Front of jaws strongly hooked downward.

DISTRIBUTION

Local throughout ACT/ACF study area. Gulf drainages from San Antonio River (TX) to Suwanee (FL).

HABITAT

Riverine: Pool; Lacustrine. Deep rivers, sloughs, backwaters, oxbows.

OTHER BIOLOGICAL DATA

Nesting occurs from April to June.

POTENTIAL THREATS

Commercial exploitation has been the greatest threat; losses of riverine habitat to proposed diversion projects can be expected to have negative impacts.

REFERENCES

Mount, R.H. 1975. The reptiles and amphibians of Alabama. Ala. Agr. Expt. Sta., Auburn. 347 pp.

Dobie, J.L. 1986. Alligator snapping turtle, *Macrolemys temminckii* (Troost). Pages 49-50 in Mount, R.H. (ed.), Vertebrate Animals of Alabama in Need of Special Attention. Ala. Agr. Expt. Sta., Auburn Univ. 124 pp.

TRI-STATE COMPREHENSIVE STUDY
ALABAMA/COOSA/TALLAPOOSA AND APALACHICOLA/CHATTAHOOCHEE/FLINT
RIVER BASINS

Heterodon simus
Southern hognose snake

Colubridae
Colubrid snakes

SYNONYMS

LEGAL STATUS

Candidate Category 2. *Federal Register*, Vol. 56, No. 255. November 21, 1991. State Protected (Alabama Regulations: Game, Fish, & Furbearing Animals; Nongame Species Regulation, 220-2-.92).

REASONS FOR CURRENT STATUS

Unexplained dramatic declines in recent decades.

DESCRIPTION

A small snake, averaging 14-20 inches. Sharply upturned snout, underside of belly and tail about the same color (unlike the eastern hognose). Back with mid-dorsal dark blotches, ground color gray, brown, or yellowish.

DISTRIBUTION

Locally distributed within the ACT/ACF area. Primarily Coastal Plain. Occurs from North Carolina to southern Mississippi.

HABITAT

Terrestrial: Forest/woodlands, grasslands, scrub/shrub. Open woods, fields, and waste places having sandy soils.

OTHER BIOLOGICAL DATA

Oviparous. Diet is apparently limited to toads. Semi-fossorial.

POTENTIAL THREATS

Fire ants may be contributing to, or even the cause of, the decline.

REFERENCES

- Mount, R.H. 1975. The reptiles and amphibians of Alabama. Ala. Agr. Expt. Sta., Auburn. 347 pp.
- Mount, R.H. 1986. Southern hognose snake, *Heterodon simus*. Pages 34-35 in Mount, R.H. (ed.), Vertebrate Animals of Alabama in Need of Special Attention. Ala. Agr. Expt. Sta., Auburn Univ. 124 pp.

TRI-STATE COMPREHENSIVE STUDY
ALABAMA/COOSA/TALLAPOOSA AND APALACHICOLA/CHATTAHOOCHEE/FLINT
RIVER BASINS

Pituophis melanoleucus melanoleucus
Northern pine snake

Colubridae
Colubrid snakes

SYNONYMS

LEGAL STATUS

Candidate Category 2. *Federal Register*, Vol. 56, No. 255. November 21, 1991. State Protected (Alabama Regulations: Game, Fish, and Furbearing Animals; Nongame Species Regulation, 220-2-92).

REASONS FOR CURRENT STATUS

Few specimens are known from Alabama, and numbers appear to be dwindling.

DESCRIPTION

A large snake, to 83 inches total length. Scales keeled, rostral scute enlarged, dorsal ground color white, cream, yellowish, or gray, with 25-31 dark blotches. Belly white.

DISTRIBUTION

Very local in distribution within the ACT/ACF study area. Occurs throughout the Coosa basin. Possibly absent from the upper Tallapoosa system in Alabama, but does occur in Elmore County. The northern pine snake occurs from New Jersey to South Carolina and Georgia westward to Kentucky, Tennessee, and Alabama.

HABITAT

Terrestrial: Forest/woodlands. In Alabama, the species typically occurs in pine or mixed pine/hardwood forest on relatively dry sites.

OTHER BIOLOGICAL DATA

Three subspecies of *Pituophis melanoleucus* occur in Alabama: *melanoleucus*, *mugitus*, and *lodingi*.

POTENTIAL THREATS

Conversion of natural pine and mixed pine sites to plantations, development, and possible inundation by proposed reservoirs.

REFERENCES

Mount, R.H. 1975. The reptiles and amphibians of Alabama. Ala. Agr. Expt. Sta., Auburn. 347 pp.

Mount, R.H. 1986. Northern pine snake, *Pituophis melanoleucus melanoleucus* (Daudin). Pages 70-71 in Mount, R.H. (ed.), Vertebrate Animals of Alabama in Need of Special Attention. Ala. Agr. Expt. Sta., Auburn Univ. 124 pp.

TRI-STATE COMPREHENSIVE STUDY
ALABAMA/COOSA/TALLAPOOSA AND APALACHICOLA/CHATTAHOOCHEE/FLINT
RIVER BASINS

Pituophis melanoleucus mugitus
Florida pine snake

Colubridae
Colubrid snakes

SYNONYMS

LEGAL STATUS

Candidate Category 2. *Federal Register*, Vol. 56, No. 255. November 21, 1991. State Protected (Alabama Regulations: Game, Fish, and Furbearing Animals; Nongame Species Regulation, 220-2-.92).

REASONS FOR CURRENT STATUS

Local distribution and general rarity, alteration of sandhill habitat for other purposes including silviculture and development has further reduced numbers.

DESCRIPTION

A large snake (to 90 inches), scales keeled, rostral scute enlarged. Dorsal color is light gray anteriorly and rust brown posteriorly. Dorsal blotches are less distinct anteriorly.

DISTRIBUTION

Within the ACT/ACF study area, Florida pine snakes occur in Baldwin county and in the Coastal Plain portion of the Chattahoochee drainage. The subspecies ranges from South Carolina to Alabama, including Florida and Georgia.

HABITAT

Terrestrial: Forest/woodlands, scrub/shrub. Typically found in sandhill habitat where gopher tortoises and pocket gophers occur.

OTHER BIOLOGICAL DATA

Florida pine snakes commonly use burrows of gopher tortoises and pocket gophers. Three subspecies of *Pituophis melanoleucus* occur in Alabama: *melanoleucus*, *mugitus*, and *lodingi*.

POTENTIAL THREATS

Proposed water impoundments may destroy sandhill habitat, as occurred when Lake Walter F. George was created on the Chattahoochee. Certain forestry practices continue to alter sandhill habitat, and development is a constant threat.

REFERENCES

- Mount, R.H. 1975. The reptiles and amphibians of Alabama. Ala. Agr. Expt. Sta., Auburn. 347 pp.
- Speake, D.W. 1986. Southern pine snake, *Pituophis melanoleucus mugitus* (Barbour). Pages 36-37 in Mount, R.H. (ed.), Vertebrate Animals of Alabama in Need of Special Attention. Ala. Agr. Expt. Sta., Auburn Univ. 124 pp.

TRI-STATE COMPREHENSIVE STUDY
ALABAMA/COOSA/TALLAPOOSA AND APALACHICOLA/CHATTAHOCHEE/FLINT
RIVER BASINS

Graptemys barbouri
Barbour's map turtle

Emydidae
Emydid turtles

SYNONYMS

LEGAL STATUS

Candidate Category 2. *Federal Register*, Vol. 56, No. 255. November 21, 1991. State Protected (Alabama Regulations: Game, Fish, and Furbearing Animals; Nongame Species Regulation, 220-2-.92).

REASONS FOR CURRENT STATUS

Restriction to a single drainage (Apalachicola), loss of habitat through impoundments and dredging, degradation of habitat by pollution, overcollection for scientific and commercial purposes.

DESCRIPTION

A large aquatic turtle with pronounced sexual dimorphism. Female: to 12 inches carapace length, disproportionately large heads. Males: to 5 inches carapace length. Carapace with a median keel (obscure in large females). Carapace olive-green with yellow markings. Head and limbs olive green with yellowish stripes.

DISTRIBUTION

Endemic to the Apalachicola River system, including the Chattahoochee River on the Alabama-Georgia border. Some tributaries of the Chattahoochee may be inhabited on the Alabama side. Known from as far upstream on the Chattahoochee as Russell County in Alabama.

HABITAT

Riverine: mainstream: run, pool. Greatest numbers occur along stretches of stream with exposed limestone or snags that are used for basking. May occur in much lower densities in reservoirs.

OTHER BIOLOGICAL DATA

Adult males feed on aquatic insects and other soft-bodied invertebrates; females eat mussels and snails.

POTENTIAL THREATS

Impoundments, reduction of flow volumes, dredging, collecting for food and pet trade, shooting, pollution.

REFERENCES

- Mount, R.H. 1975. The reptiles and amphibians of Alabama. Ala. Agr. Expt. Sta., Auburn. 347 pp.
- Jackson, D.R. 1986. Barbour's map turtle, *Graptemys barbouri* Carr and Marchand. Pages 37-38 in Mount, R.H. (ed.), Vertebrate Animals of Alabama in Need of Special Attention. Ala. Agr. Expt. Sta., Auburn Univ. 124 pp.

TRI-STATE COMPREHENSIVE STUDY
ALABAMA/COOSA/TALLAPOOSA AND APALACHICOLA/CHATTAHOOCHEE/FLINT
RIVER BASINS

Graptemys pulchra
Alabama map turtle

Emydidae
Emydid turtles

SYNONYMS

LEGAL STATUS

State Protected (Alabama Regulations: Game, Fish, and Furbearing Animals; Nongame Species Regulation, 220-2-.92).

REASONS FOR CURRENT STATUS

Although still relatively common in some areas, several currently healthy populations are believed to be at risk to stream modification, increased pollution, and channelization.

DESCRIPTION

A medium-sized, high-keeled aquatic turtle. Carapace color ranges from olive to brown or dull green, with a median black stripe running along a long keel, accentuated by several spines. Marginals along the edge of the carapace have light yellow bars. Rear marginals appear "sawtoothed". Neck, legs, and tail are dark with longitudinal yellowish pinstripes. Head with a large light-colored (green or yellowish) blotch behind each eye. Females (to 11 inches carapace length) are much larger than males (to 5 inches CL).

DISTRIBUTION

Throughout the Alabama/Coosa/Tallapoosa system. Absent from the Apalachicola drainage.

HABITAT

Riverine: mainstream: run, pool; tributary: run, pool. Most abundant in moderate to large-sized rivers. Prefers deeper, slower stretches with abundant basking sites. Requires sandy banks and bars for nesting.

OTHER BIOLOGICAL DATA

Adult males feed on aquatic insects and other soft-bodied invertebrates; females eat mussels and snails. More tolerant than some turtles to low levels of pollution. The increase in abundance and distribution of the Asiatic clam *Corbicula* has probably enabled the Alabama map turtle to survive in some streams that would otherwise be unsuitable.

POTENTIAL THREATS

Impoundments, reduction of flow volumes, dredging, collecting for food and pet trade, shooting, pollution.

REFERENCES

- Mount, R.H. 1975. The reptiles and amphibians of Alabama. Ala. Agr. Expt. Sta., Auburn. 347 pp.
- Marion, K.R. 1986. Alabama map turtle, *Graptemys pulchra* Baur. Pages 50-52 in Mount, R.H. (ed.), Vertebrate Animals of Alabama in Need of Special Attention. Ala. Agr. Expt. Sta., Auburn Univ. 124 pp.

TRI-STATE COMPREHENSIVE STUDY
ALABAMA/COOSA/TALLAPOOSA AND APALACHICOLA/CHATTAHOOCHEE/FLINT
RIVER BASINS

Pseudemys alabamensis
Alabama red-bellied turtle

Emydidae
Emydid turtles

SYNONYMS

LEGAL STATUS

Endangered (52 FR 22943; June 16, 1987). State Protected (Alabama Regulations: Game, Fish, and Furbearing Animals; Nongame Species Regulation, 220-2-.92).

REASONS FOR CURRENT STATUS

Noticeable decline in recent decades, increased threats (see below), extremely limited range.

DESCRIPTION

A large freshwater turtle, to 13 inches carapace length. Shell high-domed. Carapace dark olive or black with light vertical markings on costal scutes. Plastron plain to ornate. Plastral color cream, yellow, orange, or red. Terminal notch of upper jaw normally flanked on each side by a distinct toothlike cusp.

DISTRIBUTION

Believed to occur only in the lower Mobile Bay drainage in Mobile and Baldwin counties, Alabama. Within the ACT/ACF study area, it is known from Little River in northern Baldwin County.

HABITAT

Estuarine: subtidal, intertidal; Riverine: mainstream; Palustrine: open. Areas where submerged aquatic vegetation is abundant are preferred.

OTHER BIOLOGICAL DATA

Alabama red-bellied turtles are primarily, if not exclusively, herbivorous.

POTENTIAL THREATS

Threats include predation by humans (for food), disturbance of nesting sites by recreationists, fire ant predation on eggs and hatchlings, heavy boat traffic, shooting, reduced water flows.

REFERENCES

Mount, R.H. 1975. The reptiles and amphibians of Alabama. Ala. Agr. Expt. Sta., Auburn. 347 pp.

Dobie, J.L. 1986. Alabama red-bellied turtle, *Pseudemys alabamensis* Baur. Pages 38-39 in Mount, R.H. (ed.), Vertebrate Animals of Alabama in Need of Special Attention. Ala. Agr. Expt. Sta., Auburn Univ. 124 pp.

TRI-STATE COMPREHENSIVE STUDY
ALABAMA/COOSA/TALLAPOOSA AND APALACHICOLA/CHATTAHOOCHEE/FLINT
RIVER BASINS

Terrapene carolina
Eastern box turtle

Emyridae
Emydid turtles

SYNONYMS

LEGAL STATUS

State Protected (Alabama Regulations: Game, Fish, and Furbearing Animals; Nongame Species Regulation, 220-2-.92).

REASONS FOR CURRENT STATUS

Although not uncommon in Alabama, herpetologists have noticed a substantial decline in numbers.

DESCRIPTION

A medium-sized (to 7.5 inches) land turtle with a hinged plastron and high-domed, rounded carapace. Body color brownish to black, with variable yellow or orange markings.

DISTRIBUTION

Throughout the ACT/ACF study area, in virtually all natural terrestrial habitats. Forested floodplains may support the highest densities.

HABITAT

Terrestrial: Forest/woodlands.

OTHER BIOLOGICAL DATA

Although primarily terrestrial, box turtles will move into stream margins during periods of hot weather.

POTENTIAL THREATS

A respiratory disease has been found in many populations, and has been thought to be responsible for some of the observed decline in this species. Road mortality impacts many populations, and fire ants may kill eggs and juveniles, but this has not been documented. Proposed water diversions would not likely greatly affect this species.

REFERENCES

Mount, R.H. 1975. The reptiles and amphibians of Alabama. Ala. Agr. Expt. Sta., Auburn. 347 pp.

Mount, R.H. 1986. Box turtle, *Terrapene carolina* ssp. Pages 53-54 in Mount, R.H. (ed.), Vertebrate Animals of Alabama in Need of Special Attention. Ala. Agr. Expt. Sta., Auburn Univ. 124 pp.

TRI-STATE COMPREHENSIVE STUDY
ALABAMA/COOSA/TALLAPOOSA AND APALACHICOLA/CHATTAHOOCHEE/FLINT
RIVER BASINS

Gopherus polyphemus
Gopher tortoise

Testudinidae
Tortoises

SYNONYMS

LEGAL STATUS

Candidate Category 2. *Federal Register*, Vol. 56, No. 255. November 21, 1991. Note: The "western population" (all tortoises found west of the Tombigbee and Mobile rivers) is listed as Threatened (52 FR 25380; July 7, 1987), but none of the protected portion of the range falls within the study area. State Protected (Alabama Regulations: Game, Fish, and Furbearing Animals; Nongame Species Regulation, 220-2-92).

REASONS FOR CURRENT STATUS

Alteration of sandhill habitat for other purposes including silviculture and development. Human predation has been a significant factor in some areas.

DESCRIPTION

A medium-sized (to 13 inches) land turtle (the largest in our area). Forelimbs flattened and broad, adapted for digging. Shell of adults is brown.

DISTRIBUTION

Local within ACT/ACF area, where sandy soils are found. Occurs from South Carolina to Louisiana.

HABITAT

Terrestrial: Forest/woodlands, scrub/shrub, sand/barren. Deep sandy soils, usually in longleaf pine-turkey oak associations. Also found in disturbed areas.

OTHER BIOLOGICAL DATA

Tortoise burrows are used by many other species, including gopher frogs, pine snakes, indigo snakes, and some invertebrates found nowhere else but tortoise burrows.

POTENTIAL THREATS

Proposed water impoundments may destroy tortoise habitat, as occurred when Lake Walter F. George was created on the Chattahoochee. Certain forestry practices continue to alter sandhill habitat, and development is a constant threat.

REFERENCES

Mount, R.H. 1975. The reptiles and amphibians of Alabama. Ala. Agr. Expt. Sta., Auburn. 347 pp.

Speake, D.W. 1986. Gopher tortoise, *Gopherus polyphemus*. Pages 41-42 in Mount, R.H. (ed.), Vertebrate Animals of Alabama in Need of Special Attention. Ala. Agr. Expt. Sta., Auburn Univ. 124 pp.

TRI-STATE COMPREHENSIVE STUDY
ALABAMA/COOSA/TALLAPOOSA AND APALACHICOLA/CHATTAHOOCHEE/FLINT
RIVER BASINS

Ambystoma cingulatum
Flatwoods salamander

Ambystomatidae
Mole salamanders

SYNONYMS

LEGAL STATUS

Candidate Category 2. *Federal Register*, Vol. 56, No. 255. November 21, 1991. State Protected (Alabama Regulations: Game, Fish, and Furbearing Animals; Nongame Species Regulation, 220-2-92).

REASONS FOR CURRENT STATUS

Restricted overall range, documented declines throughout the species' range, extreme rarity in Alabama.

DESCRIPTION

A stocky, 5-inch salamander with a small head and a fat tail. Color blackish with a fine light gray pattern forming a netlike pattern. Larvae are striped.

DISTRIBUTION

Within the ACT/ACF area in Alabama, flatwoods salamanders are known only from Houston County. Restricted to the southeastern Atlantic and Gulf Coastal Plain, from South Carolina to Mobile County, Alabama (possibly into Mississippi).

HABITAT

Terrestrial: Forest/woodlands. Adults live in pine flatwoods (typically with wiregrass) within an undetermined radius of shallow, ephemeral ponds, pools, and ditches which are used as breeding sites.

OTHER BIOLOGICAL DATA

Unlike most ambystomatid salamanders, this species breeds in the fall and lays eggs on land prior to the filling of the breeding pond. Virtually nothing is known of the post-larval life stage.

POTENTIAL THREATS

Continued loss of wiregrass/pine flatwoods to agriculture, silviculture, and urbanization. Inundation of flatwoods by impoundments related to the ACT/ACF study is unlikely, since the species occurs in the southern portion of the drainage.

REFERENCES

- Mount, R.H. 1975. The reptiles and amphibians of Alabama. Ala. Agr. Expt. Sta., Auburn. 347 pp.
- Means, D.B. 1986. Flatwoods salamander, *Ambystoma cingulatum* (Cope). Pages 42-43 in Mount, R.H. (ed.), Vertebrate Animals of Alabama in Need of Special Attention. Ala. Agr. Expt. Sta., Auburn Univ. 124 pp.

TRI-STATE COMPREHENSIVE STUDY
ALABAMA/COOSA/TALLAPOOSA AND APALACHICOLA/CHATTAHOOCHEE/FLINT
RIVER BASINS

Desmognathus monticola
Seal salamander

Plethodontidae
Lungless salamanders

SYNONYMS

LEGAL STATUS

State Protected (Alabama Regulations: Game, Fish, and Furbearing Animals; Nongame Species Regulation, 220-2-.92). Note: State protection extends to the disjunct Coastal Plain portion of the species' range *only*. Seal salamanders are widespread in the northern portion of Alabama where the species is not protected.

REASONS FOR CURRENT STATUS

The isolated Coastal Plain population is fragmented and restricted to very limited habitat, and several populations have disappeared or declined in recent years.

DESCRIPTION

A medium-sized salamander (about 3.25 inches long) with a light line from the eye to the corner of the jaw, hind legs more robust than the front, and a keeled tail. Dorsum tan with irregular brown blotches.

DISTRIBUTION

Within the ACT/ACF study area, the Coastal Plain population of the seal salamander is represented in Clarke, Wilcox, Monroe, and Autauga counties.

HABITAT

Riverine: Tributary: margin.

OTHER BIOLOGICAL DATA

POTENTIAL THREATS

REFERENCES

Mount, R.H. 1975. The reptiles and amphibians of Alabama. Ala. Agr. Expt. Sta., Auburn. 347 pp.

Folkerts, G.W. 1986. Page 44 *in* Mount, R.H. (ed.), Vertebrate Animals of Alabama in Need of Special Attention. Ala. Agr. Expt. Sta., Auburn Univ. 124 pp.

TRI-STATE COMPREHENSIVE STUDY
ALABAMA/COOSA/TALLAPOOSA AND APALACHICOLA/CHATTAHOOCHEE/FLINT
RIVER BASINS

Eurycea aquatica
Brown-backed salamander

Plethodontidae
Lungless salamanders

SYNONYMS

LEGAL STATUS

Candidate Category 2. *Federal Register*, Vol. 56, No. 255. November 21, 1991.

REASONS FOR CURRENT STATUS

Known only from a few spring and spring run habitats in Alabama, Tennessee, and Georgia.

DESCRIPTION

A small (3.5-inch) salamander, resembling the southern two-lined salamander (*Eurycea cirrigera*). The tail is shorter than in *E. cirrigera*, equalling only 50% of its body length. Body is stout. Sides are dusky black bordering a brownish dorsum that extends as a light band to the tip of the tail.

DISTRIBUTION

As stated above, this species is known only from a few spring and spring run habitats in Alabama, Tennessee, and Georgia. A Bibb County record may be the only one known from the ACT/ACF study area in Alabama.

HABITAT

Riverine: tributary. Springs and spring runs. Often associated with watercress (*Nasturtium*).

OTHER BIOLOGICAL DATA

Many authorities consider this "species" to be an aberrant ecophenotypic form of *E. cirrigera*.

POTENTIAL THREATS

Impoundment and other physical modification of springs and spring runs, pollution.

REFERENCES

Mount, R.H. 1975. The reptiles and amphibians of Alabama. Ala. Agr. Expt. Sta., Auburn. 347 pp.

Conant, R. and J.T. Collins, 1991. Reptiles and amphibians of eastern/central North America. Houghton Mifflin Co.

TRI-STATE COMPREHENSIVE STUDY
ALABAMA/COOSA/TALLAPOOSA AND APALACHICOLA/CHATTAHOOCHEE/FLINT
RIVER BASINS

Phaeognathus hubrichti
Red Hills salamander

Plethodontidae
Lungless salamanders

SYNONYMS

LEGAL STATUS

Threatened (41 FR 53034; December 3, 1976). State Protected (Alabama Regulations: Game, Fish, and Furbearing Animals; Nongame Species Regulation, 220-2-.92).

REASONS FOR CURRENT STATUS

Taxonomic uniqueness (the sole member of the genus), restricted range (5 counties), limited habitat, destruction of habitat, and a low reproductive rate have led to its being listed as Threatened.

DESCRIPTION

A large salamander, total length about 10 inches. Dark brown to dark gray, unmarked. Elongate body, with 20-22 costal grooves.

DISTRIBUTION: Monroe County within the ACT/ACF study area. *Phaeognathus* is confined to a narrow geologic formation, the Tallahatta, in five counties in Alabama: Monroe, Conecuh, Butler, Covington, and Crenshaw. Bluffs above the Alabama River at the Corps of Engineers' Haines Island Park mark the approximate westernmost limit of the species' range.

HABITAT

Terrestrial: Forest/woodlands. Forested ravines and bluffs dominated by hardwood trees, with outcroppings of siltstone at or near the surface.

OTHER BIOLOGICAL DATA

Red Hills salamanders live in burrows on slopes, feeding by ambushing prey (spiders, insects) at the burrow mouth. They rarely if ever completely leave the burrow. Natural nests are unknown.

POTENTIAL THREATS

Clearcutting and/or conversion of natural hardwood or mixed pine/hardwood forest to pine plantation is the greatest threat. Reduction of flow volumes may not exert a direct adverse effect, since occupied habitat is generally well upslope from streams.

REFERENCES

Mount, R.H. 1975. The reptiles and amphibians of Alabama. Ala. Agr. Expt. Sta., Auburn. 347 pp.

Mount, R.H. 1986. Red Hills salamander, *Phaeognathus hubrichti* Highton. Pages 33-34 in Mount, R.H. (ed.), Vertebrate Animals of Alabama in Need of Special Attention. Ala. Agr. Expt. Sta., Auburn Univ. 124 pp.

French, T.W. and R.H. Mount. Current status of the Red Hills salamander, *Phaeognathus hubrichti* Highton, and factors affecting its distribution. J. Ala. Acad. Sci. 49: 172-179.

TRI-STATE COMPREHENSIVE STUDY
ALABAMA/COOSA/TALLAPOOSA AND APALACHICOLA/CHATTAHOOCHEE/FLINT
RIVER BASINS

Rana capito sevosa
Dusky gopher frog

Ranidae
True frogs

SYNONYMS

Rana areolata sevosa
Rana sevosa

LEGAL STATUS

Candidate Category 2. *Federal Register*, Vol. 56, No. 255. November 21, 1991. State Protected [as *Rana areolata sevosa*]. Alabama Regulations: Game, Fish, and Furbearing Animals; Nongame Species Regulation, 220-2-.92.

REASONS FOR CURRENT STATUS

Few populations are known, habitat requirements are extremely specific, declines have been documented, and this species is often closely associated with the threatened gopher tortoise.

DESCRIPTION

A stout, spotted frog, about 4 inches long, with a large head and a thick ridge of skin extending down the back behind each eye. Snout is pointed somewhat. Back is rough, gray or light brown with dark blotches. Belly and throat white with many small spots, inner surfaces of hind legs washed with yellow.

DISTRIBUTION

In the ACT/ACF area, gopher frogs are known from Barbour and Shelby counties. The subspecies' range extends from Louisiana to western Georgia and the western portion of the Florida Panhandle.

HABITAT

Terrestrial: Forest/woodlands; scrub/shrub. Non-breeding habitat is typically open longleaf/pine scrub oak forests on sandy soils, especially in areas where gopher tortoises are found. Upland habitat must be within a mile or two of a suitable breeding site, which is usually an ephemeral sinkhole pond.

OTHER BIOLOGICAL DATA

Breeding typically occurs in February and March.

POTENTIAL THREATS

Proposed water impoundments may destroy sandhill habitat, as occurred when Lake Walter F. George was created on the Chattahoochee. Certain forestry practices continue to alter sandhill habitat, and development is a constant threat. Introduction of fish to breeding ponds has impacted some populations.

REFERENCES

Bailey, M.A. Migration of the dusky gopher frog, *Rana areolata sevosa* and other winter breeding amphibians at a sinkhole pond in the Lower Coastal Plain of Alabama. Unpubl. MS thesis, Auburn Univ.

Means, D.B. 1986. Dusky gopher frog, *Rana areolata sevosa* Goin and Netting. Pages 30-31 in Mount, R.H. (ed.), Vertebrate Animals of Alabama in Need of Special Attention. Ala. Agr. Expt. Sta., Auburn Univ. 124 pp.

TRI-STATE COMPREHENSIVE STUDY
ALABAMA/COOSA/TALLAPOOSA AND APALACHICOLA/CHATTAHOOCHEE/FLINT
RIVER BASINS

Cicindela marginipennis
Cobblestone tiger beetle

Coleoptera: Cicindelidae
Tiger beetles

SYNONYMS

LEGAL STATUS

Candidate Category 2. *Federal Register*, Vol. 56, No. 255. November 21, 1991.

REASONS FOR CURRENT STATUS

Populations of *C. marginipennis* continue to disappear due to damming and dredging of its very limited habitat. Historical locations in Pennsylvania and West Virginia have been flooded by dams, and recent surveys in Mississippi indicate the species has been extirpated from the Tombigbee River by the Tenn-Tom waterway. Proposed hydroelectric dam projects, if implemented, would likely eradicate this species from New Hampshire, Vermont, Pennsylvania, New Jersey, and New York.

DESCRIPTION

A tiger beetle, 11-14 mm in length. Dull olivaceous green above, coppery below. Elytral markings consist of a continuous white marginal band, with small lobes on the inside edge. The underside of the abdomen is brownish red, which, when combined with the white margin, make this species distinctive.

DISTRIBUTION

Within the study area, *C. marginipennis* occurs on several small islands in the Coosa River near Wetumpka, Alabama. The species historically occurred in the Tombigbee River in Mississippi, but was apparently exterminated by the U.S. Army Corps of Engineers Tennessee-Tombigbee Waterway project in the 1980's. Other extant populations are currently known from the upper Connecticut and Delaware rivers, the White Water River of Indiana, and the Scioto River and Paint Creek of Ohio.

HABITAT

Terrestrial/Riverine. Cobblestone tiger beetles have extremely specialized habitat requirements. Adults and larvae are found among cobblestones and small patches of sand on the upstream portions of islands in large swift moving rivers, especially in areas kept open by periodic flooding. Highest beetle densities occur in the upper middle sections of the islands, where sediment is neither scoured completely away nor completely buries the cobblestones. Habitat is neither overgrown nor devoid of vegetation, with the best habitat having 10-30% herbaceous or low woody vegetative cover. Thirty or more adults seen in 30 minutes of slow walking in prime habitat on a warm, sunny day in July indicates an excellent occurrence.

OTHER BIOLOGICAL DATA

Both larvae and adults are predaceous. Larvae ambush prey from burrows 1 to 4 mm in diameter, dug in sandy spots between cobbles. Adults are most active on warm, sunny days. Prey are small insects, especially ants and small flies. Adults are active only during the summer months, and have been observed in Alabama in late June.

POTENTIAL THREATS

Although loss of habitat through dam construction and subsequent inundation is the greatest threat to northern populations, the greatest threat to the Coosa River population may be reduced water flow. Off-road vehicles, where they have access to cobble areas during low water periods, may destroy larvae or larval

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habitat. Long-term reduction of flow volumes could adversely **affect** island habitats by reducing the natural cycle of periodic scouring floods and island formation, and by increasing access for off-road vehicles.

REFERENCES

Nothnagle, P. 1989. Element stewardship abstract for *Cicindela marginipennis*. The Nature Conservancy, Arlington, Virginia. 4 pp.

Scoffer, T.L. 1990. Status survey of *Cicindela marginipennis* DeMeane (Coleoptera: **Cicindelidae**) in the **Tombigbee** River drainage in **Mississippi**. Unpublished report. **Mississippi State Univ.**, Mississippi Entomological Museum. 17 pp.

Schweitzer, D.F. 1989. A Review of Category 2 **Insecta** in USFWS Regions **3,4,5**. The Nature Conservancy, unpublished report to U.S. Fish and **Wildlife** Service. 143 pp.

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RIVER BASINS

Onthophagus polyphemi

Onthophagus tortoise commensal scarab

Coleoptera: **Sericostomatidae**

Scarab beetles

SYNONYMS

LEGAL STATUS

Candidate Category 2. Federal *Register*, Vol. 56, No. 255. November 21, 1991.

REASONS FOR CURRENT STATUS

Rarity and dependence upon another rare species, the gopher tortoise.

DESCRIPTION

A small scarab beetle.

DISTRIBUTION

Poorly known, but confined to the range of the gopher tortoise (South Carolina to Louisiana)

HABITAT

Terrestrial: **forest/woodlands, scrub/shrub, sand/barren**. Found only in burrows of gopher tortoises.

OTHER BIOLOGICAL DATA

Feeds on tortoise dung.

POTENTIAL THREATS

Decline of gopher tortoise. Proposed water impoundments may destroy tortoise habitat, as occurred when Lake Walter F. George was created on the **Chattahoochee**.

REFERENCES

Woodruff, **R.E.** 1973. The scarab beetles of Florida (Coleoptera: Scarabaeidae), part I. The **Laparosticti** (Subfamilies: Scarabaeinae, **Aphodiinae**, Hybosorinae, **Ochodaeinae**, Geotrupinae, **Acanthocerinae**). Fla. Dept. Agr., Div. Plant Industry, Arthropods of Florida and neighboring land areas. 8:1-220.

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RIVER BASINS

Pyreferra ceromatica
Anointed sallow

Lepidoptera: Noctuidae
Noctuid moths

SYNONYMS

Scopelosoma *ceromatica*

LEGALSTATUS

Candidate Category 2. Federal *Register*, Vol. 56, No. 255. November 21, 1991.

REASONS FOR CURRENT STATUS

Extirpated from most of its historic range. May have become rare in the by the **1930s**, and disappeared from the Northeast and Midwest soon after. It may have disappeared from New England soon after **1900**.

DESCRIPTION

A small brown-bodied moth with light-colored wings.

DISTRIBUTION

The most recent record for this moth in Alabama was 1943 (Fort Rucker, Dale County), but little winter collecting has been attempted since. Dale Schweitzer (TNC invertebrate zoologist) believes it may persist in Alabama, since there is an 1%1 record from **Escambia** County, Florida. A 1981 record from Torreya State Park on the **Apalachicola** River was apparently reported in error.

HABITAT

Terrestrial: **Forest/woodlands**. **Mesic** lower slopes along small streams with witch hazel (*Hamamelis virginiana*).

OTHER BIOLOGICAL DATA

There are no clues to the cause of its dramatic decline (it vanished from its northern range too early to attribute to pesticide misuse). If the decline has **finished**, the species may be more common than currently known in the Southeast. Witch hazel is the only known larval foodplant. **Eggs** are laid in the early spring, larvae feed about six weeks, leave the plant, and enter the soil. They pupate in the fall, and adults are active briefly before hibernating in leaf litter. Activity resumes in late winter, and eggs are laid on leaves of the foodplant.

POTENTIAL THREATS

Prescribed winter burning of areas where adults may be hibernating, spraying of insecticides during periods of larva and adult activity.

REFERENCES

Schweitzer, D.F. 1989. A Review of Category 2 **Insecta** in **USFWS** Regions **3,4,5**. The Nature Conservancy, unpublished report to U.S. **Fish** and Wildlife Service. 143 pp.

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RIVER BASINS

Atrytone arogos arogos

Eastern beard grass skipper, Arogos skipper

Lepidoptera: **Hesperiidae**
Skippers

SYNONYMS

LEGAL STATUS

Candidate Category 2. Federal *Register*, Vol. 56, No. 255. November 21, 1991.

REASONS FOR CURRENT STATUS

This subspecies is considered to be perhaps the rarest skipper in the eastern United States. It has disappeared from Pennsylvania and has probably disappeared from New Jersey and Virginia. It has been seen only once in the past ten years in Alabama, and it is very rare in New York, North Carolina, South Carolina, Mississippi, and Florida. Declines in fire frequency (which maintain its habitat) and development of natural habitats have been blamed for losses of populations. Even where this skipper is found, it virtually never occurs in large numbers.

DISTRIBUTION

All records have been on the Atlantic or Gulf Coastal Plain in the states listed above.

HABITAT

Terrestrial. Habitat requirements are poorly understood, but the skippers are generally found in dry, sandy, successional or fire subclimax grassy areas in coastal pinelands.

OTHER BIOLOGICAL DATA

The larval foodplant has been identified as the beardgrass *Andropogon scoparius* in New York and Florida. This grass is abundant throughout the species' range, and all populations probably use it. Other *Andropogon* species, including *A. gerardii* and *A. virginica*, may be used. Adults require a nectar source, and a variety of nectar plants are probably used. Since all larval stages occur only in the aboveground portions of the highly flammable foodplant, the species probably must recolonize after major fires. Adults perch on the ground among the foodplant patches and also spend much time nectaring. There are two broods in the Southeast, in spring and fall in Florida, and roughly June and August in North Carolina.

POTENTIAL THREATS: Loss of habitat through fire suppression, conversion to intensively managed plantations, development.

REFERENCES

Schweitzer, D.F. 1989. A Review of Category 2 **Insecta** in USFWS Regions 3,4,5. The Nature Conservancy, unpublished report to U.S. Fish and Wildlife Service. 143 pp.

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RIVER BASINS

Dryobius sexnotatus
Sixbanded longhorn beetle

Coleoptera: Cerambycidae
Longhorn beetles

SYNONYMS:

LEGAL STATUS

Candidate Category 2. Federal *Register*, Vol. 56, No. 255. November 21, 1991.

REASONS FOR CURRENT STATUS

Although found over a fairly large area, **this** species seems to be declining **substantially**. This is a large, diurnal, and very gaudy beetle that would not likely be **overlooked**, yet the frequency of collection for this species has declined. Larvae bore in trunks of large standing, overmature, dying trees, and the cutting of old growth forests has probably greatly reduced its habitat.

DESCRIPTION

A colorful longhorn beetle.

DISTRIBUTION

Distribution in the study area is unknown. In the Southeast, reported from Alabama, Mississippi, Louisiana, and Tennessee. Also MD, OH, PA, AR, IN, KS, KY, MI, MO, VA, WV.

HABITAT

Terrestrial. Old growth stands containing beech and/or maple in river or stream valleys or on islands in rivers.

OTHER **BIOLOGICAL** DATA

Sugar maple (*Acer saccharum*) appears to be the preferred **foodplant** in Pennsylvania, but other species, especially beech (*Fagus grandifolia*), have been reported. Sugar maple does not occur **within** the tri-state study area, but other maples occurring in riparian habitats, such as silver maple (*Acer saccharinum*) and box elder (*Acer negundo*), should be considered as potential foodplants in Alabama.

POTENTIAL THREATS

Logging remaining (or recovering) mature stands of **riverine** hardwood bottomland forests is probably the greatest threat, but reduction of flow regimes may also be expected to negatively impact bottomland forest habitat.

REFERENCES

Schweitzer, D.F. 1989. **A** Review of Category 2 **Insecta** in USFWS Regions **3,4,5**. The Nature Conservancy, unpublished report to U.S. Fish and Wildlife Service. 143 pp.

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RIVER BASINS**

Cambarus englishi Hobbs and Hall, 1972
Crayfish

Cambaridae

SYNONYMS

None

LEGAL STATUS

Candidate Category 2, Federal Register 56(225):58835, November 21, 1991.

REASONS FOR CURRENT STATUS

Loss of habitat due to the **impoundment** of the Tallapoosa River, and a restricted range imperil this crayfish.

DESCRIPTION

This species is best identified by someone trained in crayfish identification.

DISTRIBUTION

This crayfish is endemic to approximately 150 miles of **main** stem Tallapoosa River in Alabama and Georgia. In Alabama the crayfish has been found in the main stem of the Tallapoosa River in Cleburne County, Enitachopco and Crooked creeks, Clay County, and **Hillabee** Creek, Tallapoosa County, and the Little Tallapoosa River, Randolph County..

HABITAT

Riverine, mainstream, riffle.

The crayfish uses rocky riffles with a strong current.

OTHER BIOLOGICAL DATA

Breeding probably occurs through the summer. Collections of first form males have been made in September and October.

POTENTIAL THREATS

Further impoundments inundating suitable habitat, water quality degradation, and sedimentation are threats to this species..

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REFERENCES

Hobb, H.H., Jr. and E.T. Hall, Jr. 1972. A new crayfish, from the Tallapoosa River in Georgia (Decapoda: Astacidae). Proc. Biol. Soc. Wash. 85(12):151-162.

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RIVER BASINS

Stygobromus smithi Hubricht, 1943
Alabama Well Amphipod

Cragonnyctidae

SYNONYMS

None

LEGAL STATUS

Candidate Category 2, Federal Register 56(225):58835, November 21, 1991

REASONS FOR CURRENT STATUS

This amphipod has an extremely limited distribution.

DESCRIPTION

Males may be 6 mm in length, and females 7.5 mm.

DISTRIBUTION

This species is known only from Roden's Well in Woodstock, Bibb County, the type locality, and a seep in Tuscaloosa County.

HABITAT

Riverine, tributary, pool.

Seepage and a well were the only habitat types mentioned in the literature..

OTHER BIOLOGICAL DATA

There is no information on the biology of this species.

POTENTIAL THREATS

Degradation of the water quality or lowering of the water table of the aquifer and seepage in which this species occurs would be threats.

REFERENCES

Holsinger, J.R. 1976. The Freshwater Amphipod Crustaceans (Gamaridae of North America). U.S. EPA Water Pollution Control Research Series. 18050 ELD 04/72.

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RIVER BASINS

Beloneuria jamesae Stark and Scztko, 1976
Cheaha Beloneurian Stonefly

Perlidae

SYNONYMS

None

LEGAL STATUS

Candidate Category 2, Federal Register 56(225):58824, November 21, 1991.

REASONS FOR CURRENT STATUS

This stonefly has a very limited distribution.

DESCRIPTION

This species can only be identified by someone with entomological expertise.

DISTRIBUTION

Alabama, Clay County, Cheaha State Park is the only known locality.

HABITAT

Riverine, tributary.

This stonefly occurs in the streams which feed Lake Chinnabee.

OTHER BIOLOGICAL DATA

POTENTIAL THREATS

The application of Rotenone to Lake Chinnabee and pest management programs, such as applying insecticides to control gypsy moths, are threats to this stonefly.

REFERENCES

Schweitzer, D.F. 1989. A Review of Category 2 Insecta in USFWS Regions 3, 4, 5. A report prepared for the U.S. Fish and Wildlife Service.

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RIVER BASINS**

Homoeoneuria cahabensis Pescador and Peters, 1980
Cahaba Sandfiltering Mayfly

Oligoneuridae

SYNONYMS

None

LEGAL STATUS

Candidate Category 2, Federal Register 56(225):58823, November 21, 1991.

REASONS FOR CURRENT STATUS

This mayfly has experienced a reduction in numbers due to habitat degradation.

DESCRIPTION

This species must be identified by a qualified entomologist.

DISTRIBUTION

This species is known from the Homochito River in Mississippi and the Cahaba River in Perry County, Alabama at highway 183.

HABITAT

Riverine, mainstream.

The nymphs occupy river bottoms in which the sand is loose and sifting and the current is moderately fast.

OTHER BIOLOGICAL DATA

The nymphs are filter feeders. Adult emergence has been reported in late June, **and** probably extends until August.

POTENTIAL THREATS

Impoundments, sedimentation, and degraded water quality are threats to this mayfly.

REFERENCES

Pescador, M.L. and W.L. Peters. 1980. A revision of the genus *Homeoneuna* (ephemeroptera: oligoneuriidae). Trans. **Amer. Ent. Soc.** 106:357-393.

Schweitzer, D.F. 1989. A Review of Category 2 **Insecta** in USFWS Regions 3, 4, 5. A report prepared for the U.S. Fish and Wildlife Service.

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RIVER BASINS

Proptila cahabensis Harris, 1989
Cahaba Saddle-case Caddisfly

Glossosomatidae

SYNONYMS

None

LEGAL STATUS

Candidate Category 2, Federal Register 56(225):58832, November 21, 1991

REASONS FOR CURRENT STATUS

This caddisfly has a very limited distribution.

DESCRIPTION

The identification of this species is best made by someone **with** entomological training.

DISTRIBUTION

The Cahaba saddle-case caddisfly is known only from the type locality at the Cahaba River and County Highway 10 near Whites Chapel, St. Clair County, Alabama.

HABITAT

Riverine, mainstream.

The upper reaches of the Cahaba River is the habitat of this caddisfly.

OTHER BIOLOGICAL DATA

This caddisfly has been collected in the months of May, July, September, and October.

POTENTIAL THREATS

Threats to this species include impoundments, sedimentation, and general water quality degradation.

REFERENCES

Harris, S.C.. 1989. New Trichoptera from Alabama. New York Entomological Society Journal.97:309-316.

Harris, S.C., P.E. O'Neil, and P.K. Lago. 1991. **Caddisflies of Alabama**. Geological Survey of Alabama. Bulletin 142. 442 pp.

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RIVER BASINS

Theliopsyche tallapoosa Harris, 1986
Caddisfly

Lepidostomatidae

SYNONYMS

None

LEGAL STATUS

Candidate Category 2, Federal Register 56(225):58832, November 21, 1991.

REASONS FOR CURRENT STATUS

This caddisfly is known from only one locality.

DESCRIPTION

The identification of this caddisfly can only be made by someone with entomological expertise.

DISTRIBUTION

This species is known only from Alabama, Tallapoosa County, in Tibergut Creek at the type locality.

HABITAT

Riverine, tributary.

This caddisfly has been collected from a small Piedmont stream with a rock and cobble bottom.

OTHER BIOLOGICAL DATA

This caddisfly has been collected in May.

POTENTIAL THREATS

Impoundment, sedimentation, or water quality degradation would threaten this species.

REFERENCES

Harris, S.C. 1986. Hydroptilidae (Trichoptera) of Alabama with descriptions of three new species. Kansas Entomological Society Journal 59:609-619.

Harris, S.C., P.E. O'Neil, and P.K. Lago. 1991. Caddisflies of Alabama. Geological Survey of Alabama. Bulletin 142. 442 pp.

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RIVER BASINS

Laccophilus schwarzi Fall
Schwartz' Diving Beetle

Dytiscidae

SYNONYMS

None

LEGAL STATUS

Candidate Category 2, Federal Register 56(225):58827, November 21, 1991.

REASONS FOR CURRENT STATUS

The collections of **Folkerts** and **Donavan** indicate that this beetle should probably not be a category 2 candidate. In making the determination for candidate status their report was most **likely** overlooked.

DESCRIPTION

Schwartz' diving beetle is best identified by someone with entomological expertise.

DISTRIBUTION

This beetle has been reported from Maryland, Virginia, District of Columbia, and Alabama. In Alabama this beetle has been collected in Cleburne, Lee, Tallapoosa, Walker, and Winston counties.

HABITAT

Riverine, tributary.

This species utilizes roots which extend into the water beneath undercut banks.

OTHER BIOLOGICAL DATA

POTENTIAL THREATS

Impoundments, lowered water flows, and water quality degradation threaten this beetle.

REFERENCES

Folkerts, G.W. and L.A. **Donavan**. 1974. Notes on the ranges and habitats of some little-known aquatic beetles of the southeastern U.S. (Coleoptera: Gyrinidae, Dytiscidae). *The Coleopterists Bulletin* 28(4):203-208.

Schweitzer, D.F. 1989. A Review of Category 2 **Insecta** in **USFWS** Regions 3, 4, 5. A report prepared for the U.S. **Fish** and Wildlife Service.

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RIVER BASINS

Rhodacmea elatior (Anthony 1855)
Domed Ancyloid

Ancylidae

SYNONYMS

Rhodacmea cahawbensis Walker, 1917

LEGAL STATUS

Candidate Category 2, Federal Register, 56(225):58822, November 21, 1991.

REASONS FOR CURRENT STATUS

Due to the alteration of riverine systems there has been a loss of habitat leading to reductions in the range and numbers of this snail.

DESCRIPTION

This identification of this species is dependent upon examination by a someone with training in malacology.

DISTRIBUTION

This species has been collected in the Tennessee and Cahaba river systems. This snail was recorded from 3 localities in the Cahaba River system during recent surveys: Cahaba and Little Cahaba rivers, Bibb County, and Cahaba River, Shelby County, .

HABITAT

Riverine, mainstream, tributary.

OTHER BIOLOGICAL DATA

POTENTIAL THREATS

Sedimentation, impoundments, degradation of water quality threaten this species.

REFERENCES

- Basch, P.F. 1960. Anatomy of *Rhodacmea cahawbensis* Walker, 1917, a river limpet from Alabama. *Nautilus* 73(3):88-95.
- Basch, P.F. 1963 A review of the recent freshwater limpet snails of North America. *Bulletin of the Museum of Comparative Zoology, Harvard University*, 129(8):399-461.
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- Brandon, J., T. Morales, G.M. Ward, and A.K. Ward. 1989 The distribution of snails among streams of different orders in the Cahaba River Drainage, Alabama. [Abstract]. *Bulletin of the North American Benthological Society* 6(1):115.
- Burch, J.B. 1989 North American freshwater snails. Malacological Publications, Hamburg, Michigan 365 pp.

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- Stansbery, D. H. 1971 Rare and endangered freshwater mollusks in eastern United States. IN: S.E. Jorgensen and R. W. Sharp, (eds.) Rare and endangered mollusks (Naiads) of the U.S., U.S. Department of the Interior, Region 3. pp. 5-188.
- Stein, C.B. 1976 Gastropods. pp. 21-41. In: H. Boschung, (ed.) Endangered and threatened species of Alabama. Bulletin Alabama Museum of Natural History No. 2.

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RIVER BASINS**

Rhodacmea filosa (Conrad, 1834)
Wicker Ancyloid

Ancylidae

SYNONYMS

LEGAL STATUS

Candidate Category 2, Federal Register, 56(225):58822, November 21, 1991.

REASONS FOR CURRENT STATUS

This snail has undergone a loss of habitat and reduction of range due to alterations in the river systems inhabited. Concern has been expressed that this species may be extinct.

DESCRIPTION

The identification of this species is best done by a someone with training in malacology.

DISTRIBUTION

This snail has been reported from the Black Warrior and Coosa rivers in Alabama, and in the Tennessee River system. During recent surveys in the Coosa River basin ancylid snails were collected but no specific identification was made.

HABITAT

Riverine, mainstream, tributary

OTHER BIOLOGICAL DATA

POTENTIAL THREATS

Further impoundments, sedimentation, overall degradation of water quality threaten this species..

REFERENCES

- Basch, P.F. 1963. A review of the recent freshwater limpet snails of North America.
Bulletin of the Museum of Comparative Zoology, **Harvard University**, 129(8):399-461.
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RIVER BASINS**

Amphigira alabamensis Pilsbry, 1906
Shoal Sprite

Planorbidae

SYNONYMS

None

LEGAL STATUS

Candidate Category 2, Federal Register, 56(225):58818, November 21, 1991,

REASONS FOR CURRENT STATUS

This species has not been collected during recent surveys.

DESCRIPTION

The shell of the shoal sprite is limpet-like with a small coil at the apex and about 2-3 mm in size. Examination by an expert on planorbids is necessary for positive identification.

DISTRIBUTION

The historical range was in the Coosa River, Alabama.

HABITAT

Riverine, mainstream, pool, riffle

The habitat of the species is in bedrock bottomed pools adjacent to riffles.

OTHER BIOLOGICAL DATA

This snail may be extinct.

POTENTIAL THREATS

Impoundment, sedimentation, and water quality degradation threaten the shoal sprite .

REFERENCES

- Bogan, A.E. and J.M. Pierson. 1993. Survey of the aquatic gastropods of the Coosa River Basin, Alabama: 1992. Final Report. Report submitted to Alabama Natural Heritage Program, Montgomery, Al.
- Burch, J.B. 1989 North American freshwater snails. Malacological Publications, Hamburg, Michigan 365 pp.
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RIVER BASINS

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Goodrich, C. 1941. Distribution of the gastropods of the Cahaba River, Alabama. Occasional papers of the Museum of Zoology, University of Michigan. (428):1-30.

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TAXA

PLANORBIDAE:*Neoplanorbis*

REASONS FOR CURRENT STATUS

All known habitat for these species has been inundated by Lay **Dam**, Jordan Dam, and Mitchell Dam and these species are presumed extinct. No specimens of the following species were collected during recent surveys in the Coosa River basin.

DESCRIPTION

The identification of these snails can only be made by a trained malacologist.

OTHER BIOLOGICAL DATA

POTENTIAL THREATS

Impoundments, water quality degradation, sedimentation.

REFERENCES

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RIVER BASINS**

Alabama. Bulletin Alabama Museum of Natural History No. 2.

Neoplanorbis carinatus Walker, 1908

Snail

SYNONYMS

None

LEGAL STATUS

Candidate Category 2, Federal Register, 56(225):58820, November 21, 1991.

DISTRIBUTION

Lower Coosa River, bordering Chilton and Coosa counties, Alabama, was the historic **distribution**.

HABITAT

Riverine, mainstream.

The underside of rocks in fairly rapid currents was the **known** habitat.

Neoplanorbis smithi Walker, 1908

Snail

SYNONYMS

None

LEGAL STATUS

Candidate Category 2, Federal Register, 56(225):58820, November 21, 1991.

DISTRIBUTION

Coosa River, Duncan's Riffle and **Higgin's** Ferry, Chilton County, and Butting Ram Shoals, Coosa County, Alabama, was the historic distribution..

HABITAT

Riverine, mainstream.

Moderate current was a known habitat requirement.

Neoplanorbis fantillus Pilsbry, 1906

Snail

SYNONYMS

None

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RIVER BASINS**

LEGAL STATUS

Candidate Category 2, Federal Register, 56(225):58820, November 21, 1991.

DISTRIBUTION

Coosa River, Wetupka, Elmore County, Alabama, was the historic distribution..

HABITAT

Riverine, mainstream.

The underside of rocks in swift current ~~was~~ the known habitat..

Neoplanorbis umbilicatus Walker, 1908

Snail

SYNONYMS

None

LEGAL STATUS

Candidate Category 2, Federal Register, 56(225):58820, November 21, 1991.

DISTRIBUTION

Coosa River, The Bar and Cedar Island, Chilton County, Alabama, was the historic distribution..

HABITAT

Riverine, mainstream.

Strong current was a known habitat requiremnet.

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RIVER BASINS

Antrorbis breweri Hershler and Thompson, 1990
Snail

Hydrobiidae

SYNONYMS

None

LEGAL STATUS

Candidate Category 2, Federal Register, 56(225):58818, November 21, 1991.

REASONS FOR CURRENT STATUS

This snail has an extremely limited distribution and is susceptible to extinction.

DESCRIPTION

This is a small snail with a maximum size of 3 mm. Examination by an expert on hydrobiid snails is necessary for correct identification.

DISTRIBUTION

Alabama, Coosa River Basin; this hydrobiid is known only from **Manitou** Cave in Dekalb, County near Ft. Payne.

HABITAT

Riverine, tributary, run.

A. breweri is a cave inhabitant, being found in the stream in Manitou Cave, with snails occupying the stream in small cascades and among rubble.

OTHER BIOLOGICAL DATA

Bat guano is a food item.

POTENTIAL THREATS

Any disturbance to the cave ecosystem would threaten this species, such as reduced hydrological input, degradation of water quality, or resumption of commercial activities. The cave was at one time operated commercially but this was discontinued in 1980.

REFERENCES

Burch, **J.B.** 1982. North American freshwater snails: identification keys, generic synonymy, supplemental notes, glossary, references, index. Walkerana No. 4:217-365.

Hershler, R. and F.G. Thompson. 1990. *Antrorbis breweri*, a new genus and species of hydrobiid cavesnail (gastropoda) from Coosa River basin, northeastern Alabama. Proc. Biol. Soc. Wash. 103(1):197-204.

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RIVER BASINS**

Clappia cahabensis Clench, 1965
Cahaba Pebblesnail

Hydrobiidae

SYNONYMS

None

LEGAL STATUS

Candidate Category 2, Federal Register, 56(225):58818, November 21, 1991.

REASONS FOR CURRENT STATUS

Presumed extinct, this species was not collected during recent surveys.

DESCRIPTION

The identification of this snail can only be made by someone trained in hydrobiid identification.

DISTRIBUTION

This species was in the Cahaba River and known only from the type locality near Centreville, in Bibb County.

HABITAT

Riverine,

OTHER BIOLOGICAL DATA

POTENTIAL THREATS

Siltation, degraded water quality, and impoundment threaten this species.

REFERENCES

- Bogan, A.E. and J.M. Pierson. 1993. Survey of the aquatic gastropods of the Cahaba River Basin, Alabama: 1992. **Final Report**. Report submitted to Alabama Natural Heritage Program, Montgomery, AL.
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RIVER BASINS**

Clappia umbilicata (Walker, 1904)
Umbilicate Pebblesnail

Hydrobiidae

SYNONYMS

Somatogyrus umbilicatus Walker, 1904

LEGAL STATUS

Candidate Category 2, Federal Register, 56(225):58818, November 21, 1991.

REASONS FOR CURRENT STATUS

This species is presumed extinct as all known historic sites have been impounded.

DESCRIPTION

This snail can only be identified by someone with expertise in hydrobiid taxonomy.

DISTRIBUTION

The umbilicate pebblesnail was endemic to the Coosa River and restricted to Chilton and Coosa counties, Alabama.

HABITAT

Riverine, mainstream.

OTHER BIOLOGICAL DATA

POTENTIAL THREATS

Impoundments, siltation, general water quality degradation threaten this snail.

REFERENCES

- Bogan, A.E. and J.M. Pierson. 1993 Survey of the aquatic gastropods of the Coosa River Basin, Alabama: 1992. Final Report. Report submitted to Alabama Natural Heritage Program, Montgomery, AL.
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RIVER BASINS

TAXA

HYDROBIIDAE:*Somatogyrus*

REASONS FOR CURRENT STATUS

These snails have declined in numbers and the available habitat has been reduced by alteration to river systems. Snails of the genus *Somatogyrus* were collected in both the Cahaba and Coosa river systems during recent surveys. The specific identification of these specimens has not been determined, therefore no comments can be made concerning the existence of presumed extinct species.

DESCRIPTION

The identification of these species can only be done by a hydrobiid specialist.

OTHER BIOLOGICAL DATA

POTENTIAL THREATS

Further river impoundments, sedimentation, degradation of water quality threaten these species..

REFERENCES

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Palmer, S. 1985 [1986] Some extinct molluscs of the U.S.A. *Atala* 13(1):1-7

Stansbery, D. H. 1971 Rare and endangered freshwater mollusks in eastern United States. IN: S.E. Jorgensen and R. W. Sharp, (eds.) Rare and endangered mollusks (Naiads) of the U.S., U.S. Department of the Interior, Region 3. pp. 5-188.

Stein, C.B. 1976 Gastropods. pp. 21-41. In: H. **Boschung**, (ed.) Endangered and threatened species of Alabama. Bulletin Alabama Museum of Natural History No. 2.

Somatogyrys aureus Tryon, 1865
Golden Pebblesnail

SYNONYMS

None

LEGAL STATUS

Candidate Category 2, Federal Register, 56(225):58822, November 21, 1991.

DISTRIBUTION

This snail has been reported from the Coosa River, St. **Clair** and Talladega counties, Kelly's Creek, St. Clair, County and Yellowleaf Creek, Shelby County, Alabama.

HABITAT

Riverine, mainstream, tributary.

Somatogyrys constriictus Walker, 1904
Knotty Pebblesnail

SYNONYMS

None

LEGAL STATUS

Candidate Category 2, Federal Register, 56(225):58822, November 21, 1991.

DISTRIBUTION

This snail has been collected from the Coosa River, 5 miles above Wetumpka, **Elmore** County, Wilsonville, Shelby County, Alabama. This species may now be extinct.

HABITAT

Riverine, mainstream.

This species has been collected from the underside of rocks in associations with *Somatogyrys coosaensis* and *Somatogymys hinkleyi*.

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SYNONYMS

None

LEGAL STATUS

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DISTRIBUTION

This snail has been collected from the Coosa River, from Ten-Acre Island, Etowah County to Wetumpka, Elmore County, and Weogufka Creek, Coosa County, Alabama

HABITAT

Riverine, mainstream, tributary.

Somatogyrus obtusus Walker, 1904

Moon Pebblesnail

SYNONYMS

None

LEGAL STATUS

Candidate Category 2, Federal Register, 56(225):58822, November 21, 1991.

DISTRIBUTION

This snail has been collected from the Coosa River, Center Landing, Cherokee County, to the Coosa-Chilton counties shoals, Upper Clear Creek, and tributaries, Talladega County, Alabama.

HABITAT

Riverine, mainstream, tributary.

Somatogyrus pygmaeus Walker, 1909

Pygmy Pebblesnail

SYNONYMS

None

LEGAL STATUS

Candidate Category 2, Federal Register, 56(225):58822, November 21, 1991.

DISTRIBUTION

This snail has been collected from the Coosa River, The Bar, Chilton County. This species may be extinct.

HABITAT

Riverine, mainstream.

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RIVER BASINS

This snail has been collected from the Coosa River, The Bar, Cedar Island, Butting Ram Shoals, **Higgins** Ferry, Duncan Riffle, Fort Williams Shoals, Chilton and Coosa counties, Alabama. This species may be **extinct**.

HABITAT

Riverine, mainstream.

Somatogyrus hendersoni Walker, 1909

Fluted Pebblesnail

SYNONYMS

None

LEGAL STATUS

Candidate Category 2, Federal Register, 56(225):58822, November 21, 1991.

DISTRIBUTION

This snail has been collected from the Coosa River, Coosa and Chilton counties, Alabama. This species may be extinct.

HABITAT

Riverine, mainstream

Somatogyrus hinkleyi Walker, 1904

Granite Pebblesnail

SYNONYMS

None

LEGALSTATUS

Candidate Category 2, Federal Register, 56(225):58822, November 21, 1991.

DISTRIBUTION

This snail has been collected from the Coosa and **Tallapoosa** rivers, and some tributaries. In the Coosa at Wetumpka, **Elmore** County, **Wilsonville**, Shelby County, and Fort **William** Shoals, Alabama.

HABITAT

Riverine, mainstream, tributary.

Somatogyrus nanus Walker, 1904

Dwarf Pebblesnail

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RIVER BASINS

Somatogyus quadratus Walker, 1906
Quadrate Pebblesnail

SYNONYMS

None

LEGAL STATUS

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DISTRIBUTION

This snail has been collected from the Coosa River.

HABITAT

Riverine, mainstream.

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RIVER BASINS

Stiobia nana Thompson, 1978
Sculpin Snail

Hydrobiidae

SYNONYMS

None

LEGAL STATUS

Candidate Category 2, Federal Register, 56(225):58822, November 21, 1991.

REASONS FOR CURRENT STATUS

The sculpin snail **has** an extremely limited distribution.

DESCRIPTION

The accurate identification of this species requires **examination** by an expert on hydrobiid snails.

DISTRIBUTION

The **sculpin** snail is found only in Coldwater Spring run, near Oxford, **Calhoun** County, Alabama of the Coosa River basin.

HABITAT

Riverine, tributary, run.

OTHER BIOLOGICAL DATA

POTENTIAL THREATS

Water quality degradation of Coldwater Spring or alteration of the spring would threaten this species..

REFERENCES

Thompson, F.G. and J.C. McCaleb. 1978. A new freshwater snail from a spring in eastern Alabama. *Am. Midl. Nat.* 100(2):350-358.

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RIVER BASINS

TAXA

PLEUROCERIDAE:*ELIMIA*

REASONS FOR CURRENT STATUS

General declines in the populations and range reductions of the species listed below, in some cases leading to presumed extinction, are the bases for their status..

DESCRIPTION

No specific descriptions are given for the following aquatic snails. Identifications of these species requires examination by biologists trained in molluscan identification.

OTHER BIOLOGICAL DATA

Natural history and ecological data on the pleurocerid snails is very sparse. Individual snails are either male or female. Most species are thought to be herbivorous.

HABITAT

The general habitats of the snails of the genus *Elimia* are shoals, riffles, and runs in rivers and tributaries.

POTENTIAL THREATS

Impoundments of free-flowing waters, sedimentation, siltation, and degradation of water quality all pose threats to the existence of these species..

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Elimia alabamensis (Lea, 1860)
Mud Elimia

SYNONYMS

Melania aequa Lea, 1861
Melania crepera Lea, 1861 in part
Melania fallax Lea, 1861
Melania fumea Lea, 186 in part
Melania propinqua Lea, 1861 in part
Melania pudica Lea, 1861
Melania quadrivittata Lea, 1861
Melania rara Lea, 1861
Melania shelbyensis Lea, 1861 in part
Melania solidula Lea, 1861
Goniobasis osculata Lea, 1862

LEGAL STATUS

Candidate Category 2, Federal Register, 56(225):58818, November 21, 1991.

DISTRIBUTION

This species is a middle Coosa River endemic in Alabama. Historically it was known from the main stem of the river and tributaries in Shelby and Talladega counties. Recent surveys have only located the species in Chilton and Coosa counties.

HABITAT

Riverine, mainstream, tributaries

Elimia ampla (Anthony, 1854)
Ample Elimia

SYNONYMS

Melania ambusta Anthony, 1854
Goniobasis ampla (Anthony, 1854)
Oxytrema ampla (Anthony, 1854)

LEGALSTATUS

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RIVER BASINS

Candidate Category 2, Federal Register, 56(225):58818, November 21, 1991.

DISTRIBUTION

This species is a Cahaba River endemic. Recent surveys have identified this species from nine sites, in Bibb County.

HABITAT

Riverine, mainstream, margin

Undercut banks at the edges of rock ledges are the habitat of this snail.

Elimia annettae (Goodrich, 1941)
Lily Shoals Elimia

SYNONYMS

Goniobasis annettae Goodrich, 1941
Oxytrema annettae (Goodrich, 1941)

LEGAL STATUS

Candidate Category 2, Federal Register, 56(225):58818, November 21, 1991.

DISTRIBUTION

This species is a Cahaba River endemic and was collected at six sites in Bibb County during recent surveys.

HABITAT

Riverine, mainstream

Elimia bellula (L. Lea, 1861)
Walnut Elimia

SYNONYMS

Melania bellula Lea, 1861
Melania crepera Lea, 1861 in part
Melania fumea Lea, 1861 in part
Melania propria Lea, 1861 non Lea, 1861
Melania punicea Lea, 1861
Melania shelbyensis Lea, 1861 in part
Melania sulidula Lea, 1861
Lithasia vittata Lea, 1862
Goniobasis lepidea Lea, 1863 replacement name for *Melania propria* Lea, 1861
Lithasia cylindrica Lea, 1866 in part

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DISTRIBUTION

This species was historic in the **mainstem** of the middle Coosa River River, from Gadsden, Etowah County to Wetumpka, **Elmore** County, and in Yellowleaf and Choccolocco creeks. In recent collections it has only been taken from Yellowleaf and Choccolocco creeks, Shelby and Talladega counties, Alabama.

HABITAT

Riverine, maintstream, tributaries

Elimia boykiniana (Lea, 1840)

Flaxen **Elimia**

SYNONYMS

Melania boykiniana Lea, 1840

Goniobasis boykiniana (Lea, 1840)

Oxytrema boykiniana (Lea, 1840)

LEGALSTATUS

Candidate Category 2, Federal Register, 56(225):58818, November 21, 1991.

DISTRIBUTION

This species is known from the Chattahoochee River and tributariies: Howard Creek, Houston County, Uchee and **Little** Uchee creeks, Russell County, Alabama. No current distributional information is available.

HABITAT

Riverine, mainstream, tributaries

Elimia brevis (Lea, 1842)

Short-spire **Elimia**

SYNONYMS

Melania brevis Lea, 1842

Anculosa solida Lea, 1842

Melania tivittata Reeve, 1861

Lithasia cylindrica Lea, 1866 in part

LEGAL STATUS

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DISTRIBUTION

This snail was a **mainstem** Coosa River endemic. **All** of the known range has been impounded and this

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RIVER BASINS

species is presumed extinct. No recent collections have yielded this species.

HABITAT

Riverine, mainstream.

Elimia cahawbensis (Lea, 1861)

Cahaba Elimia

SYNONYMS

Elimia cahawbensis cahawbensis (Lea, 1861)

Melania cahawbensis Lea, 1861

Melania paula Lea, 1861

Melania renera Anthony, 1861 preoccupied

Goniobasis intercedens Lea, 1862

Goniobasis quadrincincta Lea, 1864 (in part)

Goniobasis cahawbensis cahawbensis (Lea, 1861)

Oxytrema cahawbensis cahawbensis (Lea, 1861)

Elimia cahawbensis fratema (Lea, 1864)

Goniobasis fratema Lea, 1864

Goniobasis cahawbensis fratema (Lea, 1864)

Oxytrema cahawbensis fratema (Lea, 1864)

LEGAL STATUS

Candidate Category 2, Federal Register, 56(225):58819, November 21, 1991.

DISTRIBUTION

This species is known from the Cahaba and Coosa rivers. This species was not collected during recent surveys in the Coosa River system, but was frequently collected in headwaters of the Cahaba River system above the Fall Line, in Bibb, Jefferson, and Shelby counties..

HABITAT

Riverine, tributaries.

Elimia capillaris (Lea, 1861)

Spindle Elimia

SYNONYMS

Melania capillaris Lea, 1861

LEGAL STATUS

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RIVER BASINS

DISTRIBUTION

Historically this species was known, in Alabama, from the Coosa River and Chatooga River, Cherokee County, and Choccolocco Creek, Talladega County. In Georgia the species was known from the Etowah River, and Big Cedar Creek, Floyd County. In recent surveys of the Coosa system in Alabama the species was found at **only** one locality in Big Canoe Creek, St. **Clair** County.

HABITAT

Riverine, mainstream, tributary

Elimia crenatella (Lea, 1860)
Lacey **Elimia**

SYNONYMS

Melania crenatella Lea, 1860

LEGAL STATUS

Candidate Category 2, Federal Register, 56(225):58819, November 21, 1991.

DISTRIBUTION

Historically this species was known from the Coosa River, St. Clair to **Chilton** counties, and from tributaries in St. Clair, Etowah, and Talladega counties. Recent collections have been taken in Cheaha Creek, Emauhee, and Weewoka creeks, all in Talladega County.

HABITAT

Riverine, mainstream, tributary

Elimia fascians (Lea, 1861)
Banded **Elimia**

SYNONYMS

Goniobasis infuscata Lea, 1862 (in part)
Goniobasis tenebrovittata Lea, 1862
Goniobasis baculoides Lea, 1869

LEGAL STATUS

Candidate Category 2, Federal Register, 56(225):58819, November 21, 1991.

DISTRIBUTION

The banded **elimia** is a species mainly of the tributaries of the Coosa River, but sometimes present in the mainstream. It ranged from Calhoun to Coosa counties. During recent surveys it was only collected at lower Yellowleaf Creek, in Shelby County.

HABITAT

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RIVER BASINS

Riverine, tributary, occasionally mainstream.

Elimia fusiformis (Lea, 1861)
Fusiform Elimia

SYNONYMS

Lithasia fusiformis Lea, 1861

LEGAL STATUS

Candidate Category 2, Federal Register, 56(225):58819, November 21, 1991.

DISTRIBUTION

This species was a **mainstem** Coosa River endemic. All of the known range has been impounded and this species is presumed extinct. No recent collections have yielded this species.

HABITAT

Riverine, mainstream

Elimia gerhardti (Lea, 1862) see Goodrich, 1944
Coldwater Elimia

SYNONYMS

Goniobasis elliotii Lea, 1862 (in part)
Goniobasis etowahensis Lea, 1862 preoccupied *Goniobasis etowahensis* ("Lea" Reeve, 1861)
Goniobasis parva Lea, 1862
Goniobasis whitei Lea, 1862
Goniobasis quadracincta Lea, 1864 in part
Goniobasis subrhombica Lea, 1864
Goniobasis murrayensis Lea, 1868
Goniobasis venusta Lea, 1868
Goniobasis canby Tryon, 1873 replacement name for *Goniobasis etowahensis* Lea, 1862 a secondary junior homonym for *Melania etowahensis* "Lea" Reeve, 1861.
Goniobasis etowahensis Lea, 1862 is permanently invalid (ICZN 56(b)).

LEGAL STATUS

Candidate Category 2, Federal Register, 56(225):58819, November 21, 1991.

DISTRIBUTION

The coldwater elimia is a Coosa River endemic and in a recent survey was the most commonly collected species. Collections of this species were made in Cherokee, Chilton, Clay, Cleburne, Coosa, Elmore, Shelby, St. Clair, and Talladega counties, Alabama.

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RIVER BASINS

HABITAT

Riverine, tributary.

Elimia hartmaniana (Lea, 1861)
High-spired *Elimia*

SYNONYMS

Melania hartmaniana Lea, 1861
Melania mellea Lea, 1861
Melania virgulata Lea, 1861 in part

LEGAL STATUS

Candidate Category 2, Federal Register, 56(225):58819, November 21, 1991.

DISTRIBUTION

This snail was a mainstem Coosa River endemic. All of the known range has been impounded and this species is presumed extinct. No recent collections have yielded this species.

HABITAT

Riverine, mainstream

Elimia haysiana (Lea, 1842)
Silt Eimia

SYNONYMS

Melania haysiana Lea, 1842
Melania oliva Lea, 1843
Melania ovalis Lea, 1843
Melania arctata Lea, 1845
Melania harpa Lea, 1845 in part
Melania coosaensis Lea, 1861
Melania glandaria Lea, 1861
Melania gracilior Lea, 1861
Melania lewisii Lea, 1861
Melania nubila Lea, 1861 see also under *laeta*
Melania orbicula Lea, 1861
Goniobasis ellipsoides Lea, 1862 in part
Melania cylindrica Lea, 1866 in part

LEGAL STATUS

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DISTRIBUTION

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The historic range of the silt **elimia** was the Coosa River from Wetumpka, **Elmore** County, to **Chilton** County. The species is now known only between Wetumpka and Jordan Dam, in **Elmore** County, Alabama.

HABITAT

Riverine, mainstream.

Elimia impressa (Lea, 1841)

Constricted Eimia

SYNONYMS

Melania impressa Lea, 1841

Melania crebristriata Lea, 1845

LEGAL STATUS

Candidate Category 2, Federal Register, 56(225):58819, November 21, 1991.

DISTRIBUTION

This snail was a **mainstem** Coosa River endemic. All of the known range has been impounded and this species is presumed extinct. No recent collections have yielded this species.

HABITAT

Riverine, mainstream

Elimia jonesi (Goodrich, 1936)

Hearty Eimia

SYNONYMS

Goniobasis jonesi Goodrich, 1936 replacement for *Goniobasis wheatleyi* Lea, 1868 a secondary junior homonym for *Lithasia wheatleyi* Lea, 1866.

Goniobasis wheatleyi Lea, 1868 is permanently invalid (ICZN 59(b)).

Goniobasis wheatleyi Lea, 1868

LEGAL STATUS

Candidate Category 2, Federal Register, 56(225):58819, November 21, 1991.

DISTRIBUTION

This snail was a **mainstem** Coosa River endemic. All of the known range has been impounded and this species is presumed extinct. No recent collections have yielded this species.

HABITAT

Riverine, mainstream.

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Elimia laeta (Jay, 1839)
Ribbed Eimia

SYNONYMS

Melania laeta Jay, 1839
Melania robusta Lea, 1841
Melania ovalis Lea, 1843 in part
Melania harpa Lea, 1845 in part
Melania taeniolata Anthony, 1860
Melania blanda Lea, 1861 preoccupied *Melania blanda* Lea, 1841.
Melania calculoides Lea, 1861
Melania copiosa Lea, 1861
Melania culta Lea, 1861 in part
Melania nubila Lea, 1861 or under *haysiana*
Goniobasis versa Lea, 1866 replacement name for *Melania blanda* Lea, 1861

LEGAL STATUS

Candidate Category 2, Federal Register, 56(225):58819, November 21, 1991.

DISTRIBUTION

This snail was a **mainstem** Coosa River endemic. All of the known range has been impounded and this species is presumed extinct. No recent collections have yielded this species.

HABITAT

Riverine, mainstream.

Elimia olivula (Conrad, 1834)
Caper Eimia

SYNONYMS

Melania olivula Conrad, 1834
Melania bitaeniata Conrad, 1834
Melania inflata Haldeman, 1841
Melania basalis Lea, 1845
Melania proteus Lea, 1845 [in part]
Melania oppugnata Lea, 1852
Melania midas Lea, 1861
Melania straminea Lea, 1861
Goniobasis gibberosa Lea, 1862
Goniobasis sulcata Lea, 1868
Goniobasis olivula (Conrad, 1834)
Oxytrema olivula (Conrad, 1834)

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RIVER BASINS

LEGAL STATUS

Candidate Category 2, Federal Register, 56(225):58819, November 21, 1991.

DISTRIBUTION

The caper *elimia* has been reported from the Alabama River in **Dallas** and Monroe counties, the lower Tombigbee River, and the Cahaba River from 8 miles north of Sprott (**Perry** County) to 10 miles west of Selma (Dallas County). In recent collections this species has been documented from the Cahaba River at 9 sites, all below the Fall Line, from the **Bibb/Perry** County line to the mouth of the river.

HABITAT

Riverine, margin.

Caper *elimias* have been observed on damp, soapstone, chalky cliff faces up to 3 m above the water surface at regions of vertical seepage.

Elimia pilsbryi (Goodrich, 1927)

Rough-lined *Elimia*

SYNONYMS

Melania showalterii (Lea, 1861) non *Lithasia showalterii* Lea, 1860

Goniobasis pilsbryi Goodrich, 1927

Melania showalterii Lea, 1861 is permanently invalid (ICZN 59(b)).

LEGAL STATUS

Candidate Category 2, Federal Register, 56(225):58819, November 21, 1991.

DISTRIBUTION

This snail was a **mainstem** Coosa River endemic. **ALL** of the known range has been impounded and this species is presumed extinct. No recent collections have yielded this species.

HABITAT

Riverine, mainstream.

Elimia pupaefomis (Lea, 1862)

Pupa *Elimia*

SYNONYMS

Goniobasis pupaefomis Lea, 1862

LEGAL STATUS

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DISTRIBUTION

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RIVER BASINS

This snail was a **mainstem** Coosa River endemic. All of the known range has been impounded and this species is presumed extinct. No recent collections have yielded this species.

HABITAT

Riverine, mainstream.

Elimia pygmaea (Smith in Goodrich, 1936)
Pygmy Elimia

SYNONYMS

Goniobasis pygmaea Smith in Goodrich, 1936

LEGAL STATUS

Candidate Category 2, Federal Register, 56(225):58819, November 21, 1991.

DISTRIBUTION

This snail was a **mainstem** Coosa River endemic. All of the known range has been impounded and this species is presumed extinct. No recent collections have yielded this species.

HABITAT

Riverine, mainstream.

Elimia showalten (Lea, 1860)
Compact Elimia

SYNONYMS

Lithasia showalterii Lea, 1860
Melania purpurea Lea, 1861
Goniobasis showalterii (Lea, 1860)
Oxytrema showalterii (Lea, 1860)

LEGAL STATUS

Candidate Category 2, Federal Register, 56(225):58819, November 21, 1991.

DISTRIBUTION

The Cahaba River, in the transition zone near the **Bibb/Shelby County line** south to the Fall Line near Centreville, Bibb County is the distribution for this snail. During recent survey work the compact **elimia** was fairly common in its known historical range.

HABITAT

Riverine, mainstream

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RIVER BASINS

Elimia vanuxemiana (Lea, 1842)
Cobblet Elimia

SYNONYMS

Melania vanuxemiana Lea, 1842
Melania arctata Lea, 1845 in part
Melania harpa Lea, 1845 in part
Melania pergrata Lea, 1861
Melania rubicunda Lea, 1861
Goniobasis negata Lea, 1862

LEGAL STATUS

Candidate Category 2, Federal Register, 56(225):58819, November 21, 1991.

DISTRIBUTION

This snail was a **mainstem** Coosa River endemic. All of the known range has been impounded and this species is presumed extinct. No recent collections have yielded this species.

HABITAT

Riverine, mainstream.

Elimia varians (Lea, 1861)
Puzzle Elimia

SYNONYMS

Melania varians Lea, 1861
Goniobasis varians (Lea, 1861)
Oxytrema varians (Lea, 1861)

LEGAL STATUS

Candidate Category 2, Federal Register, 56(225):58819, November 21, 1991.

DISTRIBUTION

The Cahaba River in the transition zone near the **Bibb/Shelby** County line south to the **Fall Line** near **Centreville**, Bibb County is the distribution for **this** snail. During recent survey work the puzzle elimia was collected at only **3** sites, in Bibb County.

HABITAT

Riverine, mainstream

Elimia variata (Lea, 1861)
Squat Elimia

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SYNONYMS

Melania variata Lea, 1861
Goniobasis variata (Lea, 1861)
Oxytrema variata (Lea, 1861)

LEGAL STATUS

Candidate Category 2, Federal Register, 56(225):58819, November 21, 1991.

DISTRIBUTION

The squat elimia is known from the headwater zone in Jefferson and Shelby counties, and the transition zone, from near the Bibb/Shelby County line to the Fall Line near Centreville, Bibb County, in the Cahaba River. During recent surveys the squat elimia was only recorded from 5 sites, one in the Cahaba River, Bibb County, and 4 tributaries, in Shelby County.

HABITAT

Riverine, mainstream, tributary.

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RIVER BASINS

TAXA

PLEUROCERIDAE: *Gyrotoma*

REASONS FOR CURRENT STATUS

The entire genus was endemic to the Coosa River. The genus may be **extinct**, no living specimens of the genus have been found since the construction of the dams which have impoundmented the Coosa River. No specimens of this genus were located during recent surveys in the Coosa River basin.

DESCRIPTION

These snails are best identified by a person trained in malacology.

POTENTIAL THREATS

Impoundments, pollution, siltation, degradation of water quality **are/were** threats to these snails..

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Gyrotoma excisum (Lea, 1843)
Excised Slitshell

SYNONYMS

Melania excisa Lea, 1843
Apella excisa (Lea, 1843)
Schizostoma ovoideum Shuttleworth, 1845
Gyrotoma bulbose Anthony, 1860
Schizostoma glans Lea, 1860
Gyrotoma ovalis Anthony, 1860
Melatoma ellipticum "Anthony" Reeve, 1861
Gyrotoma alabamensis (Lea, 1860)
Schizostoma alabamensis Lea, 1860
Apella alabamensis (Lea, 1860)
Gyrotoma amplum Anthony, 1860
Gyrotoma ampla Anthony, 1860
Apella ampla (Anthony, 1860)
Gyrotoma demissa Anthony, 1860
Scltizostoma glandula Lea, 1860
Scltizostoma hartmanii Lea, 1860
Gyrotoma recta Anthony, 1860
Gyrotoma robusta Anthony, 1860
Gyrotoma salebroza Anthony, 1860
Melatoma nucula "Anthony" Reeve, 1861
Schizostoma showalteii Lea, 1864 non Lea, 1860
Gyrotoma cariniferum Anthony, 1860

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Gyrotoma carinifera Anthony, 1860
Apella carinifera (Anthony, 1860)
Schizochilus showalteri Lea, 1860
Gyrotoma incisum (Lea, 1843)
Anculosa incisa Lea, 1843
Apella incisa (Lea, 1843)
Schizostoma curta Mighels, 1844
Schizostoma buddii Lea, 1845
Schizostoma constrictum Lea, 1845
Schiwstoma funiculatum Lea, 1845
Gyrotoma quadata Anthony, 1860
Schizostoma virens Lea, 1860
Gyrotoma obliqua "Anthony" Tryon, 1873
Gyrotoma faciniahlm (Lea, 1845)
Schizostoma laciniatum Lea, 1845
Apella laciniata (Lea, 1845)
Schizostoma castanea Lea, 1860
Gyrotonza spillmanii (Lea, 1861)
Schizostoma spillmanii Lea, 1861
Apella spillmani (Lea, 1861)
Schizostoma wheatleyi Lea, 1868

LEGAL STATUS

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DISTRIBUTION

From Three-Island Shoals downstream to Wetumpka was the historical range for this species.

HABITAT

Riverine, mainstream.

Gyrotoma lewisi (Lea, 1869)
Striate Slitshell

SYNONYMS

Schizostoma lewisii Lea, 1869
Apella lewisi (Lea, 1869)

LEGAL STATUS

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DISTRIBUTION

Fort William Shoal near Three-Island Shoal was the historical range for this species.

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ALABAMA-COOSA-TALLAPOOSA AND APALACHICOLA-CHATTAHOOCHEE-FLINT
RIVER BASINS

HABITAT

Riverine, mainstream.

Gyrotoma pagodum (Lea, 1845)
Pagoda Slitshell

SYNONYMS

Schizostoma pagoda Lea, 1845
Apella pagoda (Lea, 1845)
Schizostoma wetumkaensis Lea, 1860
Melatoma anthoyni Reeve, 1861
Melatoma omata "Anthony" Reeve, 1861

LEGAL STATUS

Candidate Category 2, Federal Register, 56(225):58819, November 21, 1991.

DISTRIBUTION

From The Bar in Chilton County to Wetumpka in Elmore County was the historical range for this species.

HABITAT

Riverine, mainstream.

Gyrotoma pumilum (Lea, 1860)
Ribbed Slitshell

SYNONYMS

Schizostoma pumila Lea, 1860
Apella pumila (Lea, 1860)
Schizostoma globosa Lea, 1860
Gyrotoma hendersoni Smith in Goodrich, 1924

LEGALSTATUS

Candidate Category 2, Federal Register, 56(225):58819, November 21, 1991.

DISTRIBUTION

From Weduska Shoals to Wetumpka was the historical range for this species.

HABITAT

Riverine, mainstream.

Gyrotoma pyramidaturn Shuttleworth, 1845

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Pyramid Slitshell

SYNONYMS

Gyrotoma pyrimidata Shuttleworth, 1845

LEGAL STATUS

Candidate Category 2, Federal Register , 56(225):58819, November 21, 1991.

DISTRIBUTION

From Hall's Island, Talladega County upstream to Lock 2, St. **Clair**, County was the historical range for this species.

HABITAT

Riverine, mainstream.

Gyrotoma walkeri Smith in Goodrich, 1924

Round Slitshell

SYNONYMS

Apella walkeri ("Smith" Goodrich, 1924)

LEGAL STATUS

Candidate Category 2, Federal Register , 56(225):58819, November 21, 1991.

DISTRIBUTION

Weduska Shoals, Shelby County, The Bar, Cedar Island, **Higgin's** Ferry, and Duncan's Riffle in Chilton, County, and Butting Ram Shoals, Coosa, County was the historical range for this species.

HABITAT

Riverine, mainstream.

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RIVER BASINS**

TAXA

PLEUROCERIDAE:*Leptoxis*

REASONS FOR CURRENT STATUS

Impoundment of the Coosa River, canalization of the Alabama River, and pollution has reduced the populations of these species. Some species are believed to be extinct.

DESCRIPTION

The round river snails are best identified by a person with expertise in the field of malacology.

OTHER BIOLOGICAL DATA

POTENTIAL THREATS

Impoundments, altered water flows, pollutions, sedimentation, degradation of water quality threaten those species not already extinct.

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RIVER BASINS

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Leptoxis ampla (Anthony, 1855)
Round Rocksnail

SYNONYMS

Leptoxis ampla form *ampla* (Anthony, 1855)
Anculosa ampla Anthony, 1855
Anculosa elegans Anthony 1860

Leptoxis ampla form *mimica* (Smith in Goodrich, 1922)
Anculosa mimica Smith in Goodrich 1922

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RIVER BASINS**

Leptoxis ligata (Anthony, 1860)
Rotund Rocksnail

SYNONYMS

Anculosa ligata Anthony, 1860

LEGAL STATUS

Candidate Category 2, Federal Register, 56(225):58820, November 21, 1991.

DISTRIBUTION

Historically this species occurred from Weduska Shoals, Shelby County, to Wetumpka, **Elmore** County, in the Coosa River. No specimens were identified during recent surveys and this species may be extinct.

HABITAT

Riverine, mainstream.

Leptoxis lirata (Smirh in Goodrich, 1922)
Lyrate Rocksnail

SYNONYMS

Anculosa lirata Smith *in* Goodrich, 1922

LEGALSTATUS

Candidate Category 2, Federal Register, 56(225):58820, November 21, 1991.

DISTRIBUTION

This species was known from the main channel of the Coosa River at Fort Williams Shoals and Three Island Shoals, both in Talladega County. No specimens were identified during recent surveys and this species may be extinct.

HABITAT

Riverine, mainstream.

Leptoxis occultata (Smith in Goodrich, 1922)
Bigmouth Rocksnail

SYNONYMS

Anculosa occultata Smith in Goodrich, 1922

LEGAL STATUS

Candidate Category 2, Federal Register, 56(225):58820, November 21, 1991.

DISTRIBUTION

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RIVER BASINS**

This species is probably extinct. Recent surveys failed to document this snail from the main channel shoals of the Coosa River, in **Chilton** and Coosa counties, from where it was known.

HABITAT

Riverine, mainstream.

Leptoxis picta (Conrad, 1834)
Spotted Rocksnail

SYNONYMS

Anculosa picta Conrad, 1834
Anculosa zebra Anthony, 1860

LEGAL STATUS

Candidate Category 2, Federal Register, 56(225):58820, November 21, 1991.

DISTRIBUTION

Historically this species was known from the Cahaba River, 12 miles west of Selma, Dallas County, the Alabama River at Claiborne, Monroe County, and the Coosa River as far upstream as Wetumpka, **Elmore** County. No specimens were collected during recent surveys in the Cahaba and Coosa river systems. This species may be extinct.

HABITAT

Riverine, mainstream.

Leptoxis showalteri (Lea, 1860)
Coosa Rocksnail

SYNONYMS

Anculosa showalterii Lea, 1860
Anculosa sulcosa "Anthony" Reeve, 1861
Anculosa sulcata Smith in Goodrich, 1922

LEGAL STATUS

Candidate Category 2, Federal Register, 56(225):58820, November 21, 1991.

DISTRIBUTION

This species is evidently extinct. It was known from the Fort William and Peckerwood Shoals of the Coosa River. No specimens of this species were identified during recent surveys conducted in the Coosa River basin.

HABITAT

Riverine, mainstream.

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RIVER BASINS

Leptoxis taeniata (Conrad, 1834)
Painted Rocksnail

SYNONYMS

Anculotus taeniata Conrad, 1834
Anculosa griffithiana Lea, 1841
Anculosa rubiginosa Lea, 1841
Anculosa coosaensis Lea, 1861
Anculosa aldrichi Smith in Goodrich, 1922
Anculosa brevispira Smith in Goodrich, 1922
Anculosa chocoloccoensis Smith in Goodrich, 1922
Anculosa flexuosa Smith in Goodrich, 1922
Anculosa taeniata lucida Goodrich 1944

LEGAL STATUS

Candidate Category 2, Federal Register, 56(225):58820, November 21, 1991.

DISTRIBUTION

This species has been documented from Claiborne, Monroe County, and Selma, Dallas County in the Alabama River, in the Coosa River in all the large shoals between Wetumpka, Elmore County, and St. Clair County, and was reported from the Cahaba River in the lower portions below the Fall Line. The species may be extirpated from the Alabama River. No specimens were collected in the Cahaba River during recent surveys. In the Cahaba River basin, during recent surveys, it was collected at only two localities, Choccolocco Creek and Buxahatchee Creek, Shelby and Talladega counties.

HABITAT

Riverine, mainstream, tributary.

Painted rocksnails have been reported as occurring in slow waters on small rocks with light siltation.

Leptoxis vittata (Lea, 1860)
Striped Rocksnail

SYNONYMS

Anculosa vittata Lea, 1860

LEGAL STATUS

Candidate Category 2, Federal Register, 56(225):58820, November 21, 1991.

DISTRIBUTION

This species was known from the main channel of the Coosa River from Wetumpka, Elmore County, to The Bar, Chilton County. This species is presumed extinct, it was not collected during recent surveys of the

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RIVER BASINS

Coosa River basin.

HABITAT

Riverine, mainstream.

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RIVER BASINS

TAXA

PLEUROCERIDAE:*Pleurocera*

REASONS FOR CURRENT STATUS

Reduction in the range of the species, and loss of habitat due to impoundment of rivers has precipitated the listing of these species..

DESCRIPTION

Examination by a someone with **malacological** expertise is needed for accurate identification of these species.

OTHER BIOLOGICAL DATA

POTENTIAL THREATS

Further impoundments of the river systems, sedimentation, water quality degradation threaten these species.

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Pleurocera foremani (Lea, 1843)
Rough Hornsnail

SYNONYMS

Melania foremanii Lea, 1843
Oxytrema foremanii (Lea, 1843)

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RIVER BASINS

LEGAL STATUS

Candidate Category 2, Federal Register, 56(225):58824, November 21, 1991.

DISTRIBUTION

This species has been reported from the Cahaba River at **Pratt's Ferry**, Bibb County, Alabama, and in the Coosa River system from the Etowah River in Georgia downstream. It has also been collected from Coosa River tributaries. During recent surveys of the Coosa and Cahaba rivers it was not collected and may be extinct.

HABITAT

Riverine, **manistream**, tributary.

Pleurocera showalteri (Lea, 1862)

Upland **Hornsnail**

SYNONYMS

Trypanostoma showalterii Lea, 1862

Trypanostoma moriforme Lea, 1862 (in part)

Oxytrema showalteri (Lea, 1862)

LEGAL STATUS

Candidate Category 2, Federal Register, 56(225):58824, November 21, 1991.

DISTRIBUTION

This species has been reported from Alabama and Georgia in the lower regions of the headwaters of the Coosa River. During recent surveys, this snail was collected in **3** tributaries of the Coosa River, in Shelby, St. Clair, and Talladega counties, Alabama.

HABITAT

Riverine, mainstream, tributary.

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RIVER BASINS**

Lioplax cyclostomaformis (Lea 1841)
Cylindrical Lioplax

Viviparidae

SYNONYMS

Paludina cyclostomaformis (Lea, 1841)
Paludina contorta "Shuttleworth" Kuster, 1852
Paludina ellitottii Lea, 1858

LEGAL STATUS

Candidate Category 2, Federal Register, 56(225):58820, November 21, 1991.

REASONS FOR CURRENT STATUS

Due to riverine modifications this species has been greatly reduced in numbers in the Alabama and Coosa rivers.

DESCRIPTION

The identification of this species is best determined through **examaination** by a someone with malacological training.

DISTRIBUTION

This species occurs in Alabama, Georgia, and Louisiana. In Alabama it occupys the Coosa, Cahaba, and Alabama River basins, and was recently collected from the main channel of the Cahaba River at 3 sites in Bibb and Shelby counties, but not the Coosa River.

HABITAT

Riverine, **maintstream.**

The habitat of this snail is in mud in the middle of fast chutes and riffles, under boulders

OTHER BIOLOGICAL DATA

POTENTIAL THREATS

Impoundments, altered water flow, sedimentation, degradation of water quality threaten this species.

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RIVER BASINS

Tulotoma magnifica (Conrad, 1834)
Tulotoma

Viviparidae

SYNONYMS

Paludina magnifica Conrad, 1834
Paludina bimonilifera Lea, 1834
Paludina angulata Lea, 1841
Paludina coosaensis Lea, 1841

LEGAL STATUS

Endangered, Federal Register, 56(6), January 9, 1991. State Protected (Alabama Regulations: Game, Fish, and Furbearing Animals; Nongame Species Regulation, 220-2-.98).

REASONS FOR CURRENT STATUS

Historically tulotoma was known from approximately 350 river miles in the Alabama and Coosa rivers. Its range has been reduced to only about 3 river miles in the Coosa River, and segments of 4 tributaries. The remaining populations are isolated with little to no possibility of genetic exchange.

DESCRIPTION

The tulotoma is an operculate, gilled species with a globular shell which may be slightly larger than 25 mm high. Ornamentation of spiral lines and knobs are present on the shell. No other aquatic snail in the Coosa River system possesses these shell ornamentations.

DISTRIBUTION

Historically the tulotoma was present in the Coosa River from St. Clair County to the Alabama River. In the Alabama River it could be found downstream to Clarke and Monroe counties. The lower regions of several large tributaries of the Coosa River also supported tulotoma populations.

Currently the tulotoma is only known from 5 populations of **unimpounded** water in the Coosa River system. The single Coosa River population is near Wetumpka, **Elmore** County. Four tributaries support populations of the snail: Kelly Creek in St. Clair and Shelby counties, **Weogufka** and Hatchet creeks in Coosa County, and Ohatchee Creek in Calhoun County.

HABITAT

Riverine, mainstream, tributary, riffle.

Tulotoma requires cool, clean, well-oxygenated, free-flowing water, and is found in riffle and shoal areas. It is often found on the underside of boulders in swift currents. The snail may utilize depths as deep as 5 m.

OTHER BIOLOGICAL DATA

Tulotoma is a filter-feeder and broods its young. Females may reach sexual maturity in about 22 weeks. Females grow more rapidly than males. Snail densities in suitable habitat may range from 11/m² to 75/m². The birth of young reaches a peak in April and May.

POTENTIAL THREATS

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Impoundments, siltation, industrial and municipal waste, poor water quality and low dissolved oxygen levels, and excessively low hydropower discharges are threats to **tulotoma**.

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RIVER BASINS

Acipenser fulvescens Rafinesque, 1817
Lake Sturgeon

Acipenseridae
Sturgeons

SYNONYMS

Acipenser rubicundus Lesueur, 1818
Acipenser maculosus Lesueur, 1818
Acipenser paranasimos Dumeril, 1870

LEGAL STATUS

Candidate Category 2, Federal Register, 56(225):58814, November 21, 1991.

REASONS FOR CURRENT STATUS

The range and numbers of this fish have been reduced due to loss of suitable habitat.

DESCRIPTION

The lake sturgeon is a torpedo-shaped, heavy-bodied fish with a short, conical shaped snout. The snout has four ventrally located barbels. There are two rows of bony plates on each side of the body and one row along the dorsum. The caudal fin is heterocercal. The caudal peduncle is partially naked. The adults are gray to olivaceous above and white below.

DISTRIBUTION

The lake sturgeon ranges from Quebec, west to Alberta, North Dakota, South Dakota, Nebraska, Kansas, and Arkansas. In Alabama, the lake sturgeon has been reported from the Coosa River system, although it may now be extirpated from the state.

HABITAT

Riverine, mainstream.

A benthic species, the lake sturgeon inhabits shoal regions of lakes and channels and pools of large rivers where the water depth is usually 5-9 m deep and the substrate is mud, sand, rock, or gravel.

OTHER BIOLOGICAL DATA

The lake sturgeon lays adhesive eggs over a substrate of rocks and logs during May and June. Individuals mature at 14-20 years with males reaching maturity at 750 to 1000 mm in length, and females at 800 to 1200 mm in length. Individual fish may live for 120 years. Crayfish, molluscs, insects, and fish eggs are eaten.

POTENTIAL THREATS

Potential threats include the impoundment of riverine habitats, deep channel dredging, the over-harvesting by commercial fishermen, and pollution of waters from toxic effluents.

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RIVER BASINS

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RIVER BASINS

Acipenser oxyrinchus desotoi
Gulf Sturgeon

Acipenseridae
Sturgeons

SYNONYMS

Acipenser oxyrhynchus Jordan et al., 1930
Acipenser oxyrhynchus desotoi Vladykov, 1955
Acipenser sturio Linnaeus.-Jordan and Evermann, 1896

LEGALSTATUS

Threatened, Federal Register, 56:49658, September 30, 1991. State Protected (Alabama Regulations: Game, Fish, and Furbearing Animals; Nongame Species Regulation, 220-2-.92).

REASONS FOR CURRENT STATUS

The species has been severely reduced throughout its range by overfishing and dam construction.

DESCRIPTION

The Gulf sturgeon is an anadromous fish with sub-cylindrical scaleless body possessing bony plates. The snout is blade-like and extended with four fleshy chin barbels. The tail is heterocercal. Adults range in size from 880 to 2400 mm in length. The body is blue-black above and paler below. The fins are gray to blue-black.

DISTRIBUTION

The Gulf sturgeon ranges from Lake Pontchartrain in Louisiana to Tampa Bay in Florida. In Alabama it has been reported from the lower Mobile, Cahaba, Coosa, and Tallapoosa rivers. Adults during non-breeding season are confined to eastern Gulf of Mexico.

HABITAT

Breeding and larval habitat is riverine, mainstream.

OTHER BIOLOGICAL DATA

The Gulf sturgeon lays adhesive eggs, up to an estimated 3,750,000, over a substrate of rocks, weeds, or logs during mid-February to July. Individuals mature at 7-12 years. Females may spawn every 2 to 3 years. Adults fish feed on the bottom ingesting brachiopods, insect larvae, mollusks, and crustaceans.

POTENTIAL THREATS

Potential threats include the impoundment of riverine habitats, deep channel dredging, the over-harvesting by commercial fishermen, and pollution of waters from toxic effluents.

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ALABAMA-COOSA-TALLAPOOSA AND APALACHICOLA-CHATTAHOOCHEE-FLINT
RIVER BASINS

Scaphirhynchus suttkusi
Alabama Shovelnose Sturgeon

Acipenseridae
Sturgeons

SYNONYMS

Scaphirhynchus platorynchus Chermock 1955

LEGAL STATUS

Proposed Endangered, Federal Register, 58(113):33148, June 15,1993.

REASONS FOR CURRENT STATUS

The species has been severely reduced throughout its range by impoundments and waterway development and alteration.

DESCRIPTION

A sturgeon with a maximum length of slightly greater than 0.75 m. The body is elongate and flattened, the caudal peduncle is completely armored. Spiracles are absent. The upper lobe of the heterocercal tail often has a long filament. The upper portions of the body are light brown to tan, with the lower surface of the head and body cream colored. The fins are grayish.'

DISTRIBUTION

Endemic to the **Mobile** Bay drainage of Alabama and Mississippi. In Alabama has been documented from the Alabama, Tombigbee, lower Coosa, and lower Cahaba rivers.

HABITAT

riverine, mainstream.

Main channels and oxbows of large coastal plain rivers, over shallow sand and gravel bars and deep stretches of the main channel are the habitats of the Alabama sturgeon.

OTHER BIOLOGICAL DATA

The sturgeon is an opportunistic bottom feeder, with aquatic insects being the principal prey, but fish eggs, snails, mussels and fish are also eaten. Spawning appears to take place in late spring or early summer.

POTENTIAL THREATS

Gravel mining, and channel dredging for river maintenance, further impoundments, and the discharge of pollutants into riverine systems which degrade water quality threaten the Alabama sturgeon.

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RIVER BASINS

Somatogymys coosaensis Walker, 1904
Coosa Pebblesnail

SYNONYMS

None

LEGAL STATUS

Candidate Category 2, Federal Register, 56(225):58822, November 21, 1991.

DISTRIBUTION

This snail has been collected from the Coosa River, from 2 miles above Slackland, Cherokee County to Wetumpka, Elmore County, and in creeks of St. Clair, Shelby, and Talladega counties, Alabama.

HABITAT

Riverine, mainstream, tributary.

Somatogyrus crassus Walker, 1904
Stocky Pebblesnail

SYNONYMS

None

LEGAL STATUS

Candidate Category 2, Federal Register, 56(225):58822, November 21, 1991.

DISTRIBUTION

This snail has been collected from the Coosa River, in the main stem in Elmore, Chilton, and Coosa counties. This species may be extinct, as it appeared to be restricted to the main stem of the Coosa River.

HABITAT

Riverine, mainstream.

Somatogyrus decipiens Walker, 1909
Hidden Pebblesnail

SYNONYMS

None

LEGAL STATUS

Candidate Category 2, Federal Register, 56(225):58822, November 21, 1991.

DISTRIBUTION

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ALABAMA-COOSA-TALLAPOOSA AND APALACHICOLA-CHATTAHOOCHEE-FLINT
RIVER BASINS

Polyodon spathula (Walbaum)
Paddlefish

Polyodontidae
Paddlefishes

SYNONYMS

Squalus spathula Walbaum, 1792

LEGAL STATUS

Candidate Category 2, Federal Register, 56(225):58816, November 21, 1991

REASONS FOR CURRENT STATUS

The **paddlefish** has declined throughout its range due to impoundments and **over-fishing**.

DESCRIPTION

A large freshwater fish, up to 220 cm in length. Paddlefish may reach weights of 83.5 kg. The body is sharklike and **unscaled**. The snout is horizontally oriented, paddle-shaped, and up to **1/3** the length of the body. Gray to blue-gray or mottled in coloration **with** a white underside.

DISTRIBUTION

Formerly found throughout the Mississippi River basin and Gulf slope drainages in large bodies of water. The range of paddlefish encompass the region from southwestern New York west to central Montana, south to Galveston Bay in Texas, and east to Mobile Bay, Alabama. In Alabama the paddlefish has been collected in the Mobile Basin, the Black Warrior drainage, the Alabama River drainage at sites mainly below the Fall Line.

HABITAT

Riverine, mainstream, pool

A fish of warm, medium and large free-flowing rivers rich with zooplankton, but may also be found in impoundments if suitable **spawning** sites are present. Sluggish pools, backwaters, oxbows, and other areas of reduced current are utilized. Depths greater than 1.5 m are preferred.

OTHER BIOLOGICAL DATA

The paddlefish feeds pelagically and indiscriminately on plankton and aquatic insects. **Fish** do not mature until at least 7 years of age and sometimes not until 12. **Spawning** takes place over clean gravel. The fish spawn in a gregarious fashion.

POTENTIAL THREATS

Siltation, pollution, and further impoundments are continual threats to the paddlefish.

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TRI-STATE COMPREHENSIVE STUDY
ALABAMA-COOSA-TALLAPOOSA AND APALACHICOLA-CHATTAHOOCHEE-FLINT
RIVER BASINS

Cottus pygmaeus
Pygmy Sculpin

Cottidae
Sculpins

SYNONYMS

None

LEGAL STATUS

Threatened Species, Federal Register, 54(187):39846, October 28, 1989. State Protected (Alabama Regulations: Game, Fish, and Furbearing Animals; Nongame Species Regulation, 220-2-.92).

REASONS FOR CURRENT STATUS

Present at only one site which is the the major water supply for the city of **Anniston**.

DESCRIPTION

The standard length of the pygmy sculpin is 50 mm or less. In comparison to other Alabama sculpin it lacks palatine teeth, has 3, not 4, pelvic rays, and 2 preopercular spines rather than 2. The dorsal fin is contiguous. The head is large and flattened, with closely set, dorsally located eyes. The coloration of the body is a mottled gray with dark saddles between the nape and caudal peduncle.

DISTRIBUTION

The pygmy sculpin is known only from Coldwater Spring and the spring run to its confluence with Dry Creek in Calhoun County, Alabama.

HABITAT

Coldwater Spring has been impounded, forming a pool about 1.5 m deep and covers about 0.4 hectares. Depth of the spring run is up to 0.6 m deep, 12 to 15 m wide, and 152 m long. The average discharge is 32 million gallons/day. The water temperature year-round is $17 \pm 1^{\circ}\text{C}$. The substrate is mainly rock and gravel. In the spring pool *Myriophyllum* and *Ceratophyllum* are dominant plants, with *Nasturtium* dominating the edges of the spring run.

OTHER BIOLOGICAL DATA

The number of fish in the spring run have been estimated to be from 720 to 1555 individuals. In the pool the numbers of individuals have been estimated to be from 7609 to 8126.

POTENTIAL THREATS

Contamination of the subsurface aquifer of Coldwater Spring is an everpresent threat. a single catastrophic event could eliminate this species.

REFERENCES

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ALABAMA-COOSA-TALLAPOOSA AND APALACHICOLA-CHATTAHOOCHEE-FLINT
RIVER BASINS**

Cyprinella caerulea (Jordan)
Blue Shiner

Cyprinidae
Carp & Minnows

SYNONYMS

Photogenis caeruleus Jordan, 1877
Erogala caerulea Jordan and Brayton, 1878
Notropis caeruleus Gilbert, 1891

LEGAL STATUS

Proposed Threatened, Federal Register, 57:14790, April 22, 1992. State Protected (Alabama Regulations: Game, Fish, and Furbearing Animals; Nongame Species Regulation, 220-2-.92).

REASONS FOR CURRENT STATUS

No blue shiners have been captured in the Cahaba River since 1971. No collections of this species have been made in Big Wills Creek, a tributary of the Coosa River, since 1958. Fragmentation and isolation of the remaining populations has taken place.

DESCRIPTION

A minnow no more than 10 cm in total length, it is a dusky bluish overall, with pale yellow fins. The scales are margined with melanophores. There is a conspicuous blue-black lateral stripe.

DISTRIBUTION

The blue shiner has been reported from the Cahaba River system of Alabama, and the Coosa River system of Alabama, Georgia, and southeast Tennessee, and is restricted to waters above the Fall Line

HABITAT

Riverine, tributary, pool

The blue shiner is found in medium to large clear streams, and avoids both small tributaries and large rivers. It inhabits upper pool habitats, over a mixture of sand, large rubble, and bedrock.

OTHER BIOLOGICAL DATA

This shiner may be extirpated from the Cahaba River. It appears intolerant of high turbidity. It probably is a mid-depth feeder. Spawning probably occurs from May to August.

POTENTIAL THREATS

Water quality degradation from urbanization, sewage pollution, and strip mining resulting in eutrophication and siltation.

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RIVER BASINS

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RIVER BASINS

Cyprinella callitaenia (Bailey and Gibbs)
Bluestripe Shiner

Cyprinidae
Carp & Minnows

SYNONYMS

Notropis callitaenia Bailey and Gibbs, 1956
Photogenis leucopus (in part) Jordan and Brayton, 1878
Notropis sp. Bailey et al, 1954

LEGAL STATUS

Candidate Category 2, Federal Register, 56(225):58814, November 21, 1991.

REASONS FOR CURRENT STATUS

Impoundments during the last 50 years have resulted in significant habitat reduction.

DESCRIPTION

The bluestripe minnow reach a total **length** of 9 cm. It has an acutely pointed snout and an inferior mouth, a relatively large and rounded dorsal fin with dark blotches on the anteriormost ray. A prominent steel-blue midlateral stripe is evident on the body. A dark basicaudal spot, that is slightly wider than the stripe, is present on the tail. The fish also possesses a dark crescent-shaped line of spots between the eye and angle of the mouth.

DISTRIBUTION

Apalachicola River drainage, Chattahoochee and Flint river systems in Alabama, Florida, and Georgia, both above and below the Fall Line. In Alabama the species has been reported from Barbour, Lee, and Russell counties.

HABITAT

Riverine, mainstream, run; tributary, run.

The bluestripe shiner is a fish of large rivers and tributaries, over bottoms of sand, which may be mixed with gravel or small rubble. It is not found in small creeks or areas with soft bottoms. Flowing water with little or no aquatic vegetation is also a requirement.

OTHER BIOLOGICAL DATA

Spawning occurs from April to August, with individuals spawning over a long period of time. Eggs are laid in crevices of large rocks.

POTENTIAL THREATS

Further impoundments, siltation, pollution. gravel **mining**, and poorly regulated flows below dams are factors which threaten the bluestripe minnow.

REFERENCES

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RIVER BASINS**

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TRI-STATE COMPREHENSIVE STUDY
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RIVER BASINS

Notropis cahabae Mayden and Kuhajda
Cahaba Shiner

Cyprinidae
Carps & Minnows

SYNONYMS

Notropis sp. cf. *vollucellus*

LEGAL STATUS

Endangered, Federal Register, **55:42966**, October 25, 1990. State Protected (Alabama Regulations: Game, Fish, and Furbearing Animals; Nongame Species Regulation, 220-2-92).

REASONS FOR CURRENT STATUS

The Cahaba shiner is limited to **60** miles of the **mainstem** of the Cahaba River. The majority of the fish are restricted to only 15 river miles.

DESCRIPTION

The shiner is small, delicate-bodied, silvery-colored and about **6.4** cm total length. A peach-colored narrow stripe is present above the dark lateral stripe. The lateral stripe does not expand before the caudal spot. There is no predorsal dark blotch, and the predorsal scales are broadly outlined.

DISTRIBUTION

Historically the Cahaba shiner inhabited 76 miles of the Cahaba River from **3** miles northeast of Heiberger in Perry County to near Helena in Shelby County. The present known range encompasses **60** river miles, from 3 miles northeast of Heiberger to 3.75 miles north of Booth Ford in Shelby County.

HABITAT

Riverine, mainstream, pool

Quiet waters less than 0.5 m deep just below swift riffle areas over sandy substrates, gravel beds, or downstream of large rocks and boulders are the preferred habitat. The shiner is found in clear, well oxygenated waters.

OTHER BIOLOGICAL DATA

Spawning takes place from late May through June. Food items include small crustaceans, insect larvae, and algae.

POTENTIAL THREATS

Water quality degradation from urbanization, sewage pollution, and methane gas drilling resulting in eutrophication and siltation are threats.

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TRI-STATE COMPREHENSIVE STUDY
ALABAMA-COOSA-TALLAPOOSA AND APALACHICOLA-CHATTAHOOCHEE-FLINT
RIVER BASINS

Cycleptus elongatus
Blue Sucker

Catostomidae
Suckers

SYNONYMS

Catostomus elongatus Lesueur, 1817

LEGAL STATUS

Candidate Category 2, Federal Register, 56(225):58814, November 21, 1991.

REASONS FOR CURRENT STATUS

The species has been declining throughout its range.

DESCRIPTION

The blue sucker has a long compressed body with a small head. It is olive-blue or gray dorsally and blue-white ventrally, with dark blue-gray fins. The dorsal fin is long and falcate. The small horizontal mouth is overhung by the blunt snout. The caudal peduncle is long.

DISTRIBUTION

The blue sucker is in the Mississippi River basin from Pennsylvania west to central Montana and south to Louisiana, and in Gulf drainages from New Mexico east to Alabama. In Alabama the blue sucker has been reported from the Alabama, Cahaba, Coosa, Tallapoosa, and Tombigbee rivers.

HABITAT

Riverine, mainstream.

The blue sucker is present in larger rivers and tributaries, channels and pools with a moderate current. The species occurs over substrates of exposed bedrock, hard clay, sand, or gravel.

OTHER BIOLOGICAL DATA

This species feeds on aquatic insects and other small invertebrates, but may consume some plant material. Individuals may live 10 years, and have been taken in breeding condition in April.

POTENTIAL THREATS

The blue sucker is susceptible to impoundment, channelization, eutrophication, and siltation. Habitat loss from impoundments may block spawning migrations and inundate spawning sites. The species may be intolerant of turbidity.

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TRI-STATE COMPREHENSIVE STUDY
ALABAMA-COOSA-TALWOOSA AND APALACHICOLA-CHATTAHOOCHEE-FLINT
RIVER BASINS

Noturus munitus **Suttkus** and Taylor
Frecklebelly **Madtom**

Ictaluridae
Bullhead Catfishes

SYNONYMS

None

LEGAL STATUS

Candidate **Category 2**, Federal Register, 55(225):58816, November 21, 1991. State Protected (Alabama Regulations: Game, Fish, and Furbearing Animals; Nongame Species Regulation, 220-2-.92).

REASONS FOR CURRENT STATUS

The historic range of the **frecklebelly madtom** has been reduced considerably by the impounding of rivers and the deterioration of water quality downstream of urban areas.

DESCRIPTION

The frecklebelly **madtom** is a small catfish attaining a maximum length of 9 cm. The body is scaleless, and heavily mottled with light to medium to dark browns. There is a dark saddle-shaped mark located basally to the dorsal fin. Fleshy barbels are present at the corners of the mouth. It also has a pair of pectoral spines.

DISTRIBUTION

Historically the frecklebelly **madtom** was known from the Pearl River of Louisiana and **Mississippi**, the Tombigbee River in Alabama and Mississippi, the Cahaba River in Alabama, and the Conasauga River in Georgia and Tennessee. This pattern of isolation of populations indicates a once wider distribution in the Mobile Bay drainage. It has been nearly extirpated from the Mobile Bay drainage.

HABITAT

Riverine, mainstream, tributary, riffle

The habitat of this fish is shoals with stabilized gravel or rubble in small to large rivers.

OTHER BIOLOGICAL DATA

The frecklebelly **madtom** opportunistically feeds upon aquatic insects. Spawning occurs in June and July, with females producing only 50 to 70 eggs.

POTENTIAL THREATS

Water quality degradation from siltation and sedimentation, gravel-mining and washing, and dam construction threaten this species.

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TRI-STATE COMPREHENSIVE STUDY
ALABAMA-COOSA-TALLAPOOSA AND APALACHICOLA-CHATTAHOOCHEE-FLINT
RIVER BASINS

Crystallaria asprella (Jordan)
Crystal Darter

Percidae
Perches

SYNONYMS

Pleurolepis asprellus Jordan, 1878
Etheostoma asprellum Gilbert, 1891
Ammocrypta asprella Smith-Vaniz, 1968
Crystallaria asprella Jordan and Evermann, 1896

LEGAL STATUS

Candidate Category 2, Federal Register, 56(225):58814, November 21, 1991. State Protected (Alabama Regulations: Game, **Fish**, and Furbearing Animals; Nongame Species Regulation, 220-2-.92).

REASONS FOR CURRENT STATUS

Chemical and physical alterations of its habitat have resulted in extirpations in portions of its range.

DESCRIPTION

A darter with a very slender body and wide flat head. The crystal darter may reach a maximum total length of 16 cm. The coloration of the body is a brown mottling with 4 dark brown saddles. A black stripe runs around the snout from eye to eye

DISTRIBUTION

This species has a range in the Mississippi River basin from Ohio to Minnesota, south to Mississippi, northern Louisiana, and southeastern Oklahoma and east to Alabama in the Gulf slope drainages. In Alabama the species is restricted to the main channels of the Tombigbee, lower Cahaba, lower Tallapoosa, Alabama, and **Mobile** rivers. It has probably been extirpated from the upper Coosa River.

HABITAT

Riverine, mainstream, run.

This darter is found in current-swept beds of clean sand and gravel.

OTHER BIOLOGICAL DATA

This fish buries itself in the sand with only its eyes protruding and darts out at passing prey, which includes midge and **blackfly** larvae. These prey types indicates that it is an opportunistic browser and also feeds upon drift items. ~~It probably spawns in the late winter or early spring. Most individuals probably live less than 4~~ years.

POTENTIAL THREATS

Degradation of its **riverine** habitat from siltation, chemical spills, gravel mining and washing, and impoundments are threats to the crystal darter's survival.

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RIVER BASINS

Etheostoma ditrema Ramsey and Suttkus
Coldwater Darter

Percidae
Perches

SYNONYMS

Boleichthys elegans Girard.-Jordan, 1877
Boleichthys elegans Jordan and Brayton, 1878

LEGALSTATUS

Candidate Category 2, Federal Register, 56(225):58815, November 21, 1991. State Protected (Alabama Regulations: Game, Fish, and Furbearing Animals; Nongame Species Regulation, 220-2-.92).

REASONS FOR CURRENT STATUS

Habitat loss and degradation have reduced the numbers of this fish.

DESCRIPTION

The Coldwater darter grows to about 4.5 cm total length. There are 3 black caudal spots at the base of the tail. The first dorsal fin of the male and sometimes the female has a blue edge and red middle band. The head is small and conical, a frenum is present, the lateral line is somewhat arched, and there are 2 anal spines. The dorsum is dark and blotchy and the venter is pale.

DISTRIBUTION

The Coldwater darter is restricted to a small number of springs and associated pools in the Coosa basin of Alabama, Georgia, and Tennessee. All populations occur north of the Fall Line. In Alabama, the spring dwelling race is present in few springs and pools in the Coosa River drainage, from Shelby to Coosa counties. The stream race is found in tributaries of Waxahatchee Creek in Shelby County and 2 tributaries of the Coosa River in Coosa County.

HABITAT

Riverine, tributary, run, pool.

Vegetated limestone spring pools and runs are the typical habitat. The darter prefers areas of sluggish current with beds of *Fontinalis* and *Fissidens*.

OTHER BIOLOGICAL DATA

Males are in nuptial coloration by the end of April and remain in coloration until mid-July. Gravid females have been found from April through July. Fish live no longer than their second winter. Food items eaten include amphipods, chironomids, and copepods.

POTENTIAL THREATS

Degradation of springs through removal of vegetation, pollution, and inundation are all potential threats.

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TRI-STATE COMPREHENSIVE STUDY
ALABAMA-COOSA-TALLAPOOSA AND APALACHICOLA-CHATTAHOOCHEE-FLINT
RIVER BASINS

Etheostoma *trisella* Bailey and Richards
Trispot Darter

Percidae
Perches

SYNONYMS

None

LEGAL STATUS

Candidate Category 2, Federal Register 56(225):58815, November 21, 1991.

REASONS FOR CURRENT STATUS

Habitat loss and degradation due to impoundments have resulted in habitat loss and the extirpations of some populations.

DESCRIPTION

This is a darter with a stocky body and a teardrop shaped mark below the eye. Saddle markings are present on the dorsum. This species is the only darter in the upper Coosa drainage with 3 dark saddles and a single anal spine. The fish reaches a total length of no more than 5 cm.

DISTRIBUTION

The range of the trispot darter is in the upper Coosa River system in Alabama, Georgia, and Tennessee. The trispot darter, in Alabama, historically was present in Cowans Creek, Cherokee County, and the Coosa River below Gadsden. The species may have been extirpated from the state, no specimens have been recently collected at these localities.

HABITAT

Riverine, tributary, pool

This species has been collected in areas of slackwater in small, low gradient streams at depths up to 1 m. The fish may take cover beneath undercut banks or be associated with leaf litter and Podostemum.

OTHER BIOLOGICAL DATA

The trispot darter spawns in late winter and early spring in seepage areas along the margins of small tributaries. The fish live about 3 years with maturity being reached at one year of age. Food items consist of chironomids and mayfly nymphs, plus other small benthic organisms.

POTENTIAL THREATS

Degradation of streams by inundation is the main threat, but streamside alterations also pose a threat.

REFERENCES

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RIVER BASINS

Percina aurolineata Suttkus and Ramsey
Goldline Darter

Percidae
Perches

SYNONYMS

None

LEGAL STATUS

Threatened, Federal Register, 57:14790, April 22, 1992. State Protected (Alabama Regulations: Game, Fish, and Furbearing Animals; Nongame Species Regulation, 220-2-.92).

REASONS FOR CURRENT STATUS

Deterioration of water quality, impoundments, and habitat fragmentation have resulted in the decline of this fish.

DESCRIPTION

A darter with a total length of about 8 cm. There are 8 elongate-oval or squarish **black** blotches along the sides. The ground coloration of the body is a pale amber or yellow. The belly tends to be white.

DISTRIBUTION

The **goldline** darter is known from the headwaters of the Coosa River system in Georgia and the Cahaba and Little Cahaba Rivers in Alabama. In Alabama the species has been collected only in Bibb and Shelby counties. In the Cahaba it has been collected from Helena downstream to **Centreville**. A population exists in the Bulldog Bend area of the Little Cahaba River and in lower Six Mile Creek.

HABITAT

Riverine, mainstream, riffle, run

The **goldline** darter prefers areas of moderate to swift current over a substrate of cobble or small boulders and sand or gravel. The water depth inhabited may be up to 1 m. Justicia and Podostemum are present at many of the sites.

OTHER BIOLOGICAL DATA

Food includes **chironomid** larvae, other aquatic insects, and invertebrates. Spawning occurs from early April to late June with eggs laid in sand or fine gravel just below large rocks.

POTENTIAL THREATS

The species requires **fairly** good water quality and siltation from strip-mining, highway construction, urban development and pollution from sewage are threats.

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**TRI-STATE COMPREHENSIVE STUDY
ALABAMA-COOSA-TALLAPOOSA AND APALACHICOLA-CHATTAHOOCHEE-FLINT
RIVER BASINS**

Percina sp.
Alabama Channel Darter

Percidae
Perches

SYNONYMS

None

LEGAL STATUS

Candidate Category **2**, Federal Register, 56(225):58816, November 21, 1991.

REASONS FOR CURRENT STATUS

Reduction **in** the range and numbers of this fish have prompted its category candidate 2 status.

DESCRIPTION

A darter about 7 cm in length with a blunt snout, a black medial caudal spot, olive coloration on the dorsum, and 9 to 10 horizontally oblong black blotches along the side. There is no **premaxillary** frenum. The species is being described by Royal D. Suttkus.

DISTRIBUTION

The Alabama channel darter has been reported from the Cahaba River, Coosa River, Black Warrior River, Locust Fork, Little Cahaba River (Bibb County), Hatchet Creek, and Six Mile Creek.

HABITAT

Rubble, boulders, slabs, shoals, over **fine** gravel, sand substrate.

Riverine, mainstream, tributary, **riffle**, run.

OTHER BIOLOGICAL DATA

Males and females, in a state of reproductive readiness, were collected in late May in the upper Cahaba River.

POTENTIAL THREATS

Strip mines, coal mines, **sedimentation**, eutrophication, and impoundments threaten this fish.

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