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50 CFR Part 17

Endangered and Threatened Wildlife and Plants; Proposed Designation of Critical Habitat for Three Threatened Mussels and Eight Endangered Mussels in the Mobile River Basin; Proposed Rule

DEPARTMENT OF THE INTERIOR

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RIN 1018–AI73

Endangered and Threatened Wildlife and Plants; Proposed Designation of Critical Habitat for Three Threatened Mussels and Eight Endangered Mussels in the Mobile River Basin

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), propose designation of critical habitat for three threatened (fine-lined pocketbook, orange-nacre mucket, and Alabama moccasinshell) and eight endangered freshwater mussels (Coosa moccasinshell, ovate clubshell, southern clubshell, dark pigtoe, southern pigtoe, triangular kidneyshell, southern acornshell, and upland combshell), listed in 1993 under the Endangered Species Act of 1973, as amended (Act). We propose to designate 26 river and stream segments (units) in the Mobile River Basin as critical habitat for these 11 mussel species. These units encompass a total of approximately 1,760 kilometers (km) (1,093 miles (mi)) of river and stream channels. Proposed critical habitat includes portions of the Tombigbee River drainage in Mississippi and Alabama; portions of the Black Warrior River drainage in Alabama; portions of the Alabama River drainage in Alabama; portions of the Cahaba River drainage in Alabama; portions of the Tallapoosa River drainage in Alabama and Georgia; and portions of the Coosa River drainage in Alabama, Georgia, and Tennessee.

Critical habitat identifies specific areas that are essential to the conservation of a listed species, and that may require special management considerations or protection. If this proposal is made final, section 7(a)(2) of the Act requires that Federal agencies ensure that actions they fund, authorize, or carry out are not likely to jeopardize the continued existence of an endangered or threatened species or result in the destruction or adverse modification of critical habitat. State or private actions, with no Federal involvement, are not affected.

Section 4 of the Act requires us to consider the economic and other relevant impacts of specifying any area as critical habitat. We hereby solicit data and comments from the public on all aspects of this proposal, including data on the economic and other impacts of the designation. We will conduct an analysis of the economic impacts of designating these areas as critical habitat prior to a final determination. That economic analysis will be conducted in a manner that is consistent with the ruling of the 10th Circuit Court of Appeals in *N.M. Cattle Growers Ass'n* v. *USFWS.* When the draft economic analysis is completed, we will announce its availability with a notice in the **Federal Register**. With publication of the notice of availability, a comment period will be opened for a minimum of 30 days to allow for public comments on the draft economic analysis and proposed rule concurrently.

DATES: We will consider comments received by June 24, 2003. We must receive requests for public hearings, in writing, at the address shown in the **ADDRESSES** section by May 12, 2003.

ADDRESSES: If you wish to submit comments and information, you may submit your comments and information by any one of several methods:

1. You may submit written comments and information to the Field Supervisor, U.S. Fish and Wildlife Service, 6578 Dogwood View Parkway, Suite A, Jackson, MS 39213.

2. You may hand-deliver written comments and information to our Mississippi Fish and Wildlife Office, at the above address, or fax your comments to 601/965–4340.

3. You may send comments by electronic mail (e-mail) to *paul_hartfield@fws.gov.* For directions on how to submit electronic filing of comments, see the ''Public Comments Solicited'' section.

Comments and materials received, as well as supporting documentation used in the preparation of this proposed rule, will be available for public inspection, by appointment, during normal business hours at the above address.

FOR FURTHER INFORMATION CONTACT: Paul Hartfield at the above address (telephone 601/321–1125, facsimile 601/965–4340).

SUPPLEMENTARY INFORMATION:

Background

This proposed rule addresses 11 bivalve mollusks or mussels (possessing a soft body enclosed by 2 shells) in the family Unionidae that are native to the Mobile River basin. The mussels addressed in this rule are the threatened fine-lined pocketbook (*Lampsilis altilis*), orange-nacre mucket (*Lampsilis perovalis*), and Alabama moccasinshell (*Medionidus acutissimus*), and the endangered Coosa moccasinshell (*Medionidus parvulus*), southern clubshell (*Pleurobema decisum*), dark pigtoe (*Pleurobema furvum*), southern pigtoe (*Pleurobema georgianum*), ovate clubshell (*Pleurobema perovatum*), triangular kidneyshell (*Ptychobranchus greeni*), upland combshell (*Epioblasma metastriata*), and southern acornshell (*Epioblasma othcaloogensis*). Unionid mussels, in general, live embedded in the bottom (sand, gravel, and/or cobble substrates) of rivers, streams, and other bodies of water. These mussels siphon water into their shells and across four gills that are specialized for respiration and food collection. Sexes in unionid mussels are usually separate. Males release sperm into the water; the sperm are then taken in by the females through their siphons during feeding and respiration. Eggs are held in the gills of the female where they come into contact with the sperm. Once eggs are fertilized, females retain them in their gills until the larvae (glochidia) fully develop. The change (metamorphosis) of the larvae of most unionid species into juvenile mussels requires that the larvae undergo a stage of parasitism on the fins, gills, or skin of a fish. Mature mussel glochidia are released into the water and they must find and attach to a suitable host fish species in order to develop into a juvenile mussel. Glochidia may be released separately or in masses termed conglutinates. The duration of the parasitic stage varies with water temperature, mussel species, and, perhaps, host fish species. Developed juvenile mussels normally detach from their fish host and sink to the stream bottom, where they continue to develop, provided they land in a suitable substrate with correct water conditions. Because of the dependence on this life stage and transport/dispersal process, unionid mussels usually only parasitize one or a few suitable host fish species that occupy similar habitats as the mussels. Consequently, the presence of suitable host fish species is considered an essential element in the life cycle of unionid mussels.

These 11 mussel species are historically native to portions of the Mobile River Basin (Basin). The Basin is composed of seven major river systems (Mobile, Tombigbee, Black Warrior, Alabama, Cahaba, Coosa, and Tallapoosa) and drains portions of the states of Alabama, Mississippi, Georgia, and Tennessee. Biological factors relevant to these freshwater mussels' habitat requisites are discussed in the Primary Constituent Elements portion of this proposed rule.

Taxonomy, Life History, and Distribution

Fine-Lined Pocketbook (Lampsilis altilis (Conrad 1834))

The fine-lined pocketbook is a medium-sized mussel, suboval in shape, and rarely exceeds 100 millimeters (mm) (4 inches (in)) in length. The ventral margin (bottom) of the shell is often angled posteriorly in females, resulting in a pointed posterior margin. The periostracum (skin of the shell) is yellow-brown to blackish and has fine rays on the posterior half. The nacre (shell interior) is white, becoming iridescent posteriorly.

Gravid females (females with larvae) have been observed March through June. Fine-lined pocketbooks have also been observed releasing glochidia in a single large conglutinate (Haag *et al.*, 1999), termed a superconglutinate (Haag *et al.*, 1995). Redeye bass (*Micropterus coosa*), spotted bass (*M. puctulatus*), largemouth bass (*M. salmoides*), and green sunfish (*Lepomis cyanellus*) have been identified as suitable hosts (Haag *et al.*, 1999).

The fine-lined pocketbook was historically reported from the Tombigbee, Black Warrior, Cahaba, Alabama, Tallapoosa, and Coosa Rivers and many of their tributaries in Alabama, Georgia, Mississippi, and Tennessee. The species has apparently disappeared from the Tombigbee and Alabama River drainages, and possibly from the Black Warrior River drainage. Since publication of the final rule listing the fine-lined pocketbook, this mussel continues to survive in the upper Cahaba River and the Little Cahaba River (Jefferson/Shelby/Bibb Counties, Alabama); Coosa River (Cherokee County, Alabama) and its tributaries, including Duck Creek (Walker County, Georgia), Euharlee Creek (Bartow County, Georgia), Conasauga River (Murray/Whitfield County, Georgia; Polk County, Tennessee), and Holly Creek (Murray County, Georgia), Terrapin Creek, and South Fork Terrapin Creek (Cleburne County, Alabama); Yellowleaf Creek and its tributary Muddy Prong (Shelby County, Alabama); Kelly Creek and its tributary Shoal Creek (Shelby/St. Clair County, Alabama), Choccolocco Creek (Calhoun County, Alabama) and its tributaries Cheaha Creek (Talladega/Clay County, Alabama), Shoal Creek (Cleburne County, Alabama), Hatchet Creek (Coosa/Clay County, Alabama), and Tallasahatchee Creek (Talladega County, Alabama); and the Tallapoosa River and tributaries, including Uphapee Creek (Macon County, Alabama), Choctafaula Creek (Macon/Lee County, Alabama), Chewacla Creek (Macon/Lee County, Alabama), Opintlocco Creek (Macon County, Alabama), Cane and Little Cane Creeks (Cleburne County, Alabama), Muscadine Creek (Cleburne County, Alabama), Big Creek (Haralson County, GA), and McClendon Creek (Paulding County, Georgia). Populations are small and localized within these streams (Dodd *et al.*, 1986; Evans, 2001; Feminella and Gangloff, 2000; Haag *et al.*, 1999; Herod *et al.*, 2001; E. Irwin, U.S. Geological Survey, *in litt.* 2000; Irwin *et al.*, 1998; Johnson and Evans, 2000; L. McDougal, U.S. Forest Service, *in litt.* 1994; McGregor, M. 1993; McGregor *et al.* 2000; Pierson, 1991a, 1992b, 1993; Shepard *et al.*, 1994; Williams and Hughes 1998).

Orange-nacre Mucket (*Lampsilis perovalis* (Conrad 1834))

The orange-nacre mucket is a medium-sized mussel, 50 to 90 mm (2.0 to 3.6 in) in length. The shell is oval in shape, moderately thick, and inflated. The posterior margin of the shell of mature females is obliquely truncate (shortened). The nacre is usually colored orange, rose, pink, or occasionally white. The periostracum varies from yellow to dark reddish brown, and with or without green rays.

The orange-nacre mucket expels mature glochidia in a single superconglutinate (Haag *et al.* 1995). Discharge of superconglutinates has been observed between March and June, with releases appearing concentrated in early April (Hartfield and Butler 1997). Redeye bass, spotted bass, and largemouth bass have been identified as suitable host fish for the orange-nacre mucket (Haag and Warren 1997).

The orange-nacre mucket was historically known from the Alabama, Tombigbee, Black Warrior, and Cahaba Rivers and their tributaries in Alabama and Mississippi. The species has disappeared from the mainstem Tombigbee, Black Warrior, and Alabama Rivers, but continues to survive in Tombigbee tributaries, including the Buttahatchee River (Lowndes/Monroe County, Mississippi; Lamar County, Alabama), and East Fork Tombigbee River (Itawamba/Monroe County, Mississippi), Luxapalila Creek and tributaries Yellow Creek (Monroe County, Mississippi; Lamar County, Alabama) and Cut Bank Creek (Lamar County, Alabama), Sipsey River (Greene/Pickens/Tuscaloosa County, Alabama), Coalfire, Lubbub, and Trussels Creeks (Pickens County, Alabama); Black Warrior River tributaries, including North River (Tuscaloosa/Fayette County, Alabama) and its tributary Clear Creek (Fayette County, Alabama), Locust and Blackburn Forks of the Black Warrior River (Blount County, Alabama), Sipsey Fork of the Black Warrior (Winston/Lawrence County, Alabama) and tributaries Thompson, Flannagin, and Borden Creeks (Lawrence County, Alabama), and Caney, North Fork Caney, Brushy, Capsey, Rush, Brown, and Beech Creeks (Winston/Lawrence County, Alabama); Cahaba River (Bibb/Jefferson/Shelby County, Alabama) and Little Cahaba River (Bibb/Shelby County, Alabama); and Alabama River tributaries Limestone Creek (Monroe County, Alabama) and Bogue Chitto Creek (Dallas County, Alabama). The orange-nacre mucket is locally common in the Sipsey Fork and several of its tributaries. All other populations are small and localized (Alabama Malacological Research Center, *in litt.,* 1996; Dodd *et al.* 1986; Haag and Warren 2001; Hartfield and Bowker 1992; Hartfield and Jones 1989, 1990; Jones 1991; Jones and Majure 1999; McGregor 1992; McGregor *et al.* 1996; McGregor 2000; McGregor *et al.* 2000; McGregor and Pierson 1999; McGregor and Haag *in prep.;* Miller 2000; MS Museum of Natural Science collection records 1989–1999; Pierson 1991a, b, 1992a; Shepard *et al.* 1998; Vittor and Associates 1993; Warren and Haag 1994; Yokley 2001).

Alabama Moccasinshell (*Medionidus acutissimus* (Lea 1831))

The Alabama moccasinshell is a small, delicate species, approximately 30 mm (1.2 in) in length. The shell is narrowly elliptical, and thin, with a well-developed acute posterior ridge that terminates in an acute point on the posterior ventral margin. The posterior slope is finely corrugated. The periostracum is yellow to brownish yellow, with broken green rays across the entire surface of the shell. The thin nacre is translucent along the margins and salmon-colored in the umbos (beak cavity).

Alabama moccasinshell females are gravid from October to June. This species lives completely embedded in stream bottoms for most of the year. Gravid females migrate to the surface of the stream bottom between March and June, anchor themselves to gravel by a bysal thread (protein thread), and lie exposed, displaying a black mantle lure apparently to attract potential host fish (P. Hartfield pers. obs. 1994; Haag and Warren 2001). Blackspotted topminnows (*Fundulus olivaceus*), Tuskaloosa darter (*Etheostoma douglasi*), redfin darter (*E. whipplei*), blackbanded darter (*Percina nigrofaciata*), naked sand darter

(*Ammocrypta beani*), southern sand darter (*A. meridiana*), johnny darter (*E. nigrum*), speckled darter (*E. stigmaeum*), saddleback darter (*Percina vigil*), and logperch (*P. caprodes*) have been identified as suitable host fish (Haag and Warren 1997, 2001).

The Alabama moccasinshell was historically known from the Alabama, Tombigbee, Black Warrior, Cahaba, and Coosa Rivers and their tributaries in Alabama, Mississippi, Georgia, and Tennessee. The species has disappeared from the mainstems of all of these rivers, but continues to survive in Tombigbee River tributaries, including Bull Mountain Creek (Itawamba County, Mississippi), Luxapalila Creek (Lowndes County, Mississippi) and tributary Yellow Creek (Lowndes County, Mississippi; Lamar County, Alabama), Buttahatchee River (Lowndes/Monroe County, Mississippi, Lamar County, Alabama), and tributary Sipsey Creek (Monroe County, Mississippi), Lubbub Creek (Pickens County, Alabama), and Sipsey River (Greene/Pickens County, Alabama); Black Warrior River tributaries, including the Sipsey Fork and tributaries (Winston/Lawrence County, Alabama); and Holly Creek (Murray County, Georgia) in the Coosa River drainage (Dodd *et al.*1986; Evans 2001; Hartfield and Bowker 1992; Hartfield and Jones 1989, 1990; Johnson and Evans 2000; Jones 1991; Jones and Majure 1999; McGregor 1992; McGregor *et al.* 1996; McGregor 2000; McGregor *et al.* 2000; MS Museum of Natural Science collection record 1984–2001; Pierson 1991a, b; Warren and Haag 1994; Yokley 2001). Except for the Sipsey Fork, populations are small and localized. Highest densities observed during field surveys have been from the Sipsey Fork and its headwater tributaries in Bankhead National Forest, where quantitative samples from selected sites estimated Alabama moccasinshells densities from 0 to 2.8/10 m^2 (Warren and Haag 1994).

Coosa Moccasinshell (*Medionidus parvulus* (Lea 1860))

The Coosa moccasinshell is a small species occasionally exceeding 40 mm (1.6 in) in length. The shell is thin and fragile, elongate and elliptical to rhomboidal in outline. The posterior ridge is inflated and smoothly rounded, terminating in a broadly rounded point; the posterior slope is finely corrugated. The periostracum is yellow-brown to dark brown and has fine green rays. The nacre is blue, occasionally with salmon-colored spots.

Coosa moccasinshells are usually completely buried in the stream bottom. Because this species is apparently closely related to the Alabama moccasinshell, gravid females of this species likely migrate to the surface of the stream bottom during spring glochidial release periods, as do gravid Alabama moccasinshell females. Coosa moccasinshell glochidia are known to use blackbanded darters as hosts; however, other species of darters are also likely to be used (P. Johnson, Tennessee Aquarium Research Institute, pers. comm. 2002).

The Coosa moccasinshell has been historically reported from the Cahaba River, the Sipsey Fork of the Black Warrior River, and the Coosa River, and their tributaries, in Alabama, Georgia, and Tennessee. Since the species was listed, its presence has been confirmed only in the Conasauga River (Murray/Whitfield County, Georgia; Bradley County, Tennessee), and its tributary, Holly Creek (Murray County, Georgia) (Johnson and Evans, 2000, Williams and Hughes 1998). It has apparently been eliminated from the Cahaba and Black Warrior River drainages, as well as from the Coosa River and many of its tributaries.

Ovate Clubshell (*Pleurobema perovatum* (Conrad 1834))

The ovate clubshell is a small to medium-sized mussel that rarely exceeds 50 mm (2.0 in) in length. The shell is oval to elliptical in shape, and has nearly terminal, inflated umbos. The posterior ridge is well-developed, broadly rounded, and often concave. The posterior slope is produced well beyond the posterior ridge. Periostracum color varies from yellow to dark brown, and occasionally has broad green rays that may cover most of the umbo and posterior ridge. The nacre is white. Gravid females of this species have been observed in June and July. Glochidia are released in well formed, white conglutinates (W.R. Haag unpublished data). Host fishes for this species are unknown.

The ovate clubshell was historically distributed in the Tombigbee, Black Warrior, Alabama, Cahaba, and Coosa Rivers and their tributaries in Mississippi, Alabama, Georgia, and Tennessee; and in Chewacla, Uphapee and Opintlocco Creeks in the Tallapoosa River drainage, Alabama. It has disappeared from the Black Warrior, Cahaba, and Alabama River drainages, as well as the mainstem Tombigbee River and Uphapee and Opintlocco Creeks. Currently, the species is known to survive in several Tombigbee River tributaries, including Buttahatchee River (Lowndes/Monroe County, Mississippi), Luxapalila Creek and its tributary Yellow Creek (Lowndes County, Mississippi), Sipsey River (Greene/Pickens/Tuscaloosa County, Alabama), Sucarnoochee River (Sumter County, Alabama), and Coalfire Creek (Pickens County, Alabama); and Chewacla Creek (Macon County, Alabama) in the Tallapoosa River drainage; and a short reach of the Coosa River below the mouth of Terrapin Creek (Cherokee County, Alabama) (Dodd *et al.* 1986, Feminella and Gangloff 2000, Hartfield and Bowker 1992, Hartfield and Jones 1990, Jones 1991, McGregor 1992, McGregor 1993, McGregor *et al.* 1996, McGregor 2000, McGregor and Haag *in prep.,* Miller 2000, Pierson, 1991a, b; Yokley 2001). Populations are small and localized.

Southern Clubshell (*Pleurobema decisum* (Lea 1831))

The southern clubshell is a medium sized mussel about 70 mm (2.8 in) long, with a thick shell, and heavy hinge plate and teeth. The shell outline is roughly rectangular, produced posteriorly with the umbos terminal with the anterior margin, or nearly so. The posterior ridge is moderately inflated and ends abruptly with little development of the posterior slope at the dorsum of the shell. The periostracum is yellow to yellow-brown with occasional green rays or spots on the umbo in young specimens.

Gravid southern clubshell females with mature glochidia have been collected in June and July. Glochidia are released in well formed conglutinates orange or white in coloration (Haag and Warren 2001). Blacktail shiner (*Cyprinella venusta*), Alabama shiner (*C. callistia*), and tricolor shiner (*C. trichroistia*) have been identified as fish host (Haag and Warren 2001, P. Johnson pers. comm. 2002).

With the exception of the Tensas/Mobile River, the southern clubshell was formerly known from every major river system in the Mobile River Basin, including the Alabama, Tombigbee, Black Warrior, Cahaba, Tallapoosa, and Coosa Rivers and many of their tributaries in Mississippi, Alabama, Georgia, and Tennessee. This species has disappeared from the Cahaba River drainage, the main channels of the Tombigbee and Black Warrior Rivers, and from a number of tributaries in all of the drainages. Southern clubshell continues to inhabit the East Fork Tombigbee River (Itawamba/Monroe County, Mississippi), Bull Mountain Creek (Itawamba County, Mississippi), Buttahatchee River (Monroe/Lowndes County, Mississippi), Luxapalila and Yellow Creeks (Lowndes County, Mississippi), Lubbub Creek (Pickens County, Alabama), and Sipsey River

(Greene/Pickens/Tuscaloosa County, Alabama) in the Tombigbee drainage; a short reach of the Alabama River and Bogue Chitto Creek (Dallas County, Alabama); Chewacla Creek (Macon County, Alabama) in the Tallapoosa drainage; Coosa River (Dead River) below Weiss Dam (Cherokee County, Alabama) and tributaries Kelly Creek (Shelby County, Alabama), Big Canoe Creek (St. Clair County, Alabama), Terrapin Creek (Cherokee County, Alabama), and Conasauga River (Murray/Whitfield County, Georgia) (Alabama Department of Conservation and Natural Resources/U.S. Fish and Wildlife Service collection records, 1998, 1999; Evans 2001; Feminella and Gangloff 2000; Hartfield and Bowker 1992; Hartfield and Jones 1989, 1990; Herod *et al.* 2001; Jones 1991; Jones and Majure 1999; McGregor 1993, 1999; McGregor *et al.* 1996; Miller 2000; Miller and Hartfield, 1988; Pierson, 1991a, b; Yokley 2001). The southern clubshell is relatively common in localized reaches of the Buttahatchee and Sipsey Rivers. Average density at four sites in the Coosa River below Weiss Dam was 0.19/square meter (Herod *et al.* 2001). It is rare to uncommon in other occupied streams.

Dark Pigtoe (*Pleurobema furvum* (Conrad 1834))

The dark pigtoe is a small to medium-sized mussel, occasionally reaching 60 mm (2.4 in) in length. The shell is oval in outline, and moderately inflated. Beaks are located in the anterior portion of the shell. The posterior ridge is abruptly rounded and terminates in a broadly rounded, subcentral, posterior point. The periostracum is dark, reddish brown with numerous and closely spaced, dark growth lines. The hinge plate is wide and the teeth are heavy and large, especially in older specimens. The nacre approaches white in the umbos, and is highly iridescent on the posterior margin. This species is gravid in June and releases glochidia in peach to pink-colored conglutinates (Haag and Warren 1997). The largescale stoneroller (*Campostoma oligolepis*), Alabama shiner, blacktail shiner, creek chub (*Semotilus atromaculatus*), and blackspotted topminnow have been confirmed as suitable hosts (Haag and Warren 1997).

The historic distribution of the dark pigtoe was probably restricted to the Black Warrior River system above the fall line (natural contour that marks a drop in land level). Since listing, the presence of the dark pigtoe has been confirmed in the Black Warrior River drainage from Sipsey Fork and its tributaries Caney, Brown, Rush, and Capsey Creeks (Winston/Lawrence County, Alabama); and from the North River and its tributary Clear Creek (Fayette County, Alabama) (Alabama Malacological Research Center, *in litt.,* 1996; Dodd *et al.* 1986; McGregor 1992; Pierson 1992a; Shepard *et al.* 1998; Vittor and Associates 1993; Warren and Haag 1994). Badly weathered shells have also been found in the Locust Fork of the Black Warrior River near the Jefferson-Blount County line. Populations are small and localized. Highest densities measured during field surveys have been from the Sipsey Fork and its headwater tributaries in Bankhead National Forest, where quantitative samples from selected sites estimated dark pigtoe densities from 0 to 4.8/10 m^2 (Warren and Haag 1994).

Southern Pigtoe (*Pleurobema georgianum* (Lea 1841))

The southern pigtoe is a small to medium-sized mussel occasionally exceeding 60 mm (2.4 in) in length. The shell is elliptical to oval in outline and somewhat compressed. The posterior slope is smoothly rounded. The pseudocardinal teeth (protrusions on the dorsal interior surface of the shell) are small but well-developed, and the nacre is white. The periostracum is yellow to yellow-brown. Growth lines are numerous and may be dark brown. Small specimens may have green spots at the growth lines along the posterior ridge and near the umbo. Host fish are Alabama shiner, blacktail shiner, and tricolor shiner (P. Johnson pers. comm. 2002).

The historic range of the southern pigtoe included the Coosa River and its tributaries in Alabama, Georgia, and Tennessee. The species is currently known to survive in the Conasauga River (Murray/Whitfield County, Georgia, Bradley County, Tennessee), Holly Creek (Murray County, Georgia), Shoal Creek (Cleburne County, Alabama), Big Canoe Creek (St. Clair County, Alabama), and Cheaha Creek (Talladega County, Alabama) (Evans 2001, Feminella and Gangloff 2000, Johnson and Evans, 2000; Pierson 1992b, 1993; Williams and Hughes 1998). Populations are small and localized.

Triangular Kidneyshell (*Ptychobranchus greeni* (Conrad 1834))

The triangular kidneyshell is oval to elliptical in outline, and may approach 100 mm (4.0 in) in length. The shell is generally compressed, and may be flattened ventral to the umbos. The posterior ridge is broadly rounded and terminates in a broad round point post-ventrally. The pseudocardinal teeth are heavy, and the laterals are heavy, gently curved and short. The periostracum is straw-yellow in young specimens, but becomes yellow-brown in older ones. It may have fine and wavy, or wide and broken, green rays anterior to the posterior ridge.

Gravid triangular kidneyshell females were observed in March 1994 and April 1996. Glochidia are packaged into conglutinates that mimic small aquatic fly larvae (Hartfield and Hartfield 1996) or fish eggs (Haag and Warren 1997). Suitable fish hosts have been identified as Warrior darter (*Etheostoma bellator*), Tuskaloosa darter, blackbanded darter and logperch (Haag and Warren 1997).

The historic range of the triangular kidneyshell included the Black Warrior, Cahaba, Alabama, and Coosa Rivers and tributaries in Alabama, Georgia, and Tennessee. The species has disappeared from the Alabama River, and from the primary channels of the Black Warrior and Coosa Rivers. Triangular kidneyshell is currently known to inhabit the Sipsey Fork and tributaries (Winston/Lawrence County, Alabama) and Locust Fork (Blount County, Alabama) of the Black Warrior; Cahaba River (Bibb County, Alabama); and Coosa tributaries Shoal Creek (Cleburne County, Alabama), Kelly Creek (Shelby County, Alabama), Big Canoe Creek (St. Clair County, Alabama), Conasauga River (Murray/Whitfield County, Georgia, Bradley County, Tennessee), Holly Creek (Murray County, Georgia), Coosawattee River (Gordon County, Georgia), and Oostanaula River (Floyd/Gordon County, Georgia). Populations are small and localized (Dodd *et al.* 1986, Evans 2001, Feminella and Gangloff 2000, Haag and Warren 1997, Johnson and Evans 2000, McGregor 1992, McGregor *et al.* 2000, Shepard *et al.* 1994, 1998; Warren and Haag 1994, Williams and Hughes 1998).

Southern Acornshell (*Epioblasma othcaloogensis* (Lea 1857))

The southern acornshell is a small mussel that may grow up to 30 mm (1.2 in) in shell length. The shells are round to oval in outline and sexually dimorphic, with a swollen posterior ridge in females. The periostracum is smooth, shiny, and yellow in color. Life history and host fish are unknown.

Historically, the southern acornshell occurred in the upper Coosa River system and the Cahaba River above the fall line in Alabama, Georgia, and Tennessee. The most recent records for the southern acornshell were from tributaries of the Coosa River in the early 1970s, and the Cahaba in the 1930s (58 FR 14330). It was our determination at the time of listing, with

consensus of the malacological (mollusk research) community, that this species was likely to persist in low numbers in the upper Coosa River drainage, and possibly in the Cahaba River. Surveys of Coosa River tributaries have been conducted by Service biologists, as well as Bogan and Pierson (1993a), Evans (2001), Feminella and Gangloff (2000), Johnson and Evans (2000), Pierson (1993, pers. comm. 1994), Williams and Hughes (1998), and others. Surveys of the Cahaba River have been conducted by Service biologists, Bogan and Pierson (1993b), McGregor *et al.* (2000), Shepard *et al.* (1994, 1998), and others. Despite these repeated surveys of historic habitat in the Coosa and Cahaba River drainages, no living animals or fresh shells of this species have been located in recent years (Evans 2001, Feminella and Gangloff 2000, Johnson and Evans 2000, McGregor *et al.* 2000, Pierson 1993, Shepard *et al.* 1994, 1998, Williams and Hughes 1998). Not withstanding the results of these surveys, this species' historic range includes thousands of miles of river and stream habitat in the Mobile River Basin, and there are many miles of stream which have not been adequately surveyed. Mussels are cryptic species, living buried in the stream bottom under water, and rare mussels are difficult to locate.

Upland Combshell (*Epioblasma metastriata* (Conrad 1838))

The upland combshell is a bivalve mollusk that rarely exceeds 60 mm (2.4 in) in length. The shells are rhomboidal to quadrate in outline and are sexually dimorphic. Males are moderately inflated with a broadly curved posterior ridge. Females are considerably inflated, with a sharply elevated posterior ridge that swells broadly post-ventrally forming a well-developed sulcus (the groove anterior to the posterior ridge). The posterior margin of the female is broadly rounded and comes to a point anterior to the posterior extreme. Periostracum color varies from yellowish-brown to tawny, and may or may not have broken green rays or small green spots. Hinge teeth are well-developed and heavy. This species likely releases glochidia during late spring or early summer (Service 2000). The host fish for this species have not been identified.

The historic range of the upland combshell included portions of the Black Warrior, Cahaba, and Coosa Rivers of the Mobile River Basin and some of their tributaries in Alabama, Georgia, and Tennessee. The most recent records for the upland combshell were from the Conasauga River, Georgia, in 1988, and from the Cahaba River, Alabama, in the early 1970s (58 FR 14330). When listed, the species was believed to be restricted to the Conasauga River in Georgia, and possibly portions of the upper Black Warrior and Cahaba River drainages. Surveys of Coosa River tributaries have been conducted by Service biologists, as well as Bogan and Pierson (1993a), Evans (2001), Feminella and Gangloff (2000), Johnson and Evans (2000), Pierson (1993, pers. comm. 1994), Williams and Hughes (1998), and others. Surveys of the Cahaba River have been conducted by Service biologists, Bogan and Pierson (1993b), McGregor *et al.* (2000), Shepard *et al.* (1994), and others. Surveys in the upper Black Warrior drainage have been done by Service biologists, Alabama Malacological Research Center, (*in litt.* 1996), Sheppard *et al.* (1998), Vittor and Associates (1993), Warren and Haag (1994), and others. However, these surveys of the Conasauga River and other historic habitat in the Coosa, Cahaba, and Black Warrior River drainages since the mussel was listed have failed to locate any evidence of the upland combshell (Evans 2001, Feminella and Gangloff 2000, Johnson and Evans 2000, McGregor 1992, McGregor *et al.* 2000, Pierson 1991a, Shepard *et al.* 1994, 1998, Vittor and Associates 1993, Warren and Haag 1994, Williams and Hughes 1998). Not withstanding the results of these surveys, this species' historic range includes thousands of miles of river and stream habitat in the Mobile River Basin, and there are many miles of stream which have not been adequately surveyed. Mussels are cryptic species, living buried in the stream bottom under water, and rare mussels are difficult to locate.

The summary of these 11 mussel species, presented above, represents our current understanding of their historic and current range and distribution. There has been some confusion in species identification in recent reports. For example, some survey reports have identified mussel populations from Black Warrior River tributaries, Cahaba River, and Bogue Chitto Creek as fine-lined pocketbook, while others have identified the same populations as orange-nacre mucket. Although there may be some overlap in these species' current ranges, we believe that this confusion originated from collectors unfamiliar with one or both species. There is also some confusion surrounding recently rediscovered populations of clubshell in the Coosa River drainage. Some biologists believe these populations may include painted clubshell (*Pleurobema chattanoogaense*), a form that we considered the same as southern clubshell (*Pleurobema decisum*) in the March 17, 1993, final rule listing for these 11 mussels (58 FR 14330). There is some morphological evidence that recognition of painted clubshell as a species may be warranted, however, recent genetic studies were unable to discriminate between the 2 forms. Therefore, at this time, we consider populations of clubshell in the Coosa River drainage to be southern clubshell. The distributions presented above, are based upon shell morphology as described and currently recognized in the scientific literature. Therefore, we will consider these species' current ranges as outlined above, until presented with new information.

Summary of Decline and Threats to Surviving Populations

The disappearance of these 11 mussel species from significant portions of their ranges is primarily due to changes in river and stream channels caused by dams, dredging, or mining, and historic or episodic pollution events (58 FR 14330). More than 1,700 km (1,100 mi) of large and small river habitat in the Basin have been impounded by dams for navigation, flood control, water supply, and/or hydroelectric production purposes. None of the 11 species are known to survive in impounded waters. Riverine mussels are killed during construction of dams, they may be suffocated by sediments that accumulate behind the dams; and the reduced water flow behind dams limits food and oxygen available to mussels. Many fish species that serve as hosts to mussel larvae are also eliminated by dams and impounded waters.

Other forms of habitat modification—such as channelization, channel clearing and desnagging (woody debris removal), and gold and gravel mining—caused stream bed scour and erosion, increased turbidity, reduction of groundwater levels, and sedimentation, often resulting in severe local impacts to, and even extirpation of, mussel species. Sedimentation may also eliminate or reduce recruitment of juvenile mussels (Negus 1966), and suspended sediments can also interfere with feeding (Dennis 1984).

Water pollution from coal mines, carpet mills, fabric dying mills, large industrial plants, inadequately treated sewage, and land surface runoff also contributed to the demise of the species in certain portions of their historic ranges. Freshwater mussels, especially in their early life stages, are extremely

sensitive to many pollutants (*e.g.*, chlorine, ammonia, heavy metals, high concentrations of nutrients) commonly found in municipal and industrial wastewater effluents (Havlik and Marking 1987, Goudreau *et al.* 1988, Keller and Zam 1991). Stream discharges from these sources may result in decreased dissolved oxygen concentration, increased acidity and conductivity, and other changes in water chemistry, which may impact mussels or their host fish.

The historic activities discussed above, especially dam construction, had a second major impact on mussel species by isolating surviving populations within limited portions of the Basin's major drainages. The Mobile River Basin Aquatic Ecosystem Recovery Plan (U.S. Fish and Wildlife Service 2000) recognized habitat fragmentation as one of the primary threats to the Basin's imperiled aquatic species. Small isolated mussel populations are more vulnerable to natural random events, such as droughts or floods, as well as to changes in human activities and land use practices that impact aquatic habitats (Neves *et al.* 1997). A number of the Basin's imperiled mussel populations that became restricted to small tributaries or river segments eventually disappeared because of individual or cumulative impacts of land uses such as urbanization, industrialization, mining, and certain agricultural activities and practices that resulted in sedimentation, eutrophication (an aquatic condition in which the increase in mineral and organic nutrients reduces dissolved oxygen producing an environment that favors plant life over animal life), or other negative effects to stream and river habitats (58 FR 14330, U.S. Fish and Wildlife Service 2000).

Human populations and associated needs for housing, commerce, recreation, water, electricity, forest and agricultural products, waste disposal, and mineral exploitation continue to increase in the Basin (U.S. Fish and Wildlife Service 2000). Currently surviving populations of endangered and threatened mussels remain vulnerable to habitat loss, population isolation, and the cumulative effects of these land use activities on aquatic environments (U.S. Fish and Wildlife Service 2000). More detailed information on threats to these species can be found in the March 17, 1993, final listing determination (58 FR 14330) and in the Mobile River Basin Aquatic Ecosystem Recovery Plan (U.S. Fish and Wildlife Service 2000).

Previous Federal Actions

Federal actions began when the orange-nacre mucket was included as a category 2 species (May 22, 1984, 49 FR 21675). We applied category 2 designations to those species for which some evidence of vulnerability existed, but for which we needed additional biological information to support a proposed rule to list as endangered or threatened. In the January 6, 1989, Notice of Review (54 FR 578–579), this species was again included as a category 2 species. In the same Notice of Review, the upland combshell, southern acornshell, and fine-lined pocketbook were additionally included as category 2 species. A status review completed in 1991 for these four species, and seven other mussels endemic to the Basin, recommended listing the upland combshell, southern acornshell, Coosa moccasinshell, southern clubshell, dark pigtoe, southern pigtoe, ovate clubshell, and triangular kidneyshell as endangered species, and the fine-lined pocketbook, orange-nacre mucket, and Alabama moccasinshell as threatened species (Hartfield 1991).

We proposed the 11 mussel species for protection under the Act on November 19, 1991 (56 FR 58339). In that proposed rule, we stated that critical habitat was not prudent because of the threat of illegal commercial harvest. Legal notices announcing the proposal and requesting public comments were published in *The Clarion-Ledger* (Jackson, Mississippi) on December 6, 1991; the *Mobile Press Register* (Mobile, Alabama) on December 7, 1991; and *The Atlanta Constitution* (Atlanta, Georgia), the *Commercial Dispatch* (Columbus, Mississippi), and the *Montgomery Advertiser* (Montgomery, Alabama) on December 8, 1991. We published a final rule on March 17, 1993 (58 FR 14330), listing the fine-lined pocketbook, orange-nacre mucket, and Alabama moccasinshell as threatened species, and the Coosa moccasinshell, ovate clubshell, southern clubshell, dark pigtoe, southern pigtoe, triangular kidneyshell, upland combshell, and southern acornshell as endangered species.

New mussel harvest regulations adopted by the State of Alabama, and other information received in public comments during the open comment period, removed our concerns about illegal commercial harvest, and in the final rule, we determined that critical habitat was prudent but not determinable for the 11 mussel species. The not determinable finding was because of insufficient information on distribution and the biological needs of these species. Section 4(b)(6)(C) of the Act provides that a concurrent critical habitat determination is not required with a final regulation implementing endangered or threatened status and that the final designation may be postponed for 1 additional year beyond the period specified in section 4(b)(6)(A), if a prompt determination of endangered or threatened status is essential to the conservation of the species, or if critical habitat is not then determinable. We found that prompt determination of status was essential to the conservation of these species and stated that we would attempt to evaluate critical habitat needs through research and recovery actions.

In late 1994, a Technical/Agency draft Mobile River Basin Aquatic Ecosystem Recovery Plan that included recovery objectives for the 11 mussels, among other listed species, was released for public review and comment. High levels of interest in details of the plan were expressed by the State of Alabama, certain environmental groups, and a number of water- and timber-related industries. As a result of a series of discussions sponsored by the Alabama Department of Economic and Community Affairs, a Mobile River Basin Coalition composed of various governmental, environmental, and industry representatives was organized for the purpose of reviewing, revising, and eventually implementing the recovery plan. A revised Technical/Agency draft was subsequently released for public review in 1998, and the final Mobile River Basin Aquatic Ecosystem Recovery Plan was published in 2000 (U.S. Fish and Wildlife Service 2000).

On October 12, 2000, the Southern Appalachian Biodiversity Project filed a lawsuit in U.S. District Court for the Eastern District of Tennessee against the Service, the Director of the Service, and the Secretary of the Department of the Interior, challenging our not determinable findings regarding critical habitat for 9 listed mussels. These 9 mussels represent 9 of the 11 Mobile River Basin mussels that were listed in 1993, and are listed as follows: upland combshell, southern acornshell, Coosa moccasinshell, southern clubshell, southern pigtoe, ovate clubshell, triangular kidneyshell, fine-lined pocketbook, and Alabama moccasinshell. On November 8, 2001, the District Court issued an order directing us to make a proposed critical habitat designation for these 11 Mobile River Basin mussels no later than March 17, 2003, and the final designation by March 17, 2004.

This proposal is the product of our reexamination of our 1993 not determinable finding for 11 mussels in the Mobile River drainage. The 2000 lawsuit did not include the dark pigtoe or the orange-nacre mucket, but we are considering them because they were a part of the original 1993 listing, they overlap in range with some of the other 9 species, and they occupy similar habitats within that range. It reflects our interpretation of the recent judicial opinions on critical habitat designation and the standards placed on us for making a prudency determination. If additional information becomes available on these species' biology, distribution, or threats to the species, we may reevaluate this proposal to propose additional critical habitat, propose boundary refinements that substantially changes existing proposed critical habitat, or withdraw our proposal to designate critical habitat. If boundary refinements of existing proposed critical habitat are required for a single unit or on a similar small scale based on additional information, we will allow additional time for public comment within the constraints of our court order.

Critical Habitat

Critical habitat is defined in section 3(5)(A) of the Act as (i) the specific areas within the geographic area occupied by a species, at the time it is listed in accordance with the Act, on which are found those physical or biological features (I) essential to the conservation of the species and (II) that may require special management considerations or protection; and (ii) specific areas outside the geographic area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species. ''Conservation'' is defined in section 3(3) of the Act as the use of all methods and procedures that are necessary to bring any endangered or threatened species to the point at which listing under the Act is no longer necessary.

In order for habitat to be included in a critical habitat designation, the habitat features must be ''essential to the conservation of the species.'' Such critical habitat designations identify, to the extent known using the best scientific data available, habitat areas that provide essential life cycle needs of the species (i.e., areas on which are found the primary constituent elements, as defined at 50 CFR 424.12(b)).

Regulations at 50 CFR 424.02(j) define special management considerations or protection to mean any methods or procedures useful in protecting the physical and biological features of the environment for the conservation of listed species. If any areas containing the primary constituent elements are currently being managed to address the conservation needs of these mussel species, they may not require special management or protection, and, therefore, may not meet the definition of critical habitat in section 3(5)(A)(i) of the Act.

When we designate critical habitat, we may not have the information necessary to identify all habitat areas which are essential for the conservation of the species. Nevertheless, we are required to designate those areas we consider to be essential, using the best information available to us.

Within the geographic area of the species, we will designate only currently known essential areas. We will not speculate about what areas might be found to be essential if better information became available, or what areas may become essential over time. If the information available at the time of designation does not show that an area provides essential life cycle needs of the species, then the area will not be included in the critical habitat designation. Our regulations state that, ''The Secretary shall designate as critical habitat areas outside the geographic area presently occupied by the species only when a designation limited to its present range would be inadequate to ensure the conservation of the species'' (50 CFR 424.12(e)). Accordingly, when the best available scientific data do not demonstrate that the conservation needs of the species require designation of critical habitat outside of occupied areas, we will not designate critical habitat in areas outside the geographic area occupied by the species.

Section 4(b)(2) of the Act requires that we take into consideration the economic impact, and any other relevant impact, of specifying any particular area as critical habitat. We may exclude areas from critical habitat designation when the benefits of exclusion outweigh the benefits of including the areas within critical habitat, provided the exclusion will not result in extinction of the species.

Our Policy on Information Standards Under the Endangered Species Act, published on July 1, 1994 (59 FR 34271), provides guidance to ensure that our decisions are based on the best scientific and commercial data available. It requires that our biologists, to the extent consistent with the Act and with the use of the best scientific and commercial data available, use primary and original sources of information as the basis for recommendations to designate critical habitat. When determining which areas are critical habitat, information that should be considered includes the listing package for the species, the recovery plan, articles in peer-reviewed journals, conservation plans developed by States and counties, scientific status surveys, studies, and biological assessments, unpublished materials, and expert opinion or personal knowledge.

Section 4 of the Act generally requires that we designate critical habitat at the time of listing and based on what we know at the time of designation. If we make a not determinable finding regarding critical habitat at the time of listing, section 4(b)(6)(C) of the Act requires that the Service publish a final regulation by not more than 1 additional year, based on such data as may be available at that time, designating, to the maximum extent prudent, such habitat. There are several thousands of miles of perennial streams in the Mobile River Basin. Most of these flow through private property, and may not have been adequately surveyed for mussels. Mussels are cryptic species, living buried in the stream bottom under water, and rare mussels are difficult to locate. We recognize that additional small, limited populations for some of these species could exist in some of these streams and may be discovered over time. Furthermore, we recognize that designation of critical habitat may not include all of the habitat areas that may eventually be determined to be necessary for the recovery of the species. Therefore, critical habitat designations do not signal that habitat outside the designation is unimportant or may not be required for recovery. Areas outside the critical habitat designation will continue to be subject to conservation actions that may be implemented under section 7(a)(1) of the Act and to the regulatory protections afforded by the section 7(a)(2) jeopardy standard and the take prohibitions pursuant to section 9 of the Act, as determined on the basis of the best available information at the time of the action. It is possible that federally funded or assisted projects affecting listed species outside their designated critical habitat areas could jeopardize those species. Similarly, critical habitat designations made on the basis of the best available information at the time of designation will not control the direction and substance of future recovery plans, habitat conservation plans, or other species conservation planning and recovery efforts if new

information available to these planning efforts calls for a different outcome.

Methods Used To Identify Proposed Critical Habitat for 11 Mussel Species

As required by section 4(b)(2) of the Act and implementing regulations (50 CFR 424.12), we used the best scientific and commercial information available to determine critical habitat areas that contain the physical and biological features that are essential for the conservation of the Coosa moccasinshell, southern clubshell, dark pigtoe, southern pigtoe, ovate clubshell, triangular kidneyshell, southern acornshell, upland combshell, fine-lined pocketbook, orange-nacre mucket, and Alabama moccasinshell. We reviewed the available information pertaining to the historic and current distributions, life histories, host fishes, and habitats of, and threats to these species. The information used in the preparation of this proposed designation includes: Our own site-specific species and habitat information; unpublished survey reports, notes, and communications with other qualified biologists or experts; peer reviewed scientific publications; the final listing rule for 11 mussels in the Mobile River Basin (58 FR 14330); and the Mobile River Basin Aquatic Ecosystem Recovery Plan (U.S. Fish and Wildlife Service, 2000). In determining the areas that are essential to the conservation of the 11 mussels we considered all streams currently or historically known to be occupied by one or more of the species (see ''Taxonomy, Life History, and Distribution'' above). It is likely that other occupied stream or stream segments exist that may be essential to the survival and conservation of these mussels, but we do not currently know where these are, and therefore cannot include them in this proposed critical habitat designation.

Primary Constituent Elements

In accordance with sections 3(5)(A)(i) and 4(b)(1)(A) of the Act and regulations at 50 CFR 424.12, in determining which areas to propose as critical habitat, we are required to base critical habitat determinations on the best scientific data available and to focus on those physical and biological features (primary constituent elements) that are essential to the conservation of the species and that may require special management considerations or protection. Such requirements include, but are not limited to, space for individual and population growth and for normal behavior; food, water, air, light, minerals, or other nutritional or physiological requirements; cover or shelter; sites for breeding, reproduction, and rearing of offspring; and habitats that are protected from disturbance or are representative of the historical geographical and ecological distribution of a species.

Based on the best available information, primary constituent elements essential for the conservation of these 11 mussel species include the following:

1. Geomorphically stable stream and river channels and banks;
2. A flow regime (*i.e.,* the magnitude, frequency, duration, and seasonality of discharge over time) necessary for normal behavior, growth, and survival of all life stages of mussels and their fish hosts in the river environment;
3. Water quality, including temperature, pH, hardness, turbidity, oxygen content, and other chemical characteristics, necessary for normal behavior, growth, and viability of all life stages;
4. Sand, gravel, and/or cobble substrates with low to moderate amounts of fine sediment, low amounts of attached filamentous algae, and other physical and chemical characteristics necessary for normal behavior, growth, and viability of all life stages;
5. Fish hosts with adequate living, foraging, and spawning areas for them; and,
6. Few or no competitive nonnative species present.

In considering and identifying primary constituent elements, we have taken into account the dynamic nature of riverine systems. We recognize that riparian areas and floodplains are integral parts of the stream ecosystem, important in maintaining channel geomorphology, and providing nutrient input, and buffering from sediments and pollution; and that side channel and backwater habitats may be important in the life cycle of fish that serve as hosts for mussel larvae.

Analysis Used To Delineate Critical Habitat

Currently, the greatest general threat to the survival and recovery of these 11 Mobile River Basin mussel species is the small size, extent, and isolation of their remaining populations. With the exception of the dark pigtoe, which is believed to be naturally restricted to streams and rivers in the Black Warrior drainage, these mussel species were once widespread in the Basin, found in a continuum of small streams to large rivers in 2 or more major drainages. As discussed under the ''Summary of Decline and Threats to Surviving Populations,'' and the Mobile River Basin Aquatic Ecosystem Recovery Plan (U.S. Fish and Wildlife Service 2000), 30 major dams were constructed in the Basin during the 20th century. These dams and their impounded waters present physical barriers to the natural dispersal of mussels (they prevent emigration (dispersal) of host fishes), and effectively isolate surviving mussel populations in limited portions of the Basin's major drainages. Small isolated aquatic populations are subject to natural random events (droughts, floods), and to changes in human activities and land use practices (urbanization, industrialization, mining, certain agricultural activities and practices, etc.), that may severely impact aquatic habitats (Neves *et al.* 1997). Without avenues of emigration to less affected watersheds, mussel populations gradually disappear where land use activities result in deterioration of aquatic habitats. Local random events, and changes in human activities within the Basin's unimpounded watersheds are believed to have caused or contributed to the disappearance of mollusks from significant portions of isolated stream habitats, resulting in the extinction of as many as 13 mussels, as well as a number of freshwater snail species (U.S. Fish and Wildlife Service 2000).

Most of the 11 mussel species considered in this proposed designation are currently represented by one or more small, restricted, and isolated populations. These surviving populations have been isolated from one another by dams and impounded reaches for 20 to 50 years, and remain vulnerable to the progressive degradation of their habitats from land surface runoff or random natural events such as droughts. In many of these surviving populations, there is also evidence of local population decline during the same time period (*e.g.,* Evans 2001, Hartfield and Jones 1990, Williams and Hughes, 1998, McGregor *et al.* 2000).

The Mobile River Basin Aquatic Ecosystem Recovery Plan (U.S. Fish and Wildlife Service 2000), recognized the complexity of conserving the Basin's imperiled species, and considered that downlisting or delisting these 11 mussels was unlikely in the foreseeable future because of the extent of their decline, the fragmentation and isolation of their habitats, and continuing impacts upon their habitats. Compounding these problems is a lack of information on specific habitat and life history requirements of these species, or on the physical threats that confront them (*e.g.,* sediment, nutrient, and other pollutant sensitivities, etc.). Threats compounded by habitat fragmentation and isolation

can be reduced by increasing the number, expanding the range, and increasing the density of populations. Preventing the extinction of those species listed as endangered, and arresting the continued decline of those species listed as threatened are the recovery objectives outlined in the recovery plan for these 11 mussels. The recovery plan emphasizes: (1) Protection of surviving populations of these mussels and their stream and river habitats; (2) enhancement and restoration of habitats; (3) and population management, including augmentation and reintroduction of the 11 mussels into portions of their historic ranges to obtain these recovery objectives. In determining which areas to propose as critical habitat for these 9 mussels, we considered the factors discussed in the recovery plan, as well as the mussels' historical distributions and the extent of current occupied habitats and their management potential.

We began our analysis by considering the historic ranges of the 11 mussel species. A large proportion of the Basin's streams and rivers that historically supported these mussels has been modified by existing dams and their impounded waters. Therefore, extensive portions of the upper Tombigbee River, Black Warrior River, Tallapoosa River, Alabama River, and Coosa River cannot be considered essential to the conservation of these species because they no longer provide the physical and biological features that are essential for their conservation (see ''Primary Constituent Elements'' section).

Free-flowing river segments and their tributaries peripheral to the known historic range of the 11 mussels, and without any records of the species also cannot be considered to be essential to the conservation of these species (*e.g.*, Mobile/Tensas River, lower Tombigbee River, etc.) and so were not considered further. Several streams with single site occurrence records of a single species were also not considered essential because of limited habitat availability, isolation, degraded habitat, and/or low management value or potential (*e.g.*, Etowah River, Big Wills Creek, Little River, Armuchee Creek, Euharlee Creek, Limestone Creek, etc.).

We then evaluated streams and rivers within the historic ranges of these 11 species which had evidence that these mussels had occurred there at some point (*i.e.*, collection records). We eliminated from consideration areas from which there have been no collection records for several decades and/or are remote from currently occupied areas (*e.g.*, portions of the lower Alabama River, lower Cahaba River, Mulberry Fork, Noxubee River, Talladega Creek, and others). In evaluating streams for the upland combshell and southern acornshell, specifically, we considered their historic ranges (Black Warrior, Cahaba, and Coosa River drainages). We selected those areas which have the best potential for and we believe are essential to the conservation of these two mussels based on collection history, surviving mussel species assemblages, and habitat conditions.

This analysis resulted in the identification of 25 of the 26 stream or river reaches within the Basin (habitat units) occupied by 1 or more of the 11 species and that contain the primary constituent elements as indicated by the presence and persistence of one or more of the listed mussels (Figure 1, Units 1 to 25). We believe that these areas also support darters, minnows, and other fishes that have been identified as hosts or potential hosts for one or more of the mussels, as evidenced by fish collection records (Mettee *et al.* 1996), the persistence of the mussels over extended periods of time, or field evidence of recruitment (Evans 2001, Hartfield and Jones 1990, and Herod *et al.* 2001, etc.). We consider all of these 25 of the 26 reaches essential for the conservation of these species. As discussed in the Recovery Plan, long-term conservation of these 11 mussels is unlikely in their currently reduced and fragmented state. Therefore, at a minimum, it is essential to include in this designation the reaches within the historic range that still contain mussels and the primary constituent elements of the habitat.

We then considered whether this essential area was adequate for the conservation of each of the 11 mussel species. Given that threats to the species are compounded by their limited distribution and isolation, it is unlikely that currently occupied habitat is adequate for the conservation of all 11 species. Conservation of these species requires expanding their ranges into currently unoccupied portions of their historic habitat because small, isolated, aquatic populations are subject to chance catastrophic events and to changes in human activities and land use practices that may result in their elimination. Larger, more contiguous populations can reduce the threat of extinction due to habitat fragmentation and isolation.

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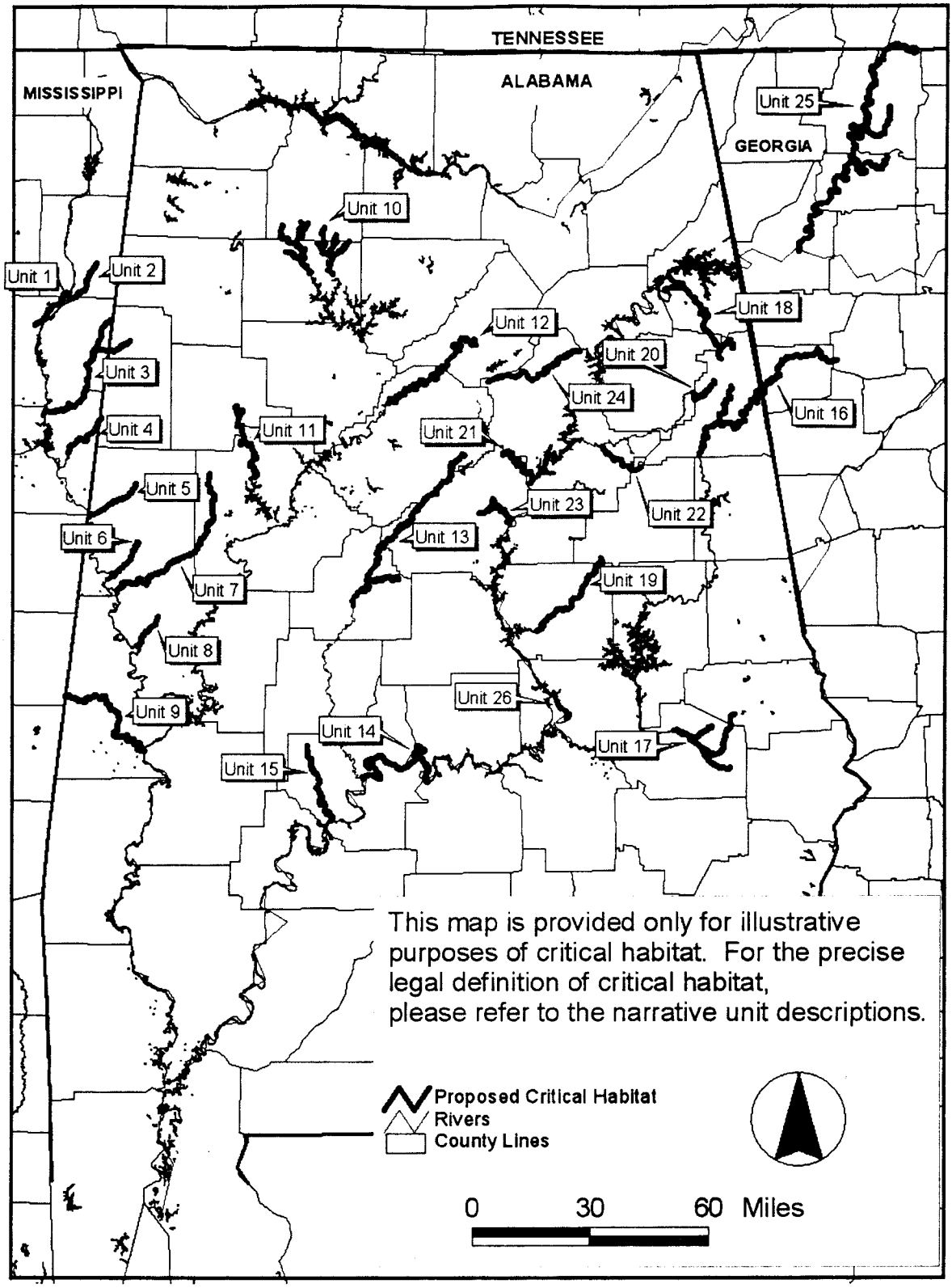

Figure 1: General locations of proposed critical habitat in the Mobile River Basin

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Because portions of the historic range of each of the 11 mussels were shared with 4 or more of the other mussel species, there is considerable overlap between species' current and historical distributions within 25 of the 26 habitat units. This offers opportunities to increase each species' current range and number of extant populations into units currently occupied by other listed species included in this designation. For

example, the Alabama moccasinshell historically inhabited 16 of the units, and currently inhabits 7; fine-lined pocketbook was known from 12 of the units, and currently inhabits 10; orange-nacre mucket historically occupied 15 units, and is currently found in 12; and Coosa moccasinshell historically occupied 9 of the units, but is currently found in only 1. Successful reintroduction of the species into units that they historically occupied (and that are currently occupied by 1 or more of the 11 species) would expand the number of populations, thereby reducing threat of extinction. Each of the 25 of the 26 habitat units (Units 1–25) are currently occupied by 1 or more of the listed mussels. Only two occupied habitat units and one unoccupied habitat unit are proposed for the dark pigtoe because its range was naturally restricted to the Black Warrior drainage, and we are unable to identify any other unoccupied habitat units in the drainage that provide constituent elements.

As noted above, conservation of these species requires expanding their ranges into unoccupied portions of historic habitat. Therefore, in addition to these 25 habitat units, we also propose to designate the Coosa River below Jordan Dam (Unit 26) as critical habitat for 9 of the 11 mussel species. Shells of the fine-lined pocketbook were last collected from this reach in 1989 (Pierson 1991a), and it is also within the historic range of 8 other species. This is the only unit currently not occupied by at least 1 of the 11 species (Johnson 2002). This area has recently been identified as presenting high potential for the successful reintroduction of imperiled mussels in the Coosa River drainage (Johnson 2002). In 1990, the Alabama Power Company initiated a 2000 cubic feet per second minimum flow into the Coosa River below Jordan Dam (Federal Energy Regulatory Commission (FERC) 1990), greatly improving aquatic habitat quality. The lower Coosa River not only offers high-quality riverine habitat, but due to local geology it is relatively protected from non-point runoff, a major threat to all existing populations of these species. There are historic records of fine-lined pocketbook and southern clubshell from this 13 km (8 mi) reach of river (Johnson 2002, Pierson 1991a), and it is within the historic range of Alabama moccasinshell, Coosa moccasinshell, ovate clubshell, southern pigtoe, triangular kidneyshell, southern acornshell, and upland combshell. As noted above, threats to these species can be reduced by expanding their current ranges through reintroduction into suitable habitats. Since the Coosa River below Jordan Dam is recognized as presenting the best opportunity for reestablishing populations of 9 of the 11 species and is viewed by experts as a high-quality example of remaining mussel habitat in the Basin, we believe it is also essential for their conservation, and propose to designate it as unoccupied habitat for these 9 mussel species.

As a result, we have defined 26 habitat units encompassing approximately 1,760 km (1,093 mi) of stream and river channels in Alabama, Mississippi, Georgia, and Tennessee, for these 11 mussel species (Figure 1). Although this represents only a small proportion of each species' historic range, these habitat units include a significant proportion of the Basin's remaining, highest quality, free-flowing rivers and streams, and reflect the variety of small stream to large river habitats historically occupied by each species. Because mussels are naturally restricted by certain physical conditions within a stream or river reach (*i.e.,* flow, substrate), they may be unevenly distributed within these habitat units. Uncertainty on upstream and downstream distributional limits of some populations may have resulted in small areas of occupied habitat excluded from, or areas of unoccupied habitat included in the designation.

We recognize that both historic and recent collection records upon which we relied are incomplete, and that there are river segments or small tributaries not included in this proposed designation that may harbor small, limited populations of one or more of the 11 species considered in this proposed designation, or that others may become suitable in the future. The exclusion of such areas does not diminish their potential individual or cumulative importance to the conservation of these species. However, we believe that with proper management each of the 26 habitat units are capable of supporting 1 or more of these 11 species, and will serve as source populations for artificial reintroduction into designated stream units, as well as assisted or natural migration into adjacent undesignated streams within the Basin.

At this time, the habitat areas contained within the units described below constitute our best evaluation of areas needed for the conservation of these species. Proposed critical habitat may be revised for any or all of these species should new information become available prior to the final rule, and existing critical habitat may be revised if new information becomes available after the final rule.

Need for Special Management Consideration or Protection

An area designated as critical habitat contains one or more of the primary constituent elements that are essential to the conservation of the species (see ''Primary Constituent Elements'' section), and that may require special management considerations or protection. Various activities in or adjacent to each of the critical habitat units described in this proposed rule may affect one or more of the primary constituent elements that are found in the unit. These activities include, but are not limited to, those listed in the ''Effects of Critical Habitat'' section as ''Federal Actions That May Affect Critical Habitat and Require Consultation.'' None of the proposed critical habitat units is presently under special management or protection provided by a legally operative plan or agreement for the conservation of these mussels. Therefore, we have determined that the proposed units may require special management or protection.

Proposed Critical Habitat Designation

The areas that we are proposing for designation as critical habitat for the 11 mussel species provide one or more of the primary constituent elements described above. In accordance with the Mobile River Aquatic Ecosystem Recovery Plan (2000), protection of the habitat in these units and their surviving populations is essential to the conservation of these 11 mussel species. All of the proposed areas require special management considerations to ensure their contribution to the conservation of these mussels. For each stream reach proposed as a critical habitat unit, the up- and downstream boundaries are described in general detail below; more precise estimates are provided in the Regulation Promulgation of this rule.

Critical Habitat Unit Descriptions

The critical habitat units described below include the stream and river channels within the ordinary high water line. As defined in 33 CFR 329.11, the ordinary high water line on nontidal rivers is the line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank; shelving; changes in the character of soil; destruction of terrestrial vegetation; the presence of litter and debris; or other appropriate means that consider the characteristics of the surrounding areas. We are proposing the following areas for

designation as critical habitat for the 11 mussel species (Refer to Table 1 for the location and extent of proposed critical habitat for each species and more specifically to § 17.95, Critical habitat-fish and wildlife, at the end of this rule).

TABLE 1.—APPROXIMATE RIVER DISTANCES, BY DRAINAGE, FOR OCCUPIED AND UNOCCUPIED PROPOSED CRITICAL HABITAT FOR THE 9 MUSSEL SPECIES*

Species, Status, Critical Habitat Unit, and State	Currently Occupied		Currently Unoccupied	
	Kilometers	Miles	Kilometers	Miles
Alabama moccasinshell				
THREATENED				
1. East Fork Tombigbee River, MS	.....	.....	26	16
2. Bull Mountain Creek, MS	34	21	.....	.....
3. Buttahatchee River, MS, AL	110	68	.....	.....
4. Luxapalila Creek, MS, AL	29	18	.....	.....
5. Coalfire Creek, AL	.....	.....	32	20
6. Lubbub Creek, AL	31	19	.....	.....
7. Sipsey River, AL	90	56	.....	.....
8. Trussels Creek, AL	.....	.....	21	13
9. Sucarnoochee River, AL	.....	.....	90	56
10. Sipsey Fork, AL	147	91	.....	.....
11. North River, AL	.....	.....	47	29
12. Locust Fork, AL	.....	.....	102	63
13. Cahaba River, AL	.....	.....	124	77
15. Bogue Chitto Creek, AL	.....	.....	52	32
25. Oostanuala complex, GA, TN	16	10	191	119
26. Lower Coosa River, AL	.....	.....	13	8
Total	457	283	698	433
Fine-lined pocketbook				
THREATENED				
13. Cahaba River, AL	124	77	.....	.....
16. Tallapoosa River, AL, GA	161	100	.....	.....
17. Uphapee complex, AL	74	46	.....	.....
18. Coosa River, AL	78	48	.....	.....
19. Hatchet Creek, AL	66	41	.....	.....
20. Shoal Creek, AL	26	16	.....	.....
21. Kelly Creek, AL	34	21	.....	.....
22. Cheaha Creek, AL	27	17	.....	.....
23. Yellowleaf Creek, AL	39	24	.....	.....
24. Big Canoe Creek, AL	.....	.....	29	18
25. Oostanaula complex, GA, TN	115	71	92	57
26. Lower Coosa River, AL	.....	.....	13	8
Total	744	461	134	83
Orange-nacre mucket				
THREATENED				
1. East Fork Tombigbee River, MS	26	16	.....	.....
2. Bull Mountain Creek, MS	.....	.....	34	21
3. Buttahatchee River, MS, AL	87	54	23	14
4. Luxapalila Creek, MS, AL	29	18	.....	.....
5. Coalfire Creek, AL	32	20	.....	.....
6. Lubbub Creek, AL	31	19	.....	.....
7. Sipsey River, AL	90	56	.....	.....
8. Trussels Creek, AL	21	13	.....	.....
9. Sucarnoochee River, AL	.....	.....	90	56
10. Sipsey Fork, AL	147	91	.....	.....
11. North River, AL	47	29	.....	.....
12. Locust Fork, AL	102	63	.....	.....
13. Cahaba River, AL	124	77	.....	.....
14. Alabama River, AL	.....	.....	73	45
15. Bogue Chitto Creek, AL	52	32	.....	.....
Total	788	480	220	136
Coosa moccasinshell				
ENDANGERED				
18. Coosa River, AL	.....	.....	78	48
19. Hatchet Creek, AL	.....	.....	66	41
20. Shoal Creek, AL	.....	.....	26	16
21. Kelly Creek, AL	.....	.....	34	21
22. Cheaha Creek, AL	.....	.....	27	17
23. Yellowleaf Creek, AL	.....	.....	39	24

TABLE 1.—APPROXIMATE RIVER DISTANCES, BY DRAINAGE, FOR OCCUPIED AND UNOCCUPIED PROPOSED CRITICAL HABITAT FOR THE 9 MUSSEL SPECIES *—Continued

Species, Status, Critical Habitat Unit, and State	Currently Occupied		Currently Unoccupied	
	Kilometers	Miles	Kilometers	Miles
24. Big Canoe Creek, AL	.....	.....	29	18
25. Oostanaula Complex, GA, TN	115	71	92	57
26. Lower Coosa River, AL	.....	.....	13	8
Total	115	71	404	250
Dark pigtoe				
ENDANGERED				
10. Sipsey Fork, AL	147	91	.....	.....
11. North River, AL	47	29	.....	.....
12. Locust Fork, AL	.....	.....	102	63
Total	194	120	102	63
Ovate clubshell				
ENDANGERED				
1. East Fork Tombigbee River, MS	.....	.....	26	16
2. Bull Mountain Creek, MS	.....	.....	34	21
3. Buttahatchee River, MS, AL	87	54	23	14
4. Luxapalila Creek,MS, AL	29	18	.....	.....
5. Coalfire Creek, AL	32	20	.....	.....
6. Lubbub Creek, AL	.....	.....	31	19
7. Sipsey River, AL	90	56	.....	.....
8. Trussels Creek, AL	.....	.....	21	13
9. Sucarnoochee River, AL	90	56	.....	.....
10. Sipsey Fork, AL	.....	.....	147	91
11. North River, AL	.....	.....	47	29
12. Locust Fork, AL	.....	.....	102	63
13. Cahaba River, AL	.....	.....	124	77
17. Uphapee complex, AL	74	46	.....	.....
18. Coosa River, AL	18	11	60	37
19. Hatchet Creek, AL	.....	.....	66	41
21. Kelly Creek, AL	.....	.....	34	21
24. Big Canoe Creek, AL	.....	.....	29	18
25. Oostanaula complex, GA, TN	.....	.....	206	128
26. Lower Coosa River, AL	.....	.....	13	8
Total	420	261	963	596
Southern clubshell				
ENDANGERED				
1. East Fork Tombigbee River, MS	26	16	.....	.....
2. Bull Mountain Creek, MS	34	21	.....	.....
3. Buttahatchee River, MS, AL	87	54	23	14
4. Luxapalila Creek, MS AL	29	18	.....	.....
5. Coalfire Creek, AL	.....	.....	32	20
6. Lubbub Creek, AL	31	19	.....	.....
7. Sipsey River, AL	90	56	.....	.....
8. Trussels Creek, AL	.....	.....	21	13
9. Sucarnoochee River, AL	.....	.....	90	56
13. Cahaba River, AL	.....	.....	124	77
14. Alabama River, AL	73	45	.....	.....
15. Bogue Chitto Creek, AL	52	32	.....	.....
17. Uphapee Complex, AL	74	46		
18. Coosa River, AL	71	44	7	4
19. Hatchet Creek, AL	.....	.....	66	41
21. Kelly Creek, AL	26	16	8	5
24. Big Canoe Creek, AL	29	18	.....	.....
25. Oostanaula Complex, GA, TN	15	9	130	120
26. Lower Coosa River, AL	.....	.....	13	8
Total	637	394	577	358
Southern pigtoe				
ENDANGERED				
18. Coosa River, AL	.....	.....	78	48
19. Hatchet Creek, AL	.....	.....	66	41
20. Shoal Creek, AL	26	16	.....	.....
21. Kelly Creek, AL	.....	.....	34	21

TABLE 1.—APPROXIMATE RIVER DISTANCES, BY DRAINAGE, FOR OCCUPIED AND UNOCCUPIED PROPOSED CRITICAL HABITAT FOR THE 9 MUSSEL SPECIES *—Continued

Species, Status, Critical Habitat Unit, and State	Currently Occupied		Currently Unoccupied	
	Kilometers	Miles	Kilometers	Miles
22. Cheaha Creek, AL	27	17	.....	.....
23. Yellowleaf Creek,	.....	.....	39	24
24. Big Canoe Creek, AL	29	18	.....	.....
25. Oostanaula Complex, GA, TN	115	71	92	57
26. Lower Coosa River, AL	.....	.....	13	8
Total	197	122	322	199
Triangular kidneyshell				
ENDANGERED				
10. Sipsey Fork, AL	147	91	.....	.....
11. North River, AL	.....	.....	47	29
12. Locust Fork, AL	102	63	.....	.....
13. Cahaba River, AL	105	65	19	12
18. Coosa River, AL	.....	.....	78	48
19. Hatchet Creek, AL	.....	.....	66	41
20. Shoal Creek, AL	26	16	.....	.....
21. Kelly Creek, AL	26	16	8	5
22. Cheaha Creek, AL	.....	.....	27	17
23. Yellowleaf Creek, AL	.....	.....	39	24
24. Big Canoe Creek, AL	29	18	.....	.....
25. Oostanaula Complex, GA, TN	206	128	.....	.....
26. Lower Coosa River, AL	.....	.....	13	8
Total	641	397	297	184
Southern acornshell				
ENDANGERED				
13. Cahaba River, AL	.....	.....	124	77
18. Coosa River, AL	.....	.....	78	48
19. Hatchet Creek, AL	.....	.....	66	41
21. Kelly Creek, AL	.....	.....	34	21
24. Big Canoe Creek, AL	.....	.....	29	18
25. Oostanaula Complex, GA, TN	.....	.....	205	128
26. Lower Coosa River, AL	.....	.....	13	8
Total	.....	.....	549	341
Upland combshell				
ENDANGERED				
12. Locust Fork, AL	.....	.....	102	63
13. Cahaba River, AL	.....	.....	124	77
18. Coosa River, AL	.....	.....	78	48
19. Hatchet Creek, AL	.....	.....	66	41
21. Kelly Creek, AL	.....	.....	34	21
24. Big Canoe Creek, AL	.....	.....	29	18
25. Oostanaula Complex, GA, TN	.....	.....	205	128
26. Lower Coosa River, AL	.....	.....	13	8
Total	.....	.....	651	404

* Table 1 refers to the location and extent of proposed critical habitat for each species. For more detail, refer to § 17.95. Table 1 will reflect totals on a species level only, because units are listed under each species as appropriate.

Upper Tombigbee River Drainage, Alabama, Mississippi

The Tombigbee River and several of its tributaries above the confluence of the Black Warrior River historically supported robust populations of the orange-nacre mucket, Alabama moccasinshell, southern clubshell, and ovate clubshell. Construction of navigation dams has eliminated these species from the mainstem river, and the dams and impounded waters isolate all surviving tributary populations from each other.

Unit 1. East Fork Tombigbee River, Monroe, Itawamba Counties, Mississippi

Unit 1 encompasses 26 km (16 mi) of the East Fork Tombigbee River channel in Mississippi extending from Mississippi Highway 278, Monroe County, upstream to the confluence of Mill Creek, Itawamba County, Mississippi. This reach of the East Fork Tombigbee River continues to support the southern clubshell and orange-nacre mucket (Hartfield and Jones 1989, Miller and Hartfield 1988, Mississippi Museum of Natural Science (MMNS) mussel collections 1984–2001). This unit is within the historic range of the

Alabama moccassinshell and ovate clubshell.

Unit 2. Bull Mountain Creek, Itawamba County, Mississippi

Unit 2 encompasses 34 km (21 mi) of the Bull Mountain Creek stream channel in Mississippi extending from Mississippi Highway 25, upstream to U.S. Highway 78, Itawamba County, Mississippi. Bull Mountain Creek supports the southern clubshell and Alabama moccasinshell (Jones and Majure 1999). This unit is within the historic range of the orange-nacre mucket (records are from the early 1980's (MMNS mussel collections)) and the ovate clubshell.

Unit 3. Buttahatchee River and Tributary, Lowndes/Monroe County, Mississippi; Lamar County, Alabama

Unit 3 encompasses 110 km (68 mi) of river and stream channel in Mississippi and Alabama, including 87 km (54 mi) of the Buttahatchee River, extending from the confluence with Tombigbee River, Lowndes/Monroe County, Mississippi, upstream to the confluence of Beaver Creek, Lamar County, Alabama; and 23 km (14 mi) of Sipsey Creek, extending from its confluence with the Buttahatchee River, upstream to the Mississippi/Alabama State Line, Monroe County, Mississippi. The Buttahatchee River continues to support and provide habitat for the southern clubshell, orange-nacre mucket, ovate clubshell, and Alabama moccasinshell (Haag and Warren 2001, Hartfield and Jones 1989, Jones 1991, McGregor 2000). The current distribution of the Alabama moccasinshell also extends into its tributary Sipsey Creek (McGregor 2000).

Unit 4. Luxapalila Creek and Tributary, Lowndes County, Mississippi; Lamar County, Alabama

Unit 4 encompasses 29 km (18 mi) of stream channel, including 15 km (9 mi) of Luxapalila Creek, extending from Waterworks Road, Columbus, Mississippi, upstream to approximately 1.0 km (0.6 mi) above Steens Road, Lowndes County, Mississippi; and 15 km (9 mi) of Yellow Creek extending from its confluence with Luxapalila Creek, upstream to the confluence of Cut Bank Creek, Lamar County, Alabama. Luxapalila and Yellow Creeks support and provide habitat for the southern clubshell, orange-nacre mucket, ovate clubshell, and Alabama moccasinshell (Hartfield and Bowker 1992, McGregor 2000, Miller 2000, Yokley 2001).

Unit 5. Coalfire Creek, Pickens County, Alabama

Unit 5 encompasses 32 km (20 mi) of the Coalfire Creek stream channel extending from the confluence with the Aliceville Lake (Tombigbee River), upstream to U.S. Highway 82, Pickens County, Alabama. Coalfire Creek supports the orange-nacre mucket and ovate clubshell (P. Hartfield, Service field records 1991; McGregor 2000). The creek is in the historic range of the southern clubshell and Alabama moccasinshell.

Unit 6. Lubbub Creek, Pickens County, Alabama

Unit 6 encompasses 31 km (19 mi) of the Lubbub Creek stream channel extending from its confluence with the impounded waters of Gainesville Lake (Tombigbee River), upstream to the confluence of Little Lubbub Creek, Pickens County, Alabama. This stream supports the southern clubshell, orange-nacre mucket, and Alabama moccasinshell (P. Hartfield, Service field records 1991, McGregor 2000, Pierson 1991a). It is in the historic range of the ovate clubshell.

Unit 7. Sipsey River, Greene/Pickens, Tuscaloosa Counties, Alabama

Unit 7 encompasses 90 km (56 mi) of the Sipsey River channel from the confluence with Gainesville Lake (Tombigbee River), Greene/Pickens County, upstream to Alabama Highway 171 crossing, Tuscaloosa County, Alabama. This small river supports and provides some of the best remaining habitat for the southern clubshell, orange-nacre mucket, ovate clubshell, and Alabama moccasinshell (Haag and Warren 1997, McCullagh *et al.* in press, McGregor 2000, MMNS Mussel Collection, Pierson, 1991 a, b).

Unit 8. Trussels Creek, Greene County, Alabama

Unit 8 encompasses 21 km (13 mi) of creek channel extending from its confluence with the Tombigbee River, upstream to Alabama Highway 14, Greene County, Alabama. The orange-nacre mucket continues to survive in Trussels Creek, and it is in the historic range of the ovate clubshell, Alabama moccasinshell, and southern clubshell (P. Hartfield field records 1993, McGregor 2000).

Unit 9. Sucarnoochee River, Sumter County, Alabama

Unit 9 encompasses 90 km (56 mi) of the Sucarnoochee River channel in Alabama, extending from its confluence with the Tombigbee River, upstream to the Mississippi/Alabama State Line, Sumter County, Alabama. The ovate clubshell continues to survive in the Sucarnoochee River (McGregor *et al.* 1996). The river is within the historic range of the southern clubshell, orange-nacre mucket, and Alabama moccasinshell.

Black Warrior River Drainage, Alabama

The Black Warrior River and its tributaries historically supported populations of the orange-nacre mucket, Alabama moccasinshell, Coosa moccasinshell, southern clubshell, ovate clubshell, dark pigtoe, triangular kidneyshell, and upland combshell. There are also records of the fine-lined pocketbook from the drainage. Dam construction for navigation and hydropower and episodic water pollution resulted in the extirpation of the Coosa moccasinshell, southern clubshell, ovate clubshell, and upland combshell from this drainage. Three tributary drainages continue to support two or more endangered and threatened mussels. Dams and impounded waters currently isolate these drainages from each other.

Unit 10. Sipsey Fork Drainage, Winston, Lawrence Counties, Alabama

Unit 10 encompasses 147 km (91 mi) of stream channel in Alabama, including: Sipsey Fork, 31 km (19 mi), from section 11/12 line, T10S R8W, Winston County, upstream to the confluence of Hubbard Creek, Lawrence County, Alabama; Thompson Creek, 8 km (5 mi), from confluence with Hubbard Creek, upstream to section 2 line, T8S R9W, Lawrence County, Alabama; Brushy Creek, 35 km (22 mi), from the confluence of Glover Creek, Winston County, Alabama, upstream to section 9, T8S R7W, Lawrence County, Alabama; Capsey Creek, 15 km (9 mi), from confluence with Brushy Creek, Winston County, upstream to the confluence of Turkey Creek, Lawrence County, Alabama; Rush Creek, 10 km (6 mi), from confluence with Brushy Creek, upstream to Winston/Lawrence County Line, Winston County, Alabama; Brown Creek, 5 km (3 mi), from confluence with Rush Creek, Winston County, upstream to section 24 line, T8S R7W Lawrence County, Alabama; Beech Creek, 3 km (2 mi), from confluence with Brushy Creek, to confluence of East and West Forks, Winston County, Alabama; Caney Creek and North Fork Caney Creek, 13 km (8 mi), from confluence with Sipsey Fork, upstream to section 14 line, Winston County, Alabama; Borden Creek, 18 km (11 mi), from confluence with Sipsey Fork, Winston County, Alabama,

upstream to the confluence of Montgomery Creek, Lawrence County, Alabama; Flannagin Creek, 10 km (6 mi), from confluence with Borden Creek, upstream to confluence of Dry Creek, Lawrence County, Alabama. The upper Sipsey Fork drainage currently supports the most robust and extensive populations of the dark pigtoe, orange-nacre mucket, Alabama moccasinshell, and triangular kidneyshell (Haag and Warren 1997; Haag *et al.* 1995; Hartfield 1991; Hartfield and Butler 1997; Hartfield and Hartfield 1996; McGregor 1992, Warren and Haag 1994). Ovate clubshell have been reported from this drainage (Dodd 1986).

Unit 11. North River and Tributary, Tuscaloosa, Fayette Counties, Alabama

Unit 11 encompasses 47 km (29 mi) of river and stream channel in Alabama, including: North River, 42 km (26 mi) extending from Tuscaloosa County Road 38, Tuscaloosa County, upstream to confluence of Ellis Creek, Fayette County, Alabama; Clear Creek, 5 km (3 mi), from its confluence with North River, to Bays Lake Dam, Fayette County, Alabama. Small numbers of the dark pigtoe and orange-nacre mucket continue to survive in the North River and Clear Creek (McGregor and Pierson 1999, Pierson 1992a, Vittor and Associates 1993). This area is in the historic range of the Alabama moccasinshell, triangular kidneyshell, and ovate clubshell.

Unit 12. Locust Fork and Tributary, Jefferson, Blount Counties, Alabama

Unit 12 encompasses 102 km (63 mi) of river and stream channel in Alabama, including: Locust Fork, 94 km (58 mi) extending from U.S. Highway 78, Jefferson County, upstream to the confluence of Little Warrior River, Blount County, Alabama; Little Warrior River, 8 km (5 mi), from its confluence with the Locust Fork, upstream to the confluence of Calvert Prong and Blackburn Fork, Blount County, Alabama. Scattered collections of the orange-nacre mucket and triangular kidneyshell suggest an enduring population of these species in the Locust Fork (P. Johnson pers. comm. 2002, Hartfield 1991, Shepard *et al.* 1988). This stream is also in the historic range of the dark pigtoe, Alabama moccasinshell, ovate clubshell, and upland combshell.

Cahaba River Drainage, Alabama

The Cahaba River and tributaries historically supported the orange-nacre mucket, fine-lined pocketbook, Alabama moccasinshell, southern clubshell, ovate clubshell, triangular kidneyshell, upland combshell, and southern acornshell. Episodic and persistent pollution events have caused the decline of the mussel community throughout the drainage, as well as the extirpation of five of the listed mussels.

Unit 13. Cahaba River and Tributary, Jefferson, Shelby, Bibb Counties, Alabama

Unit 13 encompasses 124 km (77 mi) of river channel in Alabama, including: Cahaba River, 105 km (65 mi) extending from U.S. Highway 82, Centerville, Bibb County, upstream to Jefferson County Road 143, Jefferson County, Alabama; Little Cahaba River, 19 km (12 mi), from its confluence with the Cahaba River, upstream to the confluence of Mahan and Shoal Creeks, Bibb County, Alabama. Scattered individuals of triangular kidneyshell, orange-nacre mucket, and fine-lined pocketbook continue to be collected from the Cahaba drainag (R. Haddock, Cahaba River Society, pers. comm. 2002; McGregor *et al.* 2000, Shepard *et al.* 1994). The river is historic habitat for the Alabama moccasinshell, southern clubshell, ovate clubshell, upland combshell, and southern acornshell.

Alabama River Drainage, Alabama

The Alabama River mollusc community has been reduced due to the effects of historic pollution events and impoundment for navigation. Historical records from this river include the Alabama moccasinshell, orange-nacre mucket, fine-lined pocketbook, triangular kidneyshell, and southern clubshell.

Unit 14. Alabama River, Autauga, Lowndes, Dallas Counties, Alabama

Unit 14 encompasses 73 km (45 mi) of the Alabama River channel, extending from the confluence of the Cahaba River, Dallas County, upstream to the confluence of Big Swamp Creek, Lowndes County, Alabama. The southern clubshell is known to occur within this reach (Hartfield and Garner 1998). This area may become suitable for reintroduction of the orange-nacre mucket.

Unit 15. Bogue Chitto Creek, Dallas County, Alabama

Unit 15 encompasses 52 km (32 mi) of the Bogue Chitto Creek channel in Alabama, extending from its confluence with the Alabama River, Dallas County, upstream to U.S. Highway 80, Dallas County, Alabama. This stream continues to support the southern clubshell and orange-nacre mucket (McGregor *et al.* 1996; P. Hartfield field notes, 1984; Pierson 1991a). The habitat offers potential for the Alabama moccasinshell.

Tallapoosa River Drainage, Alabama, Georgia

Historical and recent records indicate that the Tallapoosa River drainage supported a diverse mussel community, although numbers of all mussel species have apparently always been low in this system. This river drainage currently contains 2 extensive areas of contiguous habitat supporting three of the listed mussel species.

Unit 16. Tallapoosa River and Tributary, Cleburne County, Alabama and Haralson and Paulding Counties, Georgia

Unit 16 encompasses 161 km (100 mi) of river and stream channel in Alabama and Georgia, including: Tallapoosa River, 137 km (85 mi) extending from U.S. Highway 431, Cleburne County, Alabama, upstream to the confluence of McClendon and Mud Creeks, Paulding County, Georgia; and Cane Creek, 24 km (15 mi), from confluence with Tallapoosa River, upstream to Section 33/4 Line (T15S, R11E), Cleburne County, Alabama. This extensive area of main channel and tributary habitat supports scattered, small numbers of the fine-lined pocketbook (Devris 1997, Irwin *et al.* 1998, Irwin pers. comm. 2000). There have been site collections of fine-lined pocketbook in the extreme lowest reaches of several small tributaries to the Tallapoosa Unit, including Little Cane Creek, Big Creek, McClendon Creek, and Muscadine Creek, and there are likely to be others. We believe these small populations are dependent upon the main stem Tallapoosa River for recruitment.

Unit 17. Uphapee/Choctafaula/Chewacla Creeks, Macon, Lee Counties, Alabama

Unit 17 encompasses 74 km (46 mi) of stream channel in Alabama, including: Uphapee Creek, 18 km (11 mi) of river channel extending from Alabama Highway 199, upstream to confluence of Opintlocco and Chewacla Creeks, Macon County, Alabama; Choctafaula Creek, 11 km (7 mi), from confluence with Uphapee Creek, upstream to Macon County Road 54, Macon County, Alabama; Chewacla Creek, 29 km (18 mi), from confluence with Opintlocco Creek, Macon County, Alabama, upstream to Lee County Road 159, Lee County, Alabama; Opintlocco Creek, 16 km (10 mi), from confluence with Chewacla Creek, upstream to Macon County Road 79, Macon County, Alabama. This stream network supports small and localized populations of the

fine-lined pocketbook, ovate clubshell, and southern clubshell (M. Gangloff, Auburn University, *in litt.* 2001; Gangloff 2002, McGregor 1993, Pierson 1991a).

Coosa River Drainage, Alabama, Georgia, Tennessee

Extensive impoundment for hydropower during the 20th century along with episodic pollution events severely reduced one of the most diverse endemic freshwater molluscan communities in the world. Listed mussels in the drainage are now restricted to one small portion of the main channel Coosa River, one large tributary complex, and several small isolated tributaries.

Unit 18. Coosa River (Old River Channel) and tributary, Cherokee, Calhoun, Cleburne Counties, Alabama

Unit 18 encompasses 78 km (48 mi) of river channel in Alabama, including: Coosa River, 18 km (11 mi) extending from the powerline crossing southeast of Maple Grove, Alabama, upstream to Weiss Dam, Cherokee County, Alabama; Terrapin Creek, 53 km (33 mi) extending from its confluence with the Coosa River, Cherokee County, upstream to Cleburne County Road 49, Cleburne County, Alabama; South Fork Terrapin Creek, 7 km (4 mi) from its confluence with Terrapin Creek, upstream to Cleburne County Road 55, Cleburne County, Alabama. The short reach of the Coosa River continues to support a fairly robust population of the southern clubshell, and a few individuals of the ovate clubshell and fine-lined pocketbook (Herod *et al.* 2001). The fine-lined pocketbook and southern clubshell have also been recently collected from Terrapin Creek (Feminella and Gangloff 2000). This area is within the range of the Coosa moccasinshell, southern pigtoe, triangular kidneyshell, upland combshell, and southern acornshell.

Unit 19. Hatchet Creek, Coosa, Clay Counties, Alabama

Unit 19 encompasses 66 km (41 mi) of the Hatchet Creek channel in Alabama, extending from the confluence of Swamp Creek at Coosa County Road 29, Coosa County, Alabama, upstream to Clay County Road 4, Clay County, Alabama. The fine-lined pocketbook occurs within this reach (Feminella and Gangloff 2000, Pierson 1992b). Hatchet Creek is within the historic range of the Coosa moccasinshell, southern pigtoe, ovate clubshell, southern clubshell, triangular kidneyshell, upland combshell, and southern acornshell.

Unit 20. Shoal Creek, Calhoun, Cleburne Counties, Alabama

Unit 20 encompasses 26 km (16 mi) of stream channel in Alabama, extending from the headwater of Whitesides Mill Lake, Calhoun County, Alabama, upstream to the tailwater of Coleman Lake Dam, Cleburne County, Alabama. The fine-lined pocketbook, southern pigtoe, and triangular kidneyshell survive in Shoal Creek (Haag *et al.* 1999, Feminella and Gangloff 2000, Gangloff *in litt.* 2001, Pierson, 1992b). Shoal Creek is within historic range of the Coosa moccasinshell.

Unit 21. Kelly Creek and Tributary, Shelby, St. Clair Counties, Alabama

Unit 21 encompasses 34 km (21 mi) of stream channel in Alabama, including: Kelly Creek, 26 km (16 mi) extending from the confluence with the Coosa River, upstream to the confluence of Shoal Creek, St. Clair County, Alabama; Shoal Creek, 8 km (5 mi), from confluence with Kelly Creek, St. Clair County, Alabama, upstream to St. Clair/Shelby County Line, St. Clair County, Alabama. Kelly/Shoal Creeks continue to support scattered individuals of the fine-lined pocketbook, and the southern clubshell and triangular kidneyshell survive in Kelly Creek (Pierson pers comm. 1995, Feminella and Gangloff 2000, Gangloff in litt. 2001). This stream complex is historic habitat for the southern pigtoe, Coosa moccasinshell, ovate clubshell, upland combshell, and southern acornshell.

Unit 22. Cheaha Creek, Talladega, Clay Counties, Alabama

Unit 22 encompasses 27 km (17 mi) of the Cheaha Creek channel, extending from its confluence with Choccolocco Creek, Talladega County, Alabama, upstream to the tailwater of Chinnabee Lake, Clay County, Alabama. The fine-lined pocketbook and southern pigtoe survive within this reach (Feminella and Gangloff 2000, Gangloff *in litt.* 2001, Pierson 1992b, 1993). Cheaha Creek is in the historic range of the Coosa moccasinshell and triangular kidneyshell.

Unit 23. Yellowleaf Creek and Tributary, Shelby County, Alabama

Unit 23 encompasses 39 km (24 mi) of stream channel, including: Yellowleaf Creek, 32 km (20 mi), extending from Alabama Highway 25, upstream to Shelby County Road 49; Muddy Prong, 7 km (4 mi), extending from confluence with Yellowleaf Creek, upstream to U.S. Highway 280, Shelby County, Alabama. Yellowleaf and Muddy Prong Creeks are currently inhabited by the fine-lined pocketbook (Feminella and Gangloff 2000, Gangloff *in litt.*, 2001, Pierson *in litt.* 2000). Yellowleaf Creek is in the historic range of the Coosa moccasinshell, southern pigtoe, and triangular kidneyshell.

Unit 24. Big Canoe Creek, St. Clair County, Alabama

Unit 24 encompasses 29 km (18 mi) of the Big Canoe Creek channel, extending from its confluence with Little Canoe Creek at the St. Clair/Etowah County line, St. Clair County, upstream to the confluence of Fall Branch, St. Clair County, Alabama. The southern clubshell, southern pigtoe, and triangular kidneyshell are surviving in low numbers in Big Canoe Creek (Feminella and Gangloff 2000, Gangloff *in litt.* 2001). This stream is also historic habitat for the fine-lined pocketbook, ovate clubshell, Coosa moccasinshell, upland combshell, and southern acornshell.

Unit 25. Oostanaula River/Coosawattee River/Conasauga River/Holly Creek, Floyd, Gordon, Whitfield, Murray Counties, Georgia; Bradley, Polk Counties, Tennessee

Unit 25 encompasses 206 km (128 mi) of river and stream channel in Georgia and Tennessee, including: Oostanaula River, 77 km (48 mi) extending from its confluence with the Etowah River, Floyd County, upstream to the confluence of the Conasauga and Coosawattee River, Gordon County, Georgia; Coosawattee River, 15 km (9 mi), from confluence with the Conasauga River, upstream to Georgia State Highway 136, Gordon County, Georgia; Conasauga River, 98 km (61 mi), from confluence with the Coosawattee River, Gordon County, Georgia, upstream through Bradley and Polk Counties, Tennessee, to the Murray County Road 2, Murray County, Georgia; Holly Creek, 16 km (10 mi), from confluence with Conasauga River, upstream to the confluence of Rock Creek, Murray County, Georgia. This extensive riverine reach continues to support small and localized populations of fine-lined pocketbook, southern pigtoe, triangular kidneyshell, Alabama moccasinshell, and Coosa moccasinshell. The triangular kidneyshell survives throughout this unit, while the fine-lined pocketbook, southern pigtoe, and Coosa moccasinshell appear to be currently restricted to the Conasauga River and Holly Creek and the southern clubshell appears restricted to a small 15 km (9 mi) reach of the Conasauga River (Evans 2001, Johnson and Evans, 2000, Pierson *in litt.* 1993, Williams and Hughes

1998). The Alabama moccasinshell is currently known to survive only in the Holly Creek portion of this Unit (Evans 2001, Johnson and Evans 2000). The Oostanaula/Coosawattee/Conasauga Unit also contains historic habitat for the southern clubshell, ovate clubshell, upland combshell, and southern acornshell.

Unit 26. Lower Coosa River, Elmore County, Alabama

Unit 26 encompasses 13 km (8 mi) of the Lower Coosa River channel, extending from Alabama State Highway 111 bridge, upstream to Jordan Dam, Elmore County, Alabama. This river reach is within the historic range of fine-lined pocketbook, southern clubshell, Alabama moccasinshell, Coosa moccasinshell, ovate clubshell, southern pigtoe, triangular kidneyshell, upland combshell, and southern acornshell. (Johnson 2002, Pierson 1991a).

Land Ownership

States were granted ownership of lands beneath navigable waters up to the high water mark upon achieving statehood (Pollard v. Hagan, 44 U.S. (3 How.) 212 (1845)). Prior sovereigns or the States may have made grants to private parties which include lands below mean high waters of some navigable waters included in this proposal. However, we believe that most navigable waters included in this rule are owned by the States of Mississippi, Alabama, Georgia, and Tennessee. Most non-navigable streams and riparian lands bordering navigable streams are in private ownership. Table 2 summarizes primary riparian landowners in each of the proposed critical habitat units by private, State, or Federal ownership. Approximately 82 percent, 1447 km (897 mi), of stream channels proposed as critical habitat are bordered by private lands.

TABLE 2.—ADJACENT RIPARIAN LAND OWNERSHIP (KM/MI) IN PROPOSED CRITICAL HABITAT UNITS FOR THREATENED AND ENDANGERED MUSSELS IN THE MOBILE RIVER BASIN

Critical habitat unit	Private	State	Federal	Total
1. East Fork Tombigbee River	19/12		6/4	26/16
2. Bull Mountain Creek	34/21			34/21
3. Buttahatchee River	110/68			110/68
4. Luxapalila Creek	29/18			29/18
5. Coalfire Creek	32/20			32/20
6. Lubbub Creek	31/19			31/19
7. Sipsey River	74/46	16/10		90/56
8. Trussels Creek	21/13			21/13
9. Sucarnoochee River	90/56			90/56
10. Sipsey Fork	15/9		132/82	147/91
11. North River	47/29			47/29
12. Locust Fork	102/63			102/63
13. Cahaba River	92/57	26/16	6/4	124/77
14. Alabama River	73/45			73/45
15. Bogue Chitto	52/32			52/32
16. Tallapoosa River	161/100			161/100
17. Uphapee complex	56/35		18/11	74/46
18. Coosa River	63/39		15/9	78/48
19. Hatchet Creek	55/34		11/7	66/41
20. Shoal Creek			26/16	26/16
21. Kelly Creek	34/21			34/21
22. Cheaha Creek	16/10		11/7	27/17
23. Yellowleaf Creek	39/24			39/24
24. Big Canoe Creek	29/18			29/18
25. Oostanaula Complex	188/117		18/11	206/128
26. Lower Coosa River	13/8			13/8
Total	1,475/914	42/26	243/151	1,760/1,093

Public lands adjacent to proposed critical habitat units consist of approximately 288 km (179 mi) of riparian lands, including Canal Section Wildlife Management Area in Unit 1 (6 km (4 mi)); Sipsey River Natural Area in Unit 7 (16 km (10 mi)); William B. Bankhead National Forest in Unit 10 (134 km (83 mi)); Cahaba River National Wildlife Refuge (6 km (4 mi)) and Cahaba River Wildlife Management Area (28 km (17 mi)) in Unit 13; Tuskegee National Forest in Unit 17 (16 km (10 mi)); Talladega National Forest in Unit 18 (15 km (9 mi)), Unit 19 (11 km (7 mi)), Unit 20 (27 km (17mi)), and Unit 22 (11 km (7 mi)); and Chattahoochee National Forest in Unit 25 (18 km (11 mi)).

Effects of Critical Habitat Designation

Relationship to Section 7 of the Act

The regulatory effects of a critical habitat designation under the Act are triggered through the provisions of section 7 of the Act, which applies only to activities conducted, authorized, or funded by a Federal agency (Federal actions). Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR part 402. Individuals, organizations, States, local governments, and other non-Federal entities are not affected by the designation of critical habitat unless their actions occur on Federal lands, require Federal authorization, or involve Federal funding.

Section 7(a)(2) of the Act requires Federal agencies, including us, to insure that their actions are not likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of designated critical habitat. This requirement is met through a consultation under section 7 of the Act. Our regulations define ''jeopardize the continued existence'' as to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a

listed species in the wild by reducing the reproduction, numbers, or distribution of that species (50 CFR 402.02). ''Destruction or adverse modification of designated critical habitat'' is defined as a direct or indirect alteration that appreciably diminishes the value of the critical habitat for both the survival and recovery of the species (50 CFR 402.02). Such alterations include, but are not limited to, adverse changes to the physical or biological features, *i.e.*, the primary constituent elements, that were the basis for determining the habitat to be critical.

The relationship between a species' survival and its recovery has been a source of confusion to some in the past. We believe that a species' ability to recover depends on its ability to survive into the future when its recovery can be achieved; thus, the concepts of long-term survival and recovery are intricately linked. However, in a March 15, 2001, decision of the United States Court of Appeals for the Fifth Circuit (*Sierra Club* v. *U.S. Fish and Wildlife Service et al.*, 245 F.3d 434), the Court found our definition of destruction or adverse modification as currently contained in 50 CFR 402.02 to be invalid. In response to this decision, we are reviewing the regulatory definition of adverse modification in relation to the conservation of the species.

Conference for Proposed Critical Habitat

Section 7(a)(4) of the Act requires Federal agencies to confer with us on any action that is likely to result in the destruction or adverse modification of proposed critical habitat. The regulations for interagency cooperation regarding proposed critical habitat are codified at 50 CFR 402.10. During a conference on the effects of a Federal action on proposed critical habitat, we make non-binding recommendations on ways to minimize or avoid adverse effects of the action. We document these recommendations and any conclusions reached in a conference report provided to the Federal agency and to any applicant involved.

If requested by the Federal agency and deemed appropriate by us, the conference may be conducted in accordance with the procedures for formal consultation under 50 CFR 402.14. We may adopt an opinion issued at the conclusion of the conference as our biological opinion when the critical habitat is designated by final rule, but only if new information or changes to the proposed Federal action would not significantly alter the content of the opinion.

Consultation for Designated Critical Habitat

If a Federal action may affect a listed species or its designated critical habitat, the action agency must initiate consultation with us (50 CFR 402.14). Through this consultation, we will advise the agency whether the action would likely jeopardize the continued existence of the species or adversely modify its critical habitat, or both. The Services' Consultation Handbook states that the destruction or adverse modification analysis focuses on the entire critical habitat area designated unless the critical habitat rule identifies another basis for the analysis, such as discrete units or groups of units necessary for different life cycle phases or units representing distinctive habitat characteristics or gene pools, or units fulfilling essential geographic distribution requirements. The extent of the 11 mussels' decline, the fragmentation and isolation of their habitats and continuing impacts upon their habitats, and the importance of every unit to the recovery of the species suggests that individual units or groups of units that are used by populations which fulfill essential geographic distribution requirements are the appropriate scale for the analysis. In accordance with the Mobile River Aquatic Ecosystem Recovery Plan (2000), protection of the habitat in these units and their surviving populations is essential to the conservation of these 11 mussel species. An action occurring only within one unit may appreciably reduce the value of the critical habitat for the recovery of the species and therefore trigger an adverse modification determination.

When we issue a biological opinion that concludes that a specific action is likely to result in the destruction or adverse modification of critical habitat, we must provide reasonable and prudent alternatives to the action, if any are identifiable. Reasonable and prudent alternatives are actions identified during consultation that can be implemented in a manner consistent with the intended purpose of the originally proposed action, are consistent with the scope of the action agency's authority and jurisdiction, are economically and technologically feasible, and would likely avoid the destruction or adverse modification of critical habitat (50 CFR 402.02).

Reinitiation of Prior Consultations

A Federal agency may request a conference with us for any previously reviewed action that is likely to destroy or adversely modify proposed critical habitat and over which the agency retains discretionary involvement or control, as described above under ''Conference for Proposed Critical Habitat.'' Following designation of critical habitat, regulations at 50 CFR 402.16 require a Federal agency to reinitiate consultation for previously reviewed actions that may affect critical habitat and over which the agency has retained discretionary involvement or control.

Federal Actions That May Destroy or Adversely Modify 11 Mussels Critical Habitat

Section 4(b)(8) of the Act requires us, in any proposed or final rule designating critical habitat, to briefly describe and evaluate those activities that may adversely modify such habitat, or that may be affected by such designation.

Federal actions that, when carried out, funded or authorized by a Federal agency, may destroy or adversely modify critical habitat for the 11 mussels include, but are not limited to:

(1) Actions that would alter the minimum flow or the existing flow regime to a degree that appreciably reduces the value of the critical habitat for both the long-term survival and recovery of the species. Such activities could include, but are not limited to, impoundment, channelization, water diversion, and hydropower generation.

(2) Actions that would significantly alter water chemistry or temperature to a degree that appreciably reduces the value of the critical habitat for both the long-term survival and recovery of the species. Such activities could include, but are not limited to, release of chemicals, biological pollutants, or heated effluents into the surface water or connected groundwater at a point source or by dispersed release (non-point).

(3) Actions that would significantly increase sediment deposition within the stream channel to a degree that appreciably reduces the value of the critical habitat for both the longterm survival and recovery of the species. Such activities could include, but are not limited to, excessive sedimentation from livestock grazing, road construction, timber harvest, off-road vehicle use, and other watershed and floodplain disturbances.

(4) Actions that would significantly increase the filamentous algal community within the stream channel to a degree that appreciably reduces the value of the critical habitat for both the longterm survival and recovery of the species. Such activities could include, but are not limited to, release of

nutrients into the surface water or connected groundwater at a point source or by dispersed release (non-point).

(5) Actions that would significantly alter channel morphology or geometry to a degree that appreciably reduces the value of the critical habitat for both the longterm survival and recovery of the species. Such activities could include, but are not limited to, channelization, impoundment, road and bridge construction, mining, destruction of riparian vegetation.

(6) Actions that would introduce, spread, or augment nonnative aquatic species into critical habitat to a degree that appreciably reduces the value of the critical habitat for both the longterm survival and recovery of the species. Such activities could include, but are not limited to, stocking for sport, biological control, or other purposes; aquaculture; and construction and operation of canals.

Previous Section 7 Consultations

Federal actions that we have reviewed since these 11 mussel species received protection under the Act include Federal land management plans, Federal land acquisition and disposal, road and bridge maintenance and construction, water diversion, timber harvest on Federal land, channelization, flood control, channel maintenance, water quality standards, dam construction and operation, and issuance of permits under section 404 of the Clean Water Act. Federal agencies involved with these activities included the Army Corps of Engineers (COE), U.S. Forest Service, Natural Resources Conservation Service, Environmental Protection Agency, and Federal Highway Administration. Since the original listing of these 11 mussel species, seven formal consultations have been conducted. None of these resulted in a finding that the proposed action would jeopardize the continued existence of any of the 11 species.

In each of the biological opinions resulting from these consultations, we included discretionary conservation recommendations to the action agency. Conservation recommendations are activities that would avoid or minimize the adverse effects of a proposed action on a listed species or its critical habitat, help implement recovery plans, or develop information useful to the species' conservation.

Previous biological opinions also included nondiscretionary reasonable and prudent measures, with implementing terms and conditions, which are designed to minimize the proposed action's incidental take of these 11 mussels. Section 3(18) of the Act defines the term take as ''to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct.'' Harm is further defined in our regulations (50 CFR 17.3) to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering.

Conservation recommendations and reasonable and prudent measures provided in previous biological opinions for these mussels have included maintaining State water quality standards, maintaining adequate stream flow rates, minimizing work in the wetted channel, restricting riparian clearing, monitoring channel morphology and mussel populations, installing signage, protecting buffer zones, avoiding pollution, using cooperative planning efforts, minimizing ground disturbance, using sediment barriers, relocating recreational trails, using best management practices to minimize erosion, and funding research useful for mussel conservation. In reviewing past formal consultations, we find that only one may need to be reinitiated as a result of this proposed designation.

On October 3, 1994, we presented a Biological Opinion to the COE and Tennessee Valley Authority (TVA) concluding that the proposed construction and operation of the Tom Bevill Reservoir on the North River, Fayette County, Alabama, would not jeopardize the continued existence of the dark pigtoe and orange-nacre mucket (U.S. Fish and Wildlife Service 1994). The dam site lies within proposed critical habitat Unit 11. This dam has not been constructed. If the applicants determine to proceed with, construction plans, this dam may adversely modify critical habitat in the North River (Unit 11), and consultation should be reinitiated.

The designation of critical habitat will have no impact on private landowner activities that do not require Federal funding or permits. Designation of critical habitat is only applicable to activities approved, funded, or carried out by Federal agencies.

If you have questions regarding whether specific activities would constitute adverse modification of critical habitat, you may contact the following Service offices:

Alabama—Daphne, FWS Ecological Services Office (251/441–5181)
Georgia-Athens, FWS Ecological Services Office (706/613–9493)
Mississippi—Jackson, FWS Ecological Services Office (601/965–4900)
Tennessee-Cookeville, FWS Ecological Services Office (931/528–6481)

Exclusions Under Section 4(b)(2)

Section 4(b)(2) of the Act requires that we designate critical habitat on the basis of the best scientific and commercial information available, and that we consider the economic and other relevant impacts of designating a particular area as critical habitat. We may exclude areas from critical habitat if the benefits of exclusion outweigh the benefits of designation, provided the exclusion will not result in the extinction of the species. We will conduct an analysis of the economic impacts of designating these areas as critical habitat prior to a final determination. That economic analysis will be conducted in a manner that is consistent with the ruling of the 10th Circuit Court of Appeals in *N.M. Cattle Growers Ass'n* v. *USFWS*. When the draft economic analysis is completed, we will announce its availability with a notice in the **Federal Register**. With publication of the notice of availability, a comment period will be opened for a minimum of 30 days to allow for public comments on the draft economic analysis and proposed rule concurrently.

Public Comments Solicited

We intend for any final action resulting from this proposal to be as accurate and as effective as possible. Therefore, we solicit comments or suggestions from the public, other concerned governmental agencies, the scientific community, industry, or any other interested party concerning this proposed rule. We are particularly interested in comments concerning:

(1) The reasons why any area should or should not be determined to be critical habitat as provided by section 4 of the Act and 50 CFR 424.12(a)(1), including whether the benefits of designation will outweigh any threats to the species due to designation;

(2) Specific information on the amount and distribution of habitat for these 11 mussel species, population numbers, and what habitat is essential to their conservation and why;

(3) Whether areas within proposed critical habitat are currently being managed to address conservation needs of these mussel species;

(4) Current or planned activities in the subject areas and their possible impacts on proposed critical habitats;

(5) Any foreseeable economic or other impacts resulting from the proposed designation of critical habitat, in

particular, any impacts on small entities;

(6) Economic and other values associated with designating critical habitat for these mussels, such as those derived from nonconsumptive uses (*e.g.*, hiking, camping, wildlife-watching, enhanced watershed protection, improved air quality, increased soil retention, ''existence values,'' and reductions in administrative costs).

If you wish to comment on this proposed rule, you may submit your comments and materials concerning this proposal by any one of several methods (*see* **ADDRESSES** section). Electronic comments (e-mail) should avoid the use of special characters and encryption. Please also include ''Attn: [RIN 1018–AI73]'' and your name and return address in your e-mail message. If you do not receive a confirmation from the system that we have received your e-mail message, contact us directly by calling our Mississippi Fish and Wildlife Office (*see* **ADDRESSES** section).

Our practice is to make comments, including names and home addresses of respondents, available for public review during regular business hours. Respondents may request that we withhold their home addresses from the rulemaking record, which we will honor to the extent allowable by law. There also may be circumstances in which we would withhold a respondent's identity, as allowable by law. If you wish us to withhold your name and/or address, you must state this prominently at the beginning of your comment. However, we will not consider anonymous comments. To the extent consistent with applicable law, we will make all submissions from organizations or businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, available for public inspection in their entirety. Comments and materials received will be available for public inspection, by appointment, during normal business hours at the Service's Fish and Wildlife in Jackson, Mississippi (*see* **ADDRESSES** section).

Peer Review

In accordance with our joint policy published in the **Federal Register** on July 1, 1994 (59 FR 34270), we will seek the expert opinions of at least three appropriate and independent specialists regarding this proposed rule. The purpose of such review is to ensure that our critical habitat designation is based on scientifically sound data, assumptions, and analyses. We will send these peer reviewers copies of this proposed rule immediately following publication in the **Federal Register**. We will invite these peer reviewers to comment, during the public comment period, on the specific assumptions and conclusions regarding the proposed designation of critical habitat.

We will consider all comments and information received during the comment period during preparation of a final rulemaking. Accordingly, the final decision may differ from this proposal.

Public Hearings

The Act provides for one or more public hearings on this proposal, if requested. Requests must be filed within 45 days of the date of this proposal. Such requests must be made in writing and should be addressed to the Field Supervisor, Mississippi Fish and Wildlife Office (*see* **ADDRESSES** section). Written comments submitted during the comment period receive equal consideration with those comments presented at a public hearing. We will schedule public hearings on this proposal, if any are requested, and announce the dates, times, and places of those hearings in the **Federal Register** and local newspapers at least 15 days prior to the first hearing.

Clarity of the Rule

Executive Order 12866 requires each agency to write regulations/notices that are easy to understand. We invite your comments on how to make proposed rules easier to understand, including answers to questions such as the following: (1) Are the requirements in the proposed rule clearly stated? (2) Does the proposed rule contain technical language or jargon that interferes with the clarity? (3) Does the format of the proposed rule (*e.g.*, grouping and order of sections, use of headings, paragraphing) aid or reduce its clarity? (4) Is the description of the proposed rule in the **SUPPLEMENTARY INFORMATION** section of the preamble helpful in understanding the proposed rule? What else could we do to make the proposed rule easier to understand?

Send a copy of any comments that concern how we could make this proposed rule easier to understand to: Office of Regulatory Affairs, Department of the Interior, Room 7229, 1849 C Street, NW, Washington, D.C. 20240. You may e-mail your comments to this address: *Execsec@ios.doi.gov.*

Required Determinations

Regulatory Planning and Review

In accordance with Executive Order 12866, this document is a significant rule and was reviewed by the Office of Management and Budget (OMB). The Service is preparing a draft economic analysis of this proposed action, and will use this analysis to meet the requirement of section 4(b)(2) of the Act to determine the economic consequences of designating the specific areas as critical habitat and excluding any area from critical habitat if it is determined that the benefits of such exclusion outweigh the benefits of specifying such areas as part of the critical habitat, unless failure to designate such area as critical habitat will lead to the extinction of any of these 11 mussel species. This analysis will be made available for public comment before finalizing this designation.

Regulatory Flexibility Act (5 U.S.C. 601 et seq.)

Under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*, as amended by the Small Business Regulatory Enforcement Fairness Act (SBREFA) of 1996), whenever an agency is required to publish a notice of rulemaking for any proposed or final rule, it must prepare and make available for public comment a regulatory flexibility analysis that describes the effects of the rule on small entities (*i.e.*, small businesses, small organizations, and small government jurisdictions). However, no regulatory flexibility analysis is required if the head of the agency certifies the rule will not have a significant economic impact on a substantial number of small entities. SBREFA amended the Regulatory Flexibility Act (RFA) to require Federal agencies to provide a statement of the factual basis for certifying that the rule will not have a significant economic impact on a substantial number of small entities. SBREFA also amended the RFA to require a certification statement. We are hereby certifying that this proposed rule will not have a significant effect on a substantial number of small entities.

According to the Small Business Administration, small entities include small organizations, such as independent nonprofit organizations, and small governmental jurisdictions, including school boards and city and town governments that serve fewer than 50,000 residents, as well as small businesses (13 CFR 121.201). Small businesses include manufacturing and mining concerns with fewer than 500 employees, wholesale trade entities with fewer than 100 employees, retail and service businesses with less than $5 million in annual sales, general and heavy construction businesses with less than $27.5 million in annual business, special trade contractors doing less than $11.5 million in annual business, and

agricultural businesses with annual sales less than $750,000.

SBREFA does not explicitly define either ''substantial number'' or ''significant economic impact.'' Consequently, to assess whether a ''substantial number'' of small entities is affected by this designation, this analysis considers the relative number of small entities likely to be impacted in the area. Similarly, this analysis considers the relative cost of compliance on the revenues/profit margins of small entities in determining whether or not entities incur a ''significant economic impact.'' Only small entities that are expected to be directly affected by the designation are considered in this portion of the analysis. This approach is consistent with several judicial opinions related to the scope of the RFA (*Mid-Tex Electric Co-Op, Inc.* v. *F.E.R.C.* and *America Trucking Associations, Inc.* v. *EPA*.).

To determine if the rule would affect a substantial number of small entities, we considered the number of small entities affected within particular types of economic activities (*e.g.*, housing development, grazing, oil and gas production, timber harvesting, *etc.*). We applied the ''substantial number'' test individually to each industry to determine if certification is appropriate. In estimating the numbers of small entities potentially affected, we also considered whether their activities have any Federal involvement; some kinds of activities are unlikely to have any Federal involvement and so will not be affected by critical habitat designation. Designation of critical habitat only affects activities conducted, funded, or permitted by Federal agencies; non-Federal activities are not affected by the designation. Federal agencies are already required to consult with the Services under section 7 of the Act on activities that they fund, permit, or implement that may affect the federally listed mussels discussed herein.

If this critical habitat designation is finalized, Federal agencies must also consult with us if their activities may affect designated critical habitat. However, in areas where the mussel species are present, we believe this will result in only minimal additional regulatory burden on Federal agencies or their applicants because consultation would already be required due to the presence of the listed mussel species. Consultations to avoid the destruction or adverse modification of critical habitat would be incorporated into the existing consultation process and trigger only minimal additional regulatory impacts beyond the duty to avoid jeopardizing the species. In the area below Jordan Dam (lower Coosa River, Unit 26) where the mussel species are not present, we also believe designation of critical habitat will result in only minimal additional regulatory burden on Federal agencies or their applicants because consultations have been required, since 1991, due to the presence of the listed Tulotoma snail (56 FR 797, January 9, 1991).

Since the 11 mussels were listed (March 17, 1993, 58 FR 14330), we have conducted 7 formal consultations involving 1 or more of these 11 species. Four of the formal consultations involved Federal projects, including a flood control project by the COE, a horse trail system on the Talladega National Forest, programmatic activities by the Forest Service, and administration of the Clean Water Act in Alabama by the Environmental Protection Agency (EPA). Another formal consultation involved a COE permit to construct water withdrawal and discharge facilities for a gas powered electrical generating facility. These 5 consultations resulted in non-jeopardy opinions, and had no economic effects on small entities. The other 2 consultations involved COE permits to small entities to construct dams; one on a stream that was occupied habitat of the fine-lined pocketbook, and the other on a river that was occupied by the orange-nacre mucket and dark pigtoe. Biological Opinions prepared by us for these consultations concluded the actions were ''not likely to jeopardize'' the species, and identified reasonable and prudent measures to reduce take of the species affected by the projects. In reviewing these 2 consultations in light of proposed critical habitat, we recognize that with critical habitat present, our analysis would also include a determination of whether the action would destroy or adversely modify the critical habitat. One of these dams has not been constructed, and reinitiation of consultation may be necessary if construction plans proceed, after this designation is finalized (*see* ''Previous Section 7 Consultations'' above).

We also reviewed approximately 300 informal consultations that have been conducted since these 11 species were listed involving private businesses and industries, counties, cities, towns, or municipalities. At least 200 of these were with entities that likely met the definition of small entities. These informal consultations concerned activities such as excavation or fill, docking facilities, bridges, transmission lines, pipe lines, quarries, mines, housing developments, road and utility development, etc., authorized by COE, FERC, or EPA, or review of National Pollution Discharge Elimination System permit applications to State water quality agencies by developers, municipalities, mines, businesses, and others. Informal consultations on Federal activities also included campground improvements, burning programs, and southern pine beetle control by the Forest Service. Informal consultations regarding the mussels usually resulted in recommendations to employ Best Management Practices for sediment control, relied on current State water quality standards for protection of water quality, and resulted in little to no modification of the proposed activities. In reviewing these past informal consultations and the activities involved in light of proposed critical habitat, we do not believe the outcomes would have been different in areas designated as critical habitat.

In summary, we have considered whether this proposed designation would result in a significant economic impact on a substantial number of small entities and find that it would not. Informal consultations on approximately 300 activities in the Basin by businesses and governmental jurisdictions that might affect these species and their habitats resulted in little to no economic effect on small entities. In the decade since the 11 mussels were listed, there have been only 2 formal consultations regarding actions by small entities, both of which culminated in findings which allowed the projects to go forward. Our review indicates that even if the outcomes of these 2 formal consultations had been quite different, in light of critical habitat designation, less than 1 percent of small entities affected by a designation would have experienced a significant economic impact. This does not meet the definition of ''substantial.'' In addition, there is no indication that the types of activities we review under section 7 of the Act will change significantly in the future. There would be no additional section 7 consultations resulting from this rule as 25 of the proposed critical habitat units are currently occupied by 1 or more listed mussels, and the lower Coosa River (Unit 26) is currently occupied by the endangered tulotoma snail (*Tulotoma magnifica*), so the consultation requirement has already been triggered. Future consultations are not likely to affect a substantial number of small entities. This rule would result in major project modifications only when proposed activities with a Federal nexus would destroy or adversely modify critical habitat. While this may occur, it is not expected to occur frequently enough to affect a substantial

number of small entities. Therefore, we are certifying that the proposed designation of critical habitat for these 11 mussels will not have a significant economic impact on a substantial number of small entities, and an initial regulatory flexibility analysis is not required. This determination will be revisited after the close of the comment period and revised, if necessary, in the final rule.

This discussion is based upon the information regarding potential economic impact that is available to us at this time. This assessment of economic effect may be modified prior to final rulemaking based upon development and review of the draft economic analysis prepared pursuant to section 4(b)(2) of the ESA and E.O. 12866. This analysis is for the purposes of compliance with the Regulatory Flexibility Act and does not reflect our position on the type of economic analysis required by *New Mexico Cattle Growers Assn.* v. *U.S. Fish and Wildlife Service* 248 F.3d 1277 (10th Cir. 2001).

Small Business Regulatory Enforcement Fairness Act (5 U.S.C. 802(2))

In the draft economic analysis, we will determine whether designation of critical habitat will cause (a) any effect on the economy of $100 million or more, (b) any increases in costs or prices for consumers, individual industries, Federal, State, or local government agencies, or geographic regions, or (c) any significant adverse effects on competition, employment, investment, productivity, innovation, or the ability of U.S.-based enterprises to compete with foreign-based enterprises.

Executive Order 13211

On May 18, 2001, the President issued Executive Order 13211 on regulations that significantly affect energy supply, distribution, and use. Executive Order 13211 requires agencies to prepare Statements of Energy Effects when undertaking certain actions. Although this rule is a significant regulatory action under Executive Order 12866, it is not expected to significantly affect energy supplies, distribution, or use. Therefore, this action is not a significant energy action and no Statement of Energy Effects is required.

Unfunded Mandates Reform Act

In accordance with the Unfunded Mandates Reform Act (2 U.S.C. 1501 *et seq.*) the Service will use the economic analysis to further evaluate this situation.

Takings

In accordance with Executive Order 12630 (''Government Actions and Interference with Constitutionally Protected Private Property Rights''), this rule does not have significant takings implications. A takings implication assessment is not required. As discussed above, the designation of critical habitat affects only Federal agency actions. Since the proposed critical habitat includes only aquatic areas that are generally held in public trust, we believe that little or no private property is included in the proposed designation. Based on current public knowledge of the species protection and the prohibition against take of the species both within and outside of the designated areas, we do not anticipate that property values will be affected by the critical habitat designation. Additionally, critical habitat designation does not preclude development of habitat conservation plans and issuance of incidental take permits.

Federalism

In accordance with Executive Order 13132, the rule does not have significant Federalism effects. A Federalism assessment is not required. In keeping with Department of the Interior and Department of Commerce policy, the Service requested information from, and coordinated development of this critical habitat proposal with, appropriate State resource agencies in Mississippi, Alabama, Tennessee, and Georgia, as well as during the listing process. The impact of the proposed designation on State and local governments and their activities is not believed to be significant, but this will be more fully examined in the economic analysis of the proposal, on which we will seek public comment. The designation may have some benefit to these governments in that the areas essential to the conservation of the species are more clearly defined, and the primary constituent elements of the habitat necessary to the survival of the species are specifically identified. While making this definition and identification does not alter where and what federally sponsored activities may occur, it may assist these local governments in long-range planning, rather than waiting for case-by-case section 7 consultations to occur.

Civil Justice Reform

In accordance with Executive Order 12988, the Office of the Solicitor has determined that the rule does not unduly burden the judicial system and does meet the requirements of sections 3(a) and 3(b)(2) of the Order. We are proposing to designate critical habitat in accordance with the provisions of the Endangered Species Act. The rule uses standard property descriptions and identifies the primary constituent elements within the designated areas to assist the public in understanding the habitat needs of these 11 mussels.

Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.)

This proposed rule does not contain new or revised information collection for which Office of Management and Budget approval is required under the Paperwork Reduction Act. Information collections associated with certain permits pursuant to the Endangered Species Act are covered by an existing OMB approval, and are assigned clearance No. 1018–0094, with an expiration date of July 31, 2004. Detailed information for Act documentation appears at 50 CFR part 17. The Service may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.

National Environmental Policy Act (NEPA)

We have determined that we do not need to prepare an Environmental Assessment or an Environmental Impact Statement as defined by the National Environmental Policy Act of 1969 (NEPA) in connection with regulations adopted pursuant to section 4(a) of the Act. We published a notice outlining our reasons for this determination in the **Federal Register** on October 25, 1983 (48 FR 49244).

Government-to-Government Relationship With Tribes

In accordance with the President's memorandum of April 29, 1994, ''Government-to-Government Relations with Native American Tribal Governments'' (59 FR 22951), Executive Order 13175, and the Department of the Interior's manual at 512 DM 2, we readily acknowledge our responsibility to communicate meaningfully with recognized Federal Tribes on a government-to-government basis. We have determined that there are no Tribal lands essential for the conservation of the 11 mussels. Therefore, designation of critical habitat for the 11 mussels has not been proposed on Tribal lands.

References Cited

A complete list of all references cited in this proposed rule is available upon

request from the Mississippi Fish and Wildlife Office (*see* **ADDRESSES** section).

Author

The primary author of this notice is Paul Hartfield (*see* **ADDRESSES** section), 601/321–1125.

List of Subjects in 50 CFR Part 17

Endangered and threatened species, Exports, Imports, Reporting and recordkeeping requirements, Transportation.

Proposed Regulation Promulgation

For the reasons outlined in the preamble, we propose to amend part 17, subchapter B of chapter I, title 50 of the Code of Federal Regulations, as follows:

PART 17—[AMENDED]

1. The authority citation for part 17 continues to read as follows:

Authority: 16 U.S.C. 1361–1407; 16 U.S.C. 1531–1544; 16 U.S.C. 4201–4245; Pub. L. 99–625, 100 Stat. 3500; unless otherwise noted.

2. In section 17.11(h), revise each of the entries here listed, in alphabetical order under ''CLAMS'', to the List of Endangered and Threatened Wildlife to read as follows:

§ 17.11 Endangered and threatened wildlife.

* * * * *

(h) * * *

Species		Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Common name	Scientific name						
*	*	*	*	*	*	*	
CLAMS							
*	*	*	*	*	*	*	
Acornshell, southern ...	*Epioblasma othcaloogensis*.	U.S.A. (AL,GA,TN)	NA	E	495	17.95 (f)	NA
*	*	*	*	*	*	*	
Clubshell, ovate	*Pleurobema perovatum*.	U.S.A. (AL,TN,GA,MS)	NA	E	495	17.95 (f)	NA
*	*	*	*	*	*	*	
Clubshell, southern	*Pleurobema decisum*	U.S.A. (AL,TN,GA,MS)	NA	E	495	17.95 (f)	NA
*	*	*	*	*	*	*	
Combshell, upland	*Epioblasma metastriata*.	U.S.A. (AL,GA,TN)	NA	E	495	17.95 (f)	NA
*	*	*	*	*	*	*	
Kidneyshell, triangular	*Ptychobranchus greenii*.	U.S.A. (AL,GA,TN)	NA	E	495	17.95 (f)	NA
*	*	*	*	*	*	*	
Moccasinshell, Alabama.	*Medionidus acutissimus*.	U.S.A. (AL,GA,MS)	NA	T	495	17.95 (f)	NA
*	*	*	*	*	*	*	
Moccasinshell Coosa,	*Medionidus parvulus* ..	U.S.A. (AL,GA,TN)	NA	E	495	17.95 (f)	NA
*	*	*	*	*	*	*	
Mucket, orange-nacre	*Lampsilis perovalis*	U.S.A. (AL,MS)	NA	T	495	17.95 (f)	NA
*	*	*	*	*	*	*	
Pigtoe, dark	*Pleurobema furvum*	U.S.A. (AL)	NA	E	495	17.95 (f)	NA
*	*	*	*	*	*	*	
Pigtoe, southern	*Pleurobema georgianum*.	U.S.A. (AL,GA,TN)	NA	E	495	17.95 (f)	NA
*	*	*	*	*	*	*	
Pocketbook, fine-lined	*Lampsilis altilis*	U.S.A. (AL,GA)	NA	T	495	17.95 (f)	NA
*	*	*	*	*	*	*	

3. In § 17.95, at the end of paragraph (f), add an entry for 11 Mobile River Basin mussel species to read as follows:

§ 17.95 Critical habitat-fish and wildlife.

* * * * *

(f) *Clams and snails.* * * *

Eleven Mobile River Basin mussel species: southern acornshell (*Epioblasma othcaloogensis*), ovate clubshell (*Pleurobema perovatum*), southern clubshell (*Pleurobema decisum*), upland combshell (*Epioblasma metastriata*), triangular kidneyshell (*Ptychobranchus greeni*), Alabama moccasinshell (*Medionidus acutissimus*), Coosa moccasinshell (*Medionidus parvulus*), orange-nacre mucket (*Lampsilis perovalis*), dark pigtoe (*Pleurobema furvum*), southern pigtoe (*Pleurobema georgianum*), and fine-lined pocketbook (*Lampsilis altilis*)

(1) The primary constituent elements essential for the conservation of the southern acornshell (*Epioblasma*

othcaloogensis), ovate clubshell (*Pleurobema perovatum*), southern clubshell (*Pleurobema decisum*), upland combshell (*Epioblasma metastriata*); triangular kidneyshell (*Ptychobranchus greeni*), Alabama moccasinshell (*Medionidus acutissimus*), Coosa moccasinshell (*Medionidus parvulus*), orange-nacre mucket (*Lampsilis perovalis*), dark pigtoe (*Pleurobema furvum*), southern pigtoe (*Pleurobema georgianum*), and fine-lined pocketbook (*Lampsilis altilis*) are those habitat components that support feeding, sheltering, reproduction, and physical features for maintaining the natural processes that support these habitat components. The primary constituent elements include:

(i) Geomorphically stable stream and river channels and banks;

(ii) A flow regime (*i.e.*, the magnitude, frequency, duration, and seasonality of discharge over time) necessary for normal behavior, growth, and survival of all life stages of mussels and their fish hosts in the river environment;

(iii) Water quality, including temperature, pH, hardness, turbidity, oxygen content, and other chemical characteristics, necessary for normal behavior, growth, and viability of all life stages;

(iv) Sand, gravel, and/or cobble substrates with low to moderate amounts of fine sediment, low amounts of attached filamentous algae, and other physical and chemical characteristics necessary for normal behavior, growth, and viability of all life stages;

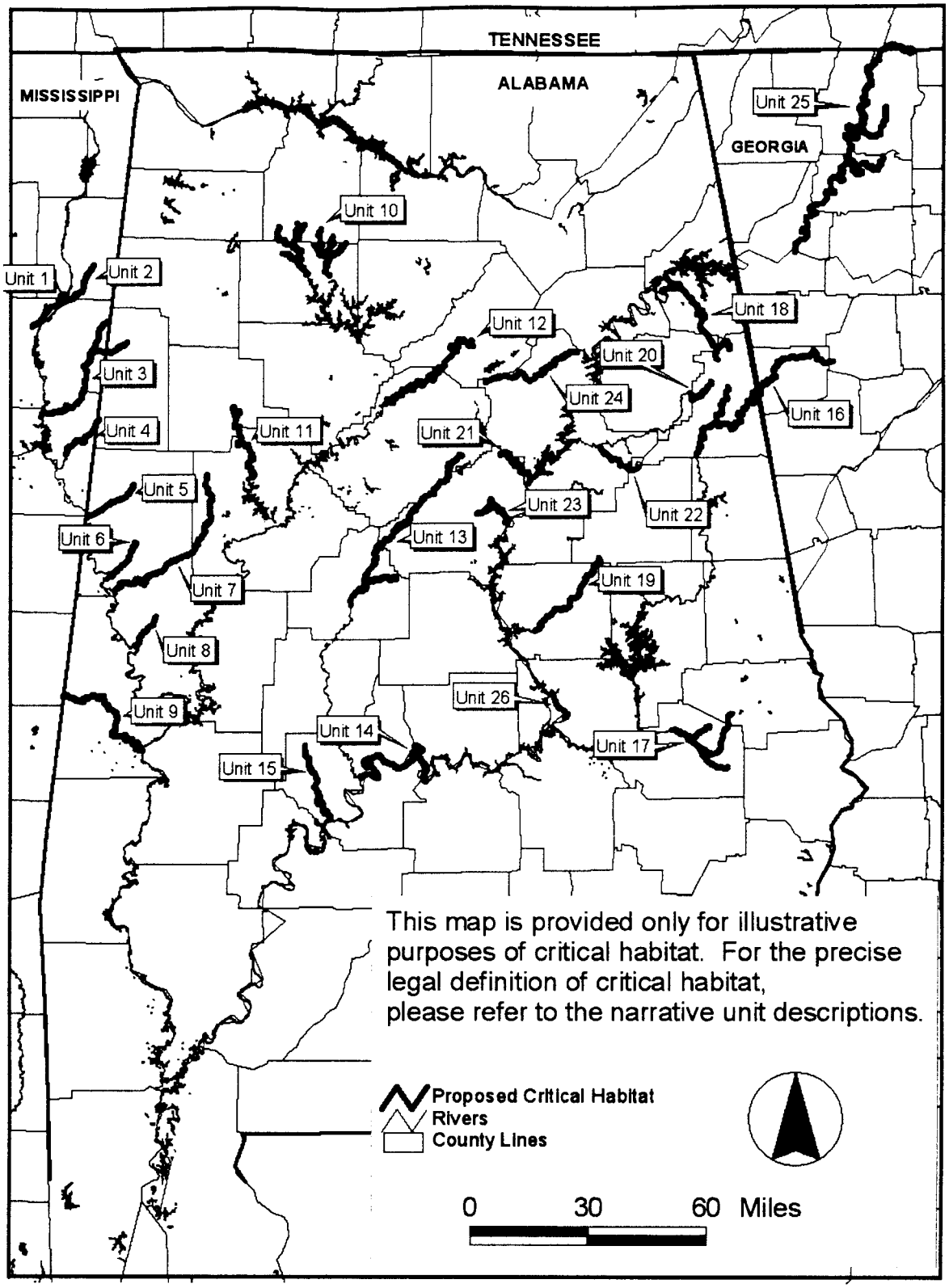
(v) Fish hosts, with adequate living, foraging, and spawning areas for them; and

(vi) Few or no competitive nonnative species present.

(2) Critical habitat unit descriptions and maps.

(i) Index map. The index map showing critical habitat units in the States of Mississippi, Alabama, Georgia, and Tennessee for the 11 Mobile River Basin mussel species follows:

BILLING CODE 4310–55–P



General locations of proposed critical habitat in the Mobile River Basin

(ii) Table of protected species and critical habitat units. A table listing the protected species, their respective critical habitat units, and the States which contain those habitat units follows. Detailed critical habitat unit descriptions and maps appear below the table.

TABLE OF ELEVEN MOBILE RIVER BASIN MUSSEL SPECIES, THEIR CRITICAL HABITAT UNITS, AND STATES CONTAINING THOSE CRITICAL HABITAT UNITS

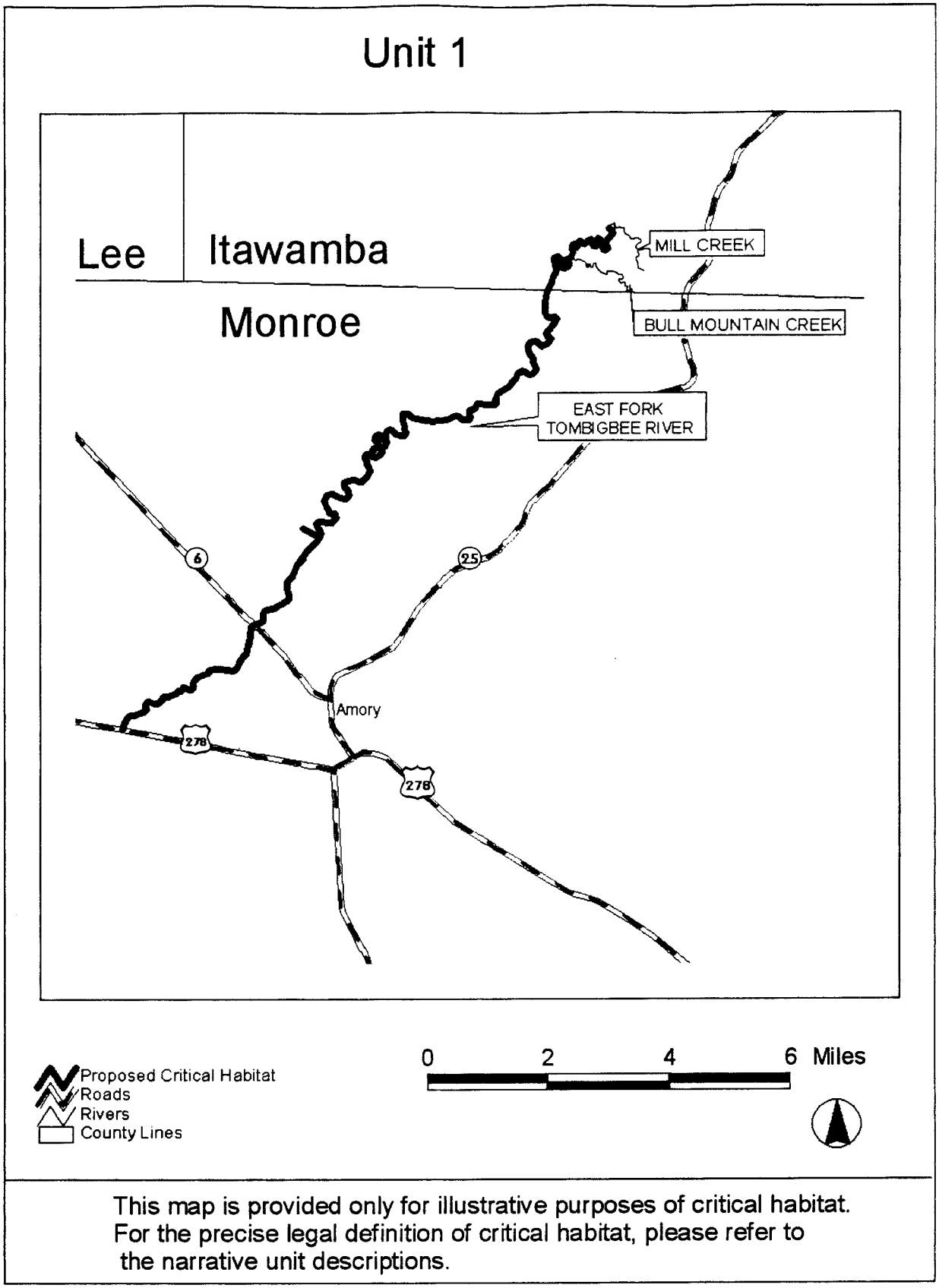
Species	Critical habitat units	States
Southern acornshell (*Epioblasma othcaloogensis*)	Units 13, 18, 19, 21, 24, 25, 26	AL, GA, TN.
Ovate clubshell (*Pleurobema perovatum*)	Units 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 17, 18, 19, 21, 24, 25, 26.	AL, GA, MS, TN.
Southern clubshell (*Pleurobema decisum*)	Units 1, 2, 3, 4, 5, 6, 7, 8, 9, 13, 14, 15, 17, 18, 19, 21, 24, 25, 26	AL, GA, MS, TN.
Upland combshell (*Epioblasma metastriata*)	Units 12, 13, 18, 19, 21, 24, 25, 26	AL, GA, TN.
Triangular kidneyshell (*Ptychobranchus greeni*)	Units 10, 11, 12, 13, 18, 19, 20, 21, 22, 23, 24, 25, 26	AL, GA, TN.
Alabama moccasinshell (*Medionidus acutissimus*)	Units 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 25, 26	AL, GA, MS, TN.
Coosa moccasinshell (*Medionidus parvulus*)	Units 18, 19, 20, 21, 22, 23, 24, 25, 26	AL, GA, TN.
Orangenacre mucket (*Lampsilis perovalis*)	Units 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15	AL, MS
Dark pigtoe (*Pleurobema furvum*)	Units 10, 11, 12	AL
Southern pigtoe (*Pleurobema georgianum*)	Units 18, 19, 20, 21, 22, 23, 24, 25, 26	AL, GA, TN.
Fine-lined pocketbook (*Lampsilis altilis*)	Units 13, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26	AL, GA, TN.

(iii) Unit 1. East Fork Tombigbee River, Monroe, Itawamba County, Mississippi. This is a critical habitat unit for the ovate clubshell, southern clubshell, Alabama moccasinshell, and orangenacre mucket.

(A) Unit 1 includes the East Fork Tombigbee River main stem from Mississippi Highway 278 (T13S R7E S3), Monroe County, upstream to the confluence of Mill Creek (T11S R8E S24), Itawamba County, Mississippi.

(B) Map of Unit 1 follows:

BILLING CODE 4310–55–P



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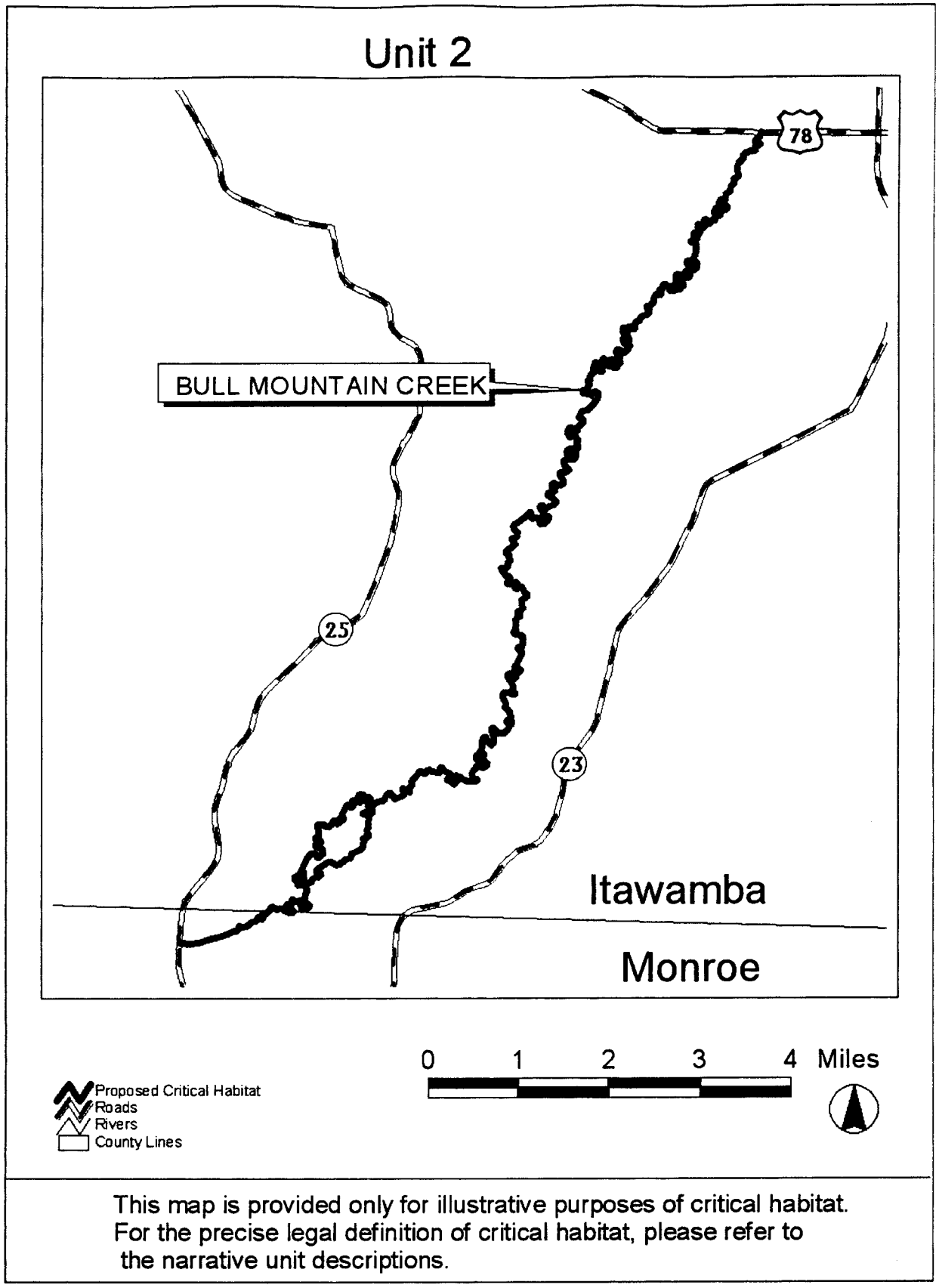
(iv) Unit 2. Bull Mountain Creek, Itawamba County, Mississippi. This is a critical habitat unit for the ovate

clubshell, southern clubshell, Alabama moccasinshell, and orangenacre mucket.

(A) Unit 2 includes the main stem of Bull Mountain Creek from Mississippi Highway 25 (T11S R9E S30), upstream to U.S. Highway 78 (T10S R10E S6), Itawamba County, Mississippi.

(B) Map of Unit 2 follows:

BILLING CODE 4310–55–P



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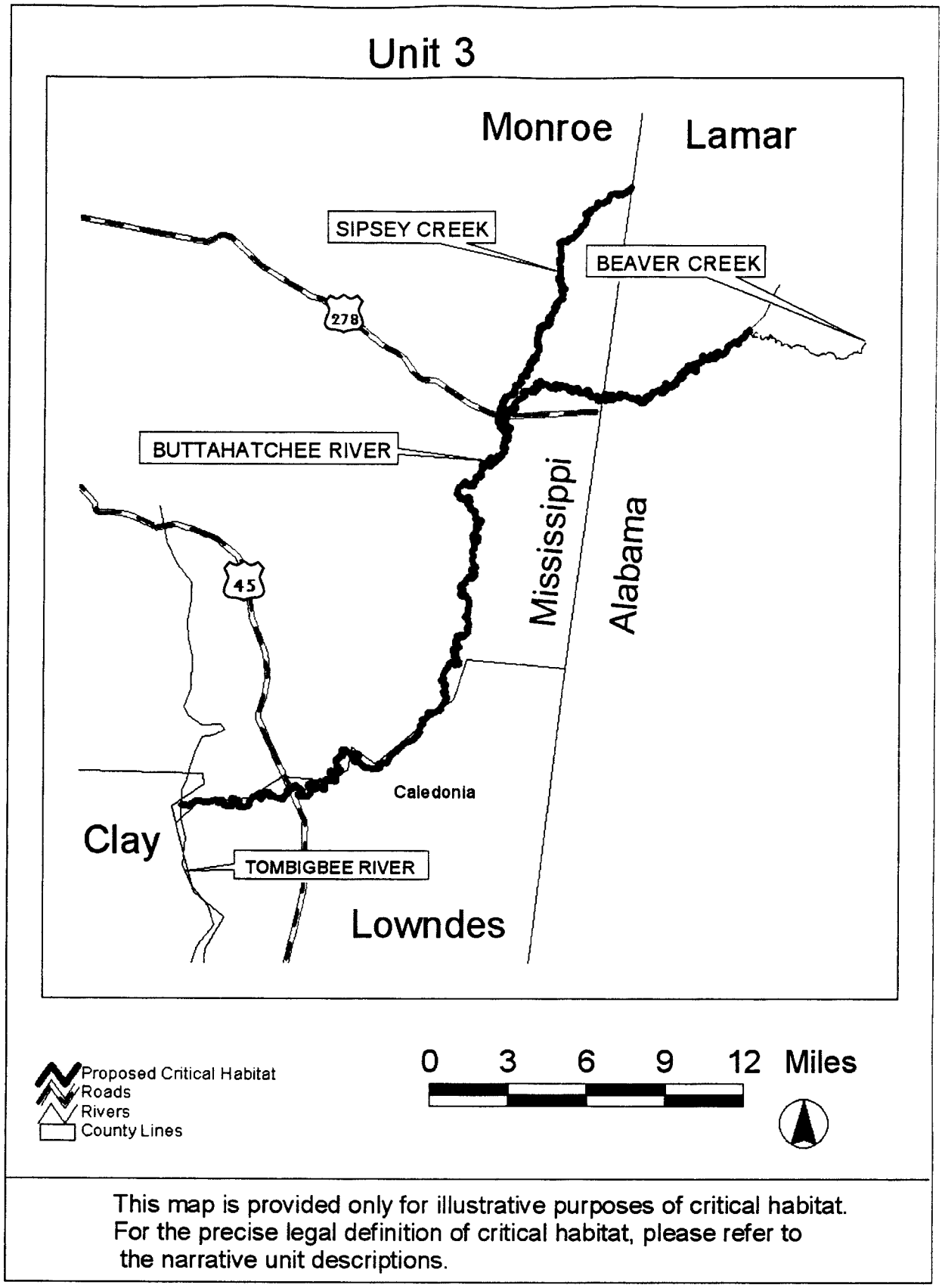
(v) Unit 3. Buttahatchee River and Sipsey Creek, Lowndes/Monroe County, Mississippi; Lamar County, Alabama. This is a critical habitat unit for the

ovate clubshell, southern clubshell, Alabama moccasinshell, and orangenacre mucket.

(A) Unit 3 includes the Buttahatchee River main stem from its confluence with the Tombigbee River (T16S R19W S23), Lowndes/Monroe County, Mississippi, upstream to the confluence of Beaver Creek (T13S R15W S17), Lamar County, Alabama; and Sipsey Creek, from its confluence with the Buttahatchee River (T14S R17W S2), upstream to the Mississippi/Alabama State Line (T12S R10E S21), Monroe County, Mississippi.

(B) Map of Unit 3 follows:

BILLING CODE 4310–55–P



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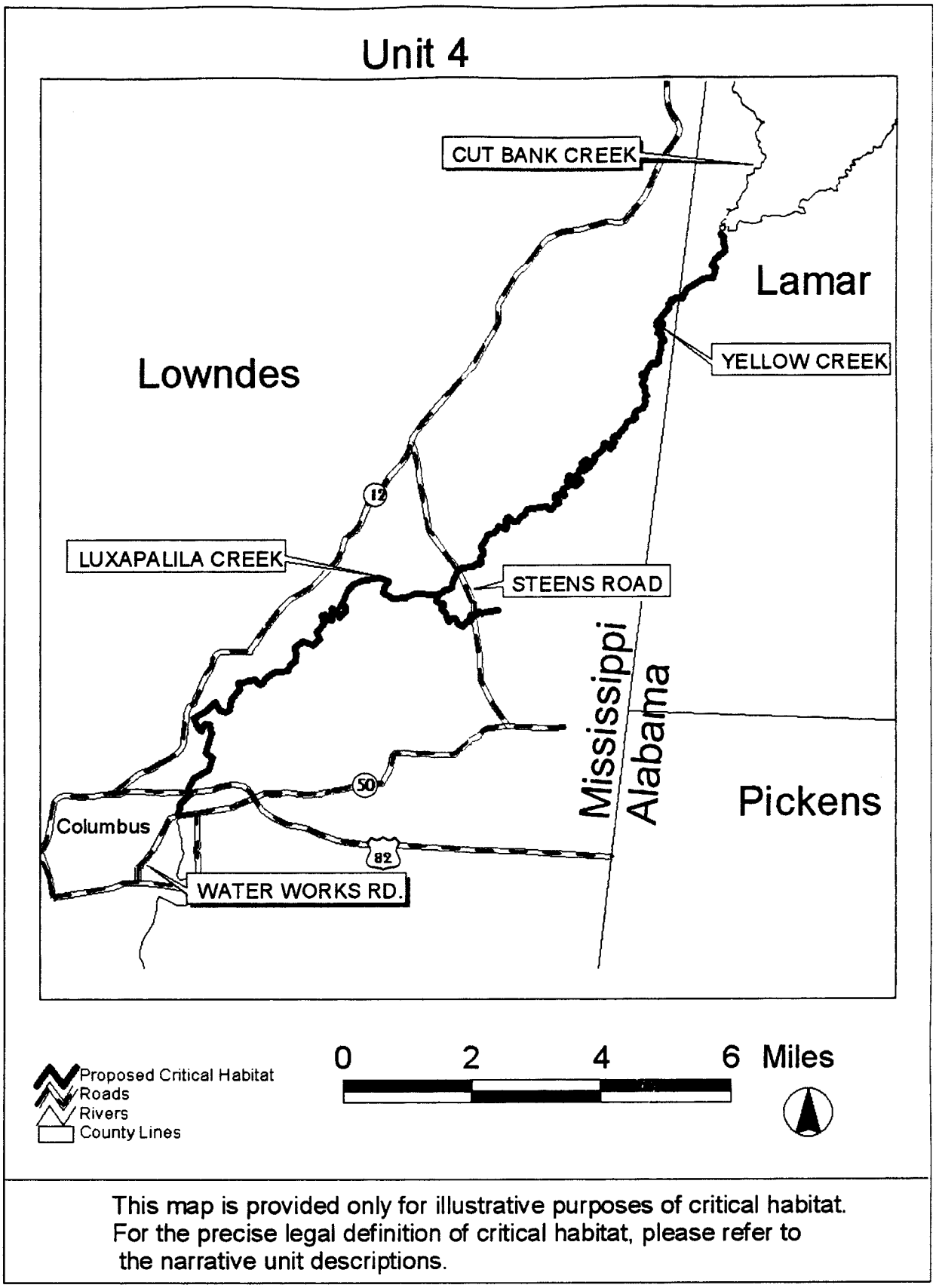
(vi) Unit 4. Luxapalila Creek and Yellow Creek, Lowndes County, Mississippi; Lamar County, Alabama. This is a critical habitat unit for the

ovate clubshell, southern clubshell, Alabama moccasinshell, and orangenacre mucket.

(A) Unit 4 includes the Luxapalila Creek main stem from Waterworks Road (T18S R18W S11), Columbus, Mississippi, upstream to approximately 1.0 km (0.6 mi) above Steens Road (T17S R17W S27), Lowndes County, Mississippi; and the Yellow Creek main stem from its confluence with Luxapalila Creek (T17S R17W S21), Lowndes County, Mississippi, upstream to the confluence of Cut Bank Creek (T16S R16W S30), Lamar County, Alabama.

(B) Map of Unit 4 follows:

BILLIING CODE 4310–55–P



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(vii) Unit 5. Coalfire Creek, Pickens County, Alabama. This is a critical habitat unit for the ovate clubshell,

southern clubshell, Alabama moccasinshell, and orangenacre mucket.

(A) Unit 5 includes the Coalfire Creek main stem from its confluence with Aliceville Lake (Tombigbee River, T20S R17W S26), upstream to U.S. Highway 82 (T19S R15W S15), Pickens County, Alabama.

(B) Map of Unit 5 follows:

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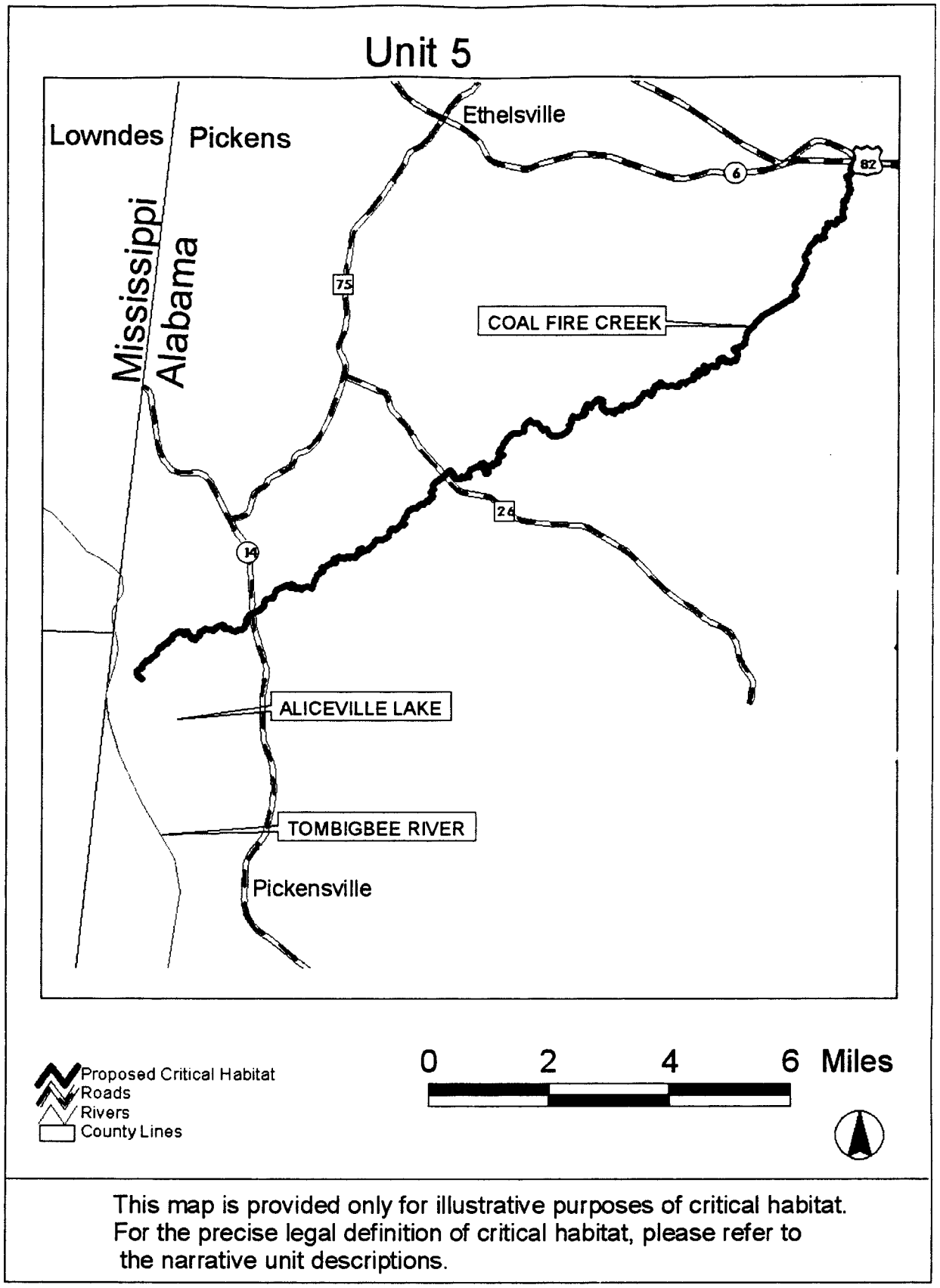

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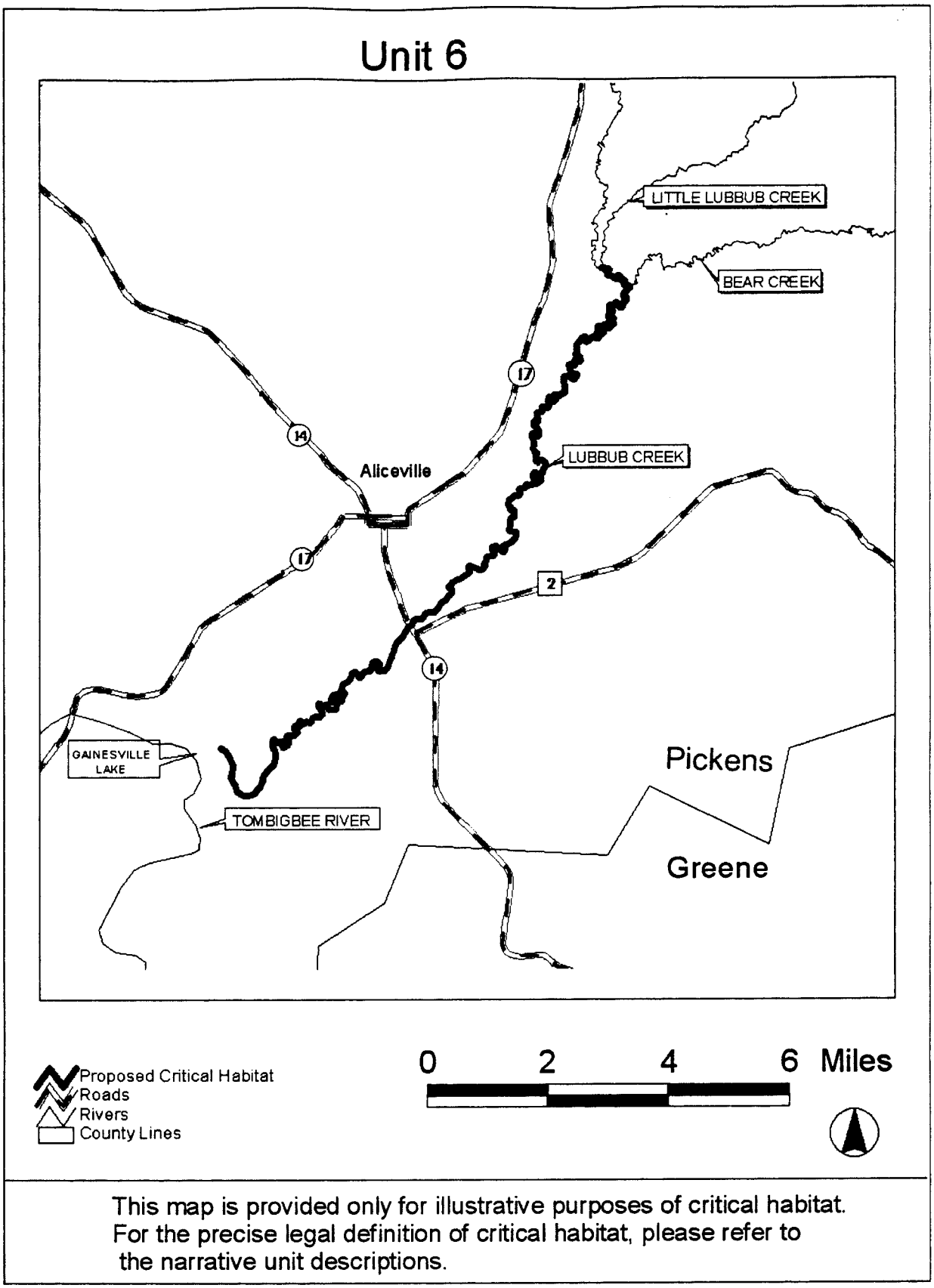
(viii) Unit 6. Lubbub Creek, Pickens County, Alabama. This is a critical habitat unit for the ovate clubshell,

southern clubshell, Alabama moccasinshell, and orangenacre mucket.

(A) Unit 6 includes the main stem of Lubbub Creek from its confluence with Gainesville Lake (Tombigbee River, T24N R2W S11), upstream to the confluence of Little Lubbub Creek (T21S R1W S34), Pickens County, Alabama.

(B) Map of Unit 6 follows:

BILLING CODE 4310–55–P



BILLING CODE 4310–55–C

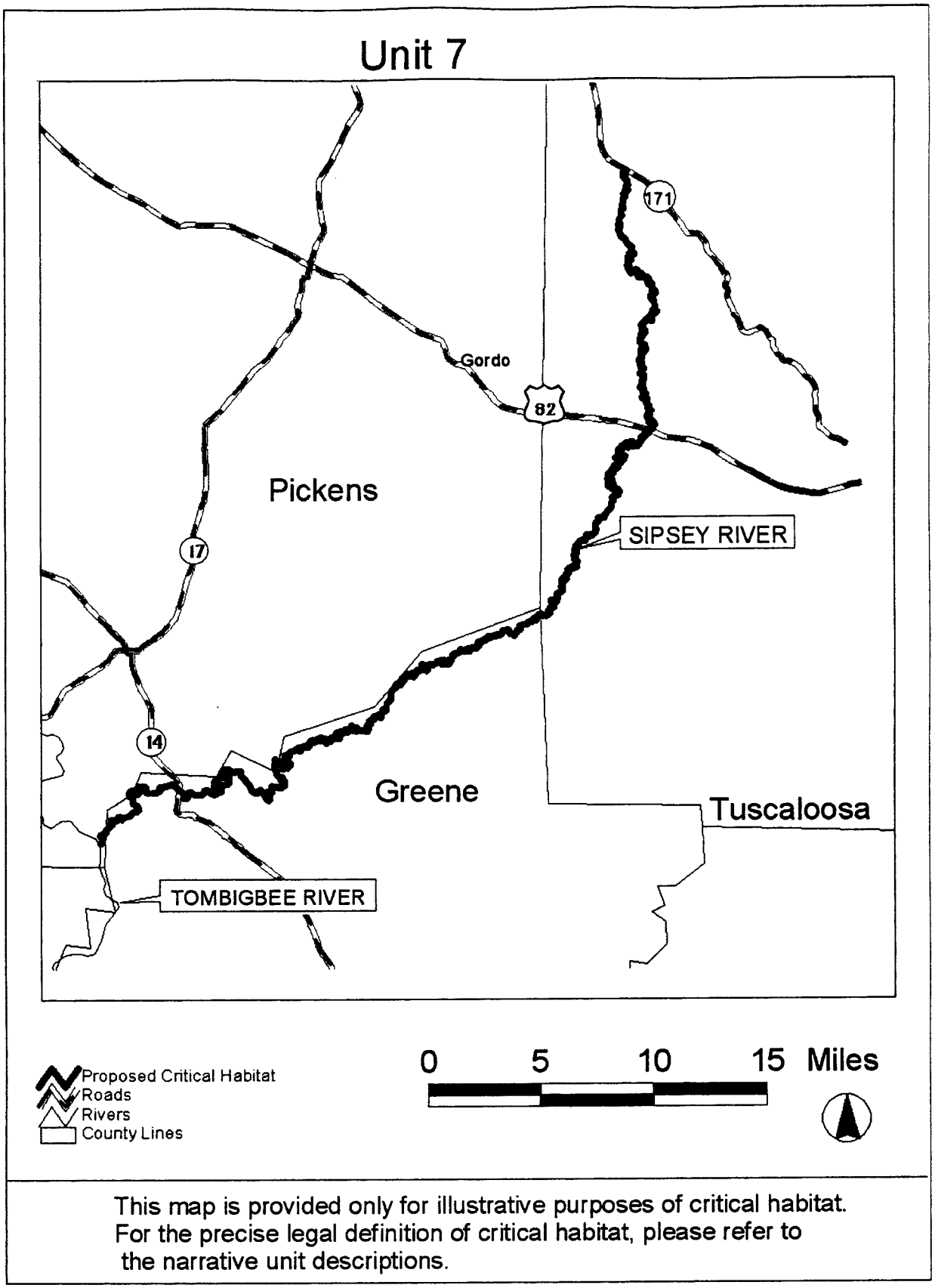
(ix) Unit 7. Sipsey River, Greene/Pickens, Tuscaloosa Counties, Alabama. This is a critical habitat unit for the ovate clubshell, southern clubshell,

Alabama moccasinshell, and orangenacre mucket.

(A) Unit 7 includes the Sipsey River main stem from its confluence with Gainesville Lake (Tombigbee River, T24N R1W S30), Greene/Pickens County, upstream to Alabama Highway 171 crossing (T18S R12W S34), Tuscaloosa County, Alabama.

(B) Map of Unit 7 follows:

BILLING CODE 4310–55–P



BILLING CODE 4310–55–C

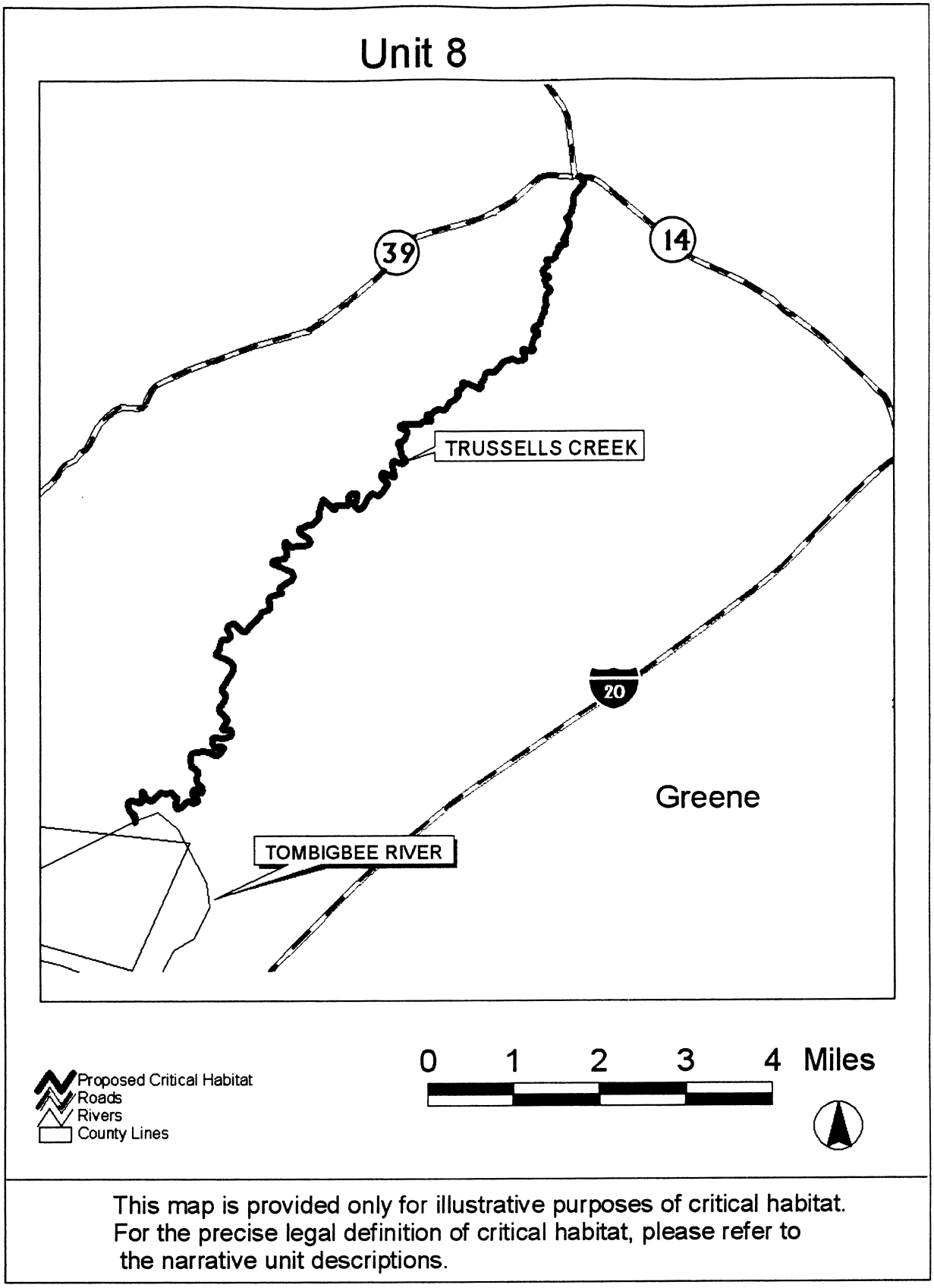
(x) Unit 8. Trussels Creek, Greene County, Alabama. This is a critical habitat unit for the ovate clubshell,

southern clubshell, Alabama moccasinshell, and orangenacre mucket.

(A) Unit 8 includes the Trussels Creek main stem from its confluence with the Tombigbee River (T21N R2W S15), upstream to Alabama Highway 14 (T22N R1E S4), Greene County, Alabama.

(B) Map of Unit 8 follows:

BILLING CODE 4310–55–P



BILLING CODE 4310–55–C

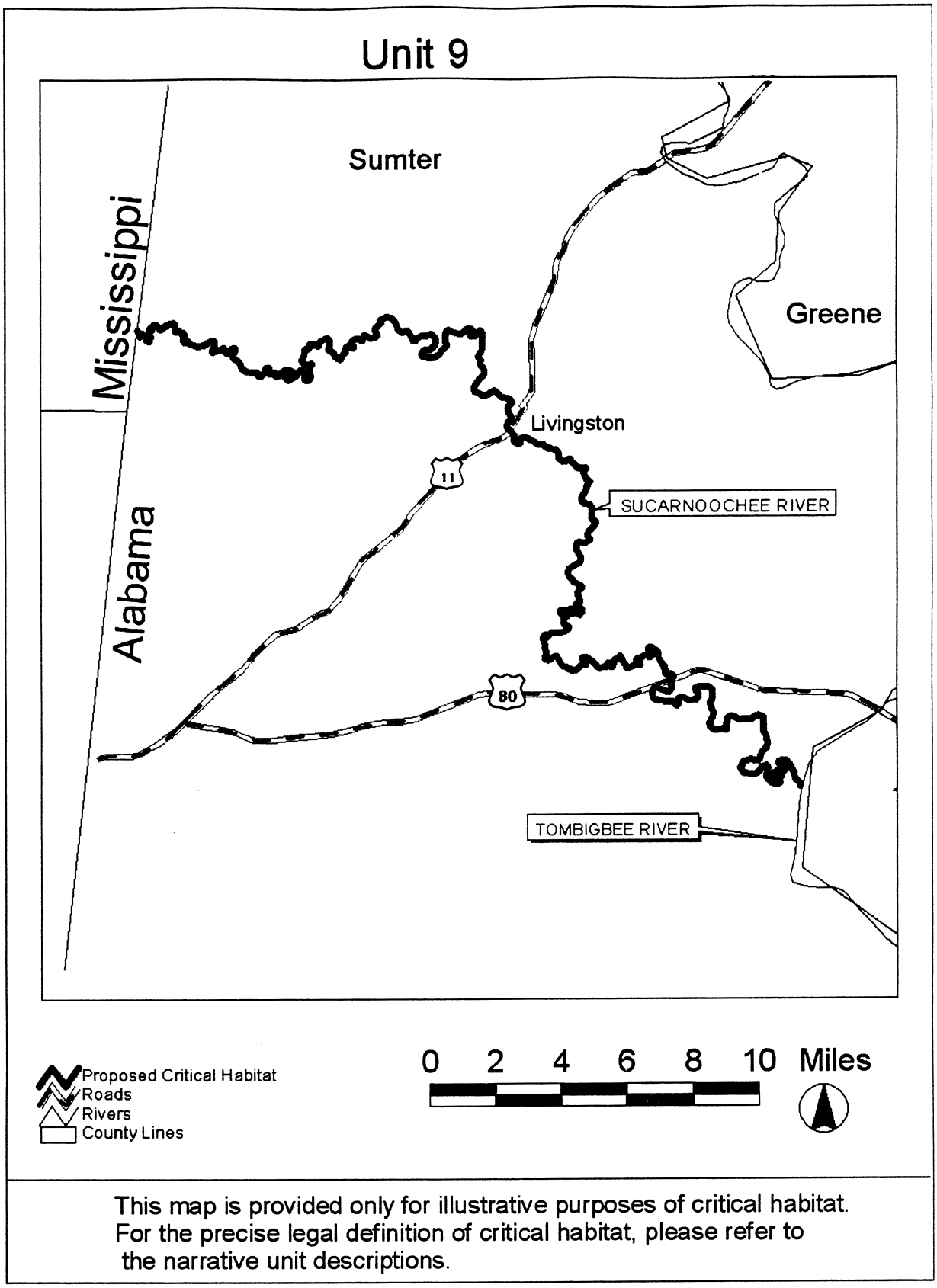
(xi) Unit 9. Sucarnoochee River, Sumter County, Alabama. This is a critical habitat unit for the ovate

clubshell, southern clubshell, Alabama moccasinshell, and orangenacre mucket.

(A) Unit 9 includes the Sucarnoochee River main stem from its confluence with the Tombigbee River (T17N R1W S26), upstream to the Mississippi/Alabama State Line (T19N R4W S15), Sumter County, Alabama.

(B) Map of Unit 9 follows:

BILLING CODE 4310–55–P



BILLING CODE 4310–55–C

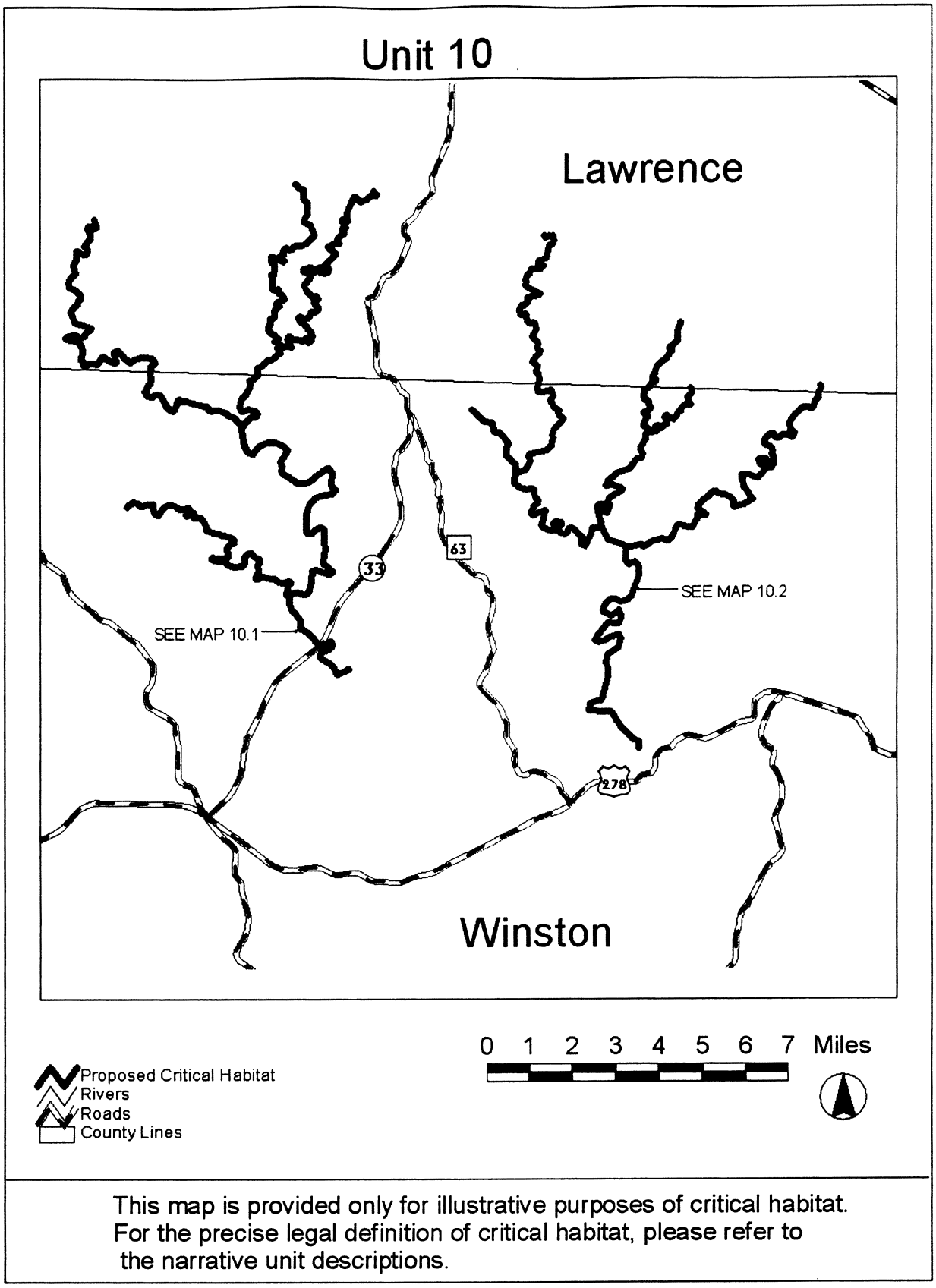
(xii) Unit 10. Sipsey Fork and tributaries, Winston, Lawrence Counties, Alabama. This is a critical habitat unit for the ovate clubshell,

triangular kidneyshell, Alabama moccasinshell, orangenacre mucket, and dark pigtoe.

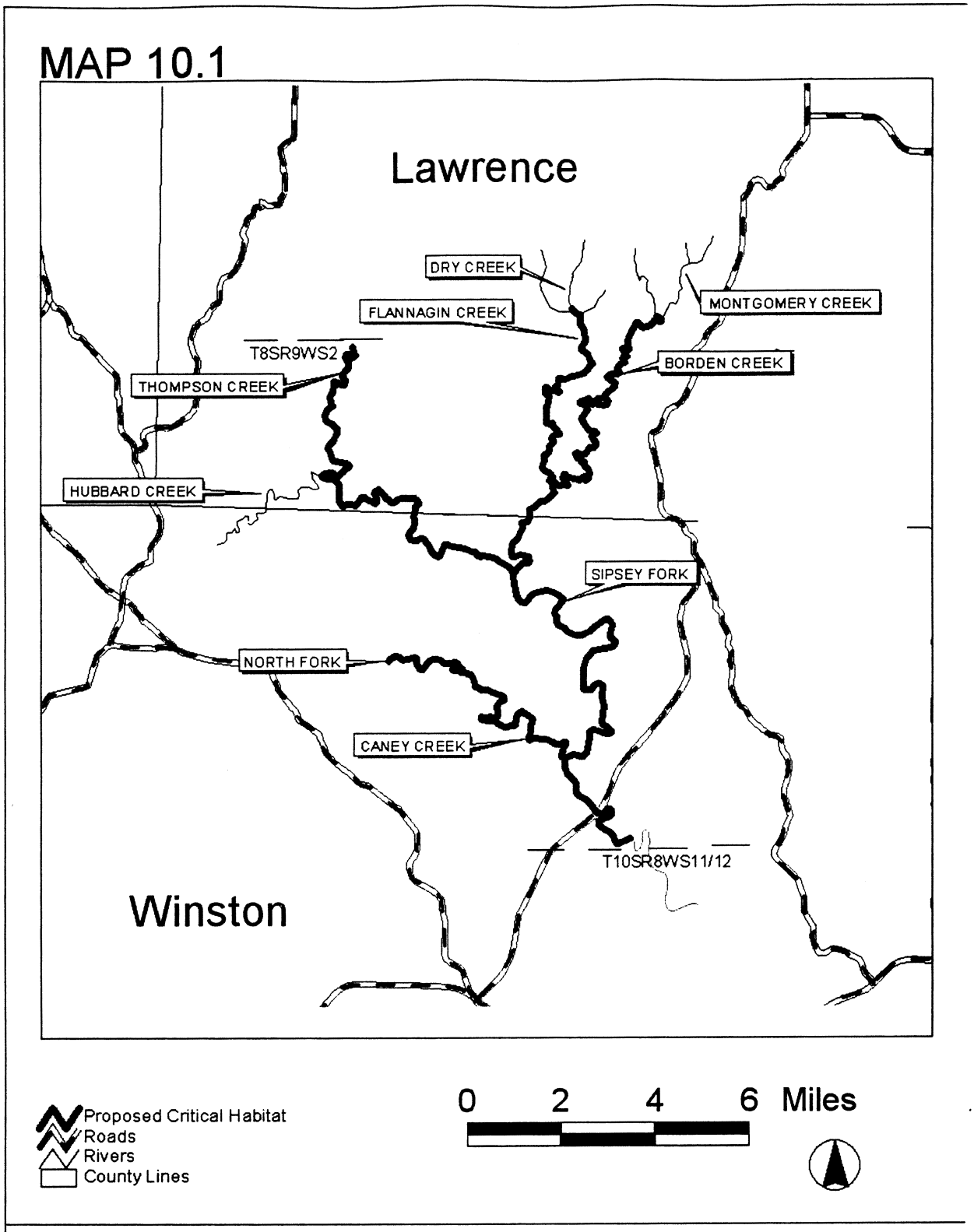
(A) Unit 10 includes the Sipsey Fork main stem from the section 11/12 line (T10S R8W), Winston County, Alabama, upstream to the confluence of Hubbard Creek (T8S R9W S27), Lawrence County, Alabama; Thompson Creek, from its confluence with Hubbard Creek (T8S R9W S27), upstream to section 2 line (T8S R9W) Lawrence County; Brushy Creek, from the confluence of Glover Creek (T10S R7W S11), Winston County, upstream to section 9 (T8S R7W), Lawrence County; Capsey Creek, from confluence with Brushy Creek (T9S R7W S23), Winston County, upstream to the confluence of Turkey Creek (T8S R6W S33), Lawrence County; Rush Creek, from confluence with Brushy Creek (T9S R7W S15), upstream to Winston/Lawrence County Line (T9S R7W S1), Winston County; Brown Creek, from confluence with Rush Creek (T9S R7W S2), Winston County, upstream to section 24 line (T8S R7W), Lawrence County; Beech Creek, from confluence with Brushy Creek (T9S R7W S8), to confluence of East and West Forks (T9S R7W S6), Winston County; Caney Creek and North Fork Caney Creek, from confluence with Sipsey Fork (T9S R8W S28), upstream to section 14 line (T9S R9W), Winston County; Borden Creek, from confluence with Sipsey Fork (T8S R8W S5), Winston County, upstream to the confluence of Montgomery Creek (T8S R8W S10), Lawrence County; and Flannagin Creek, from confluence with Borden Creek (T8S R8W S28), upstream to confluence of Dry Creek (T8S R8W S4), Lawrence County.

(B) Maps of Unit 10 follows:

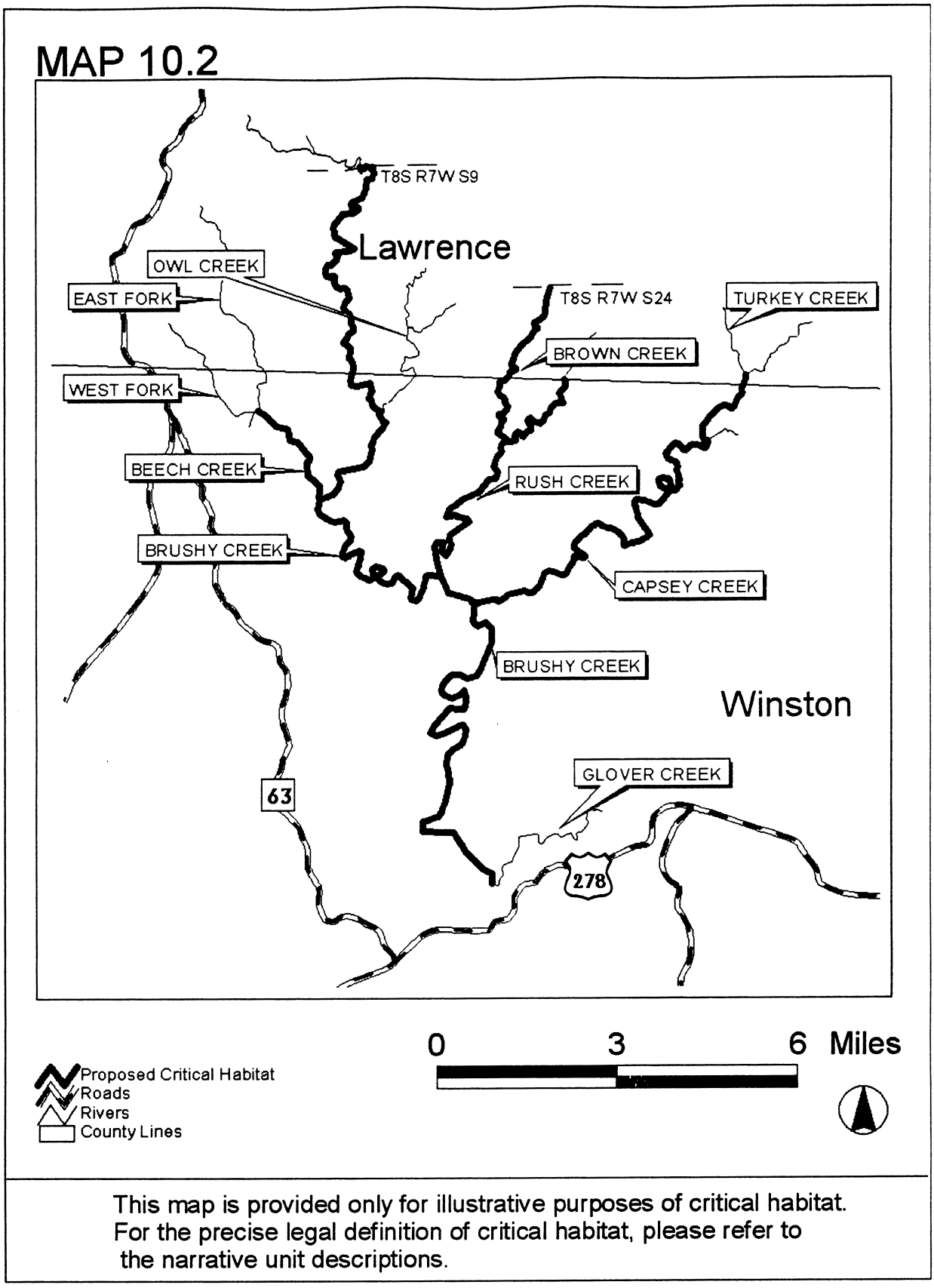
BILLING CODE 4310–55–P



This map is provided only for illustrative purposes of critical habitat. For the precise legal definition of critical habitat, please refer to the narrative unit descriptions.



This map is provided only for illustrative purposes of critical habitat. For the precise legal definition of critical habitat, please refer to the narrative unit descriptions.



BILLING CODE 4310–55–C

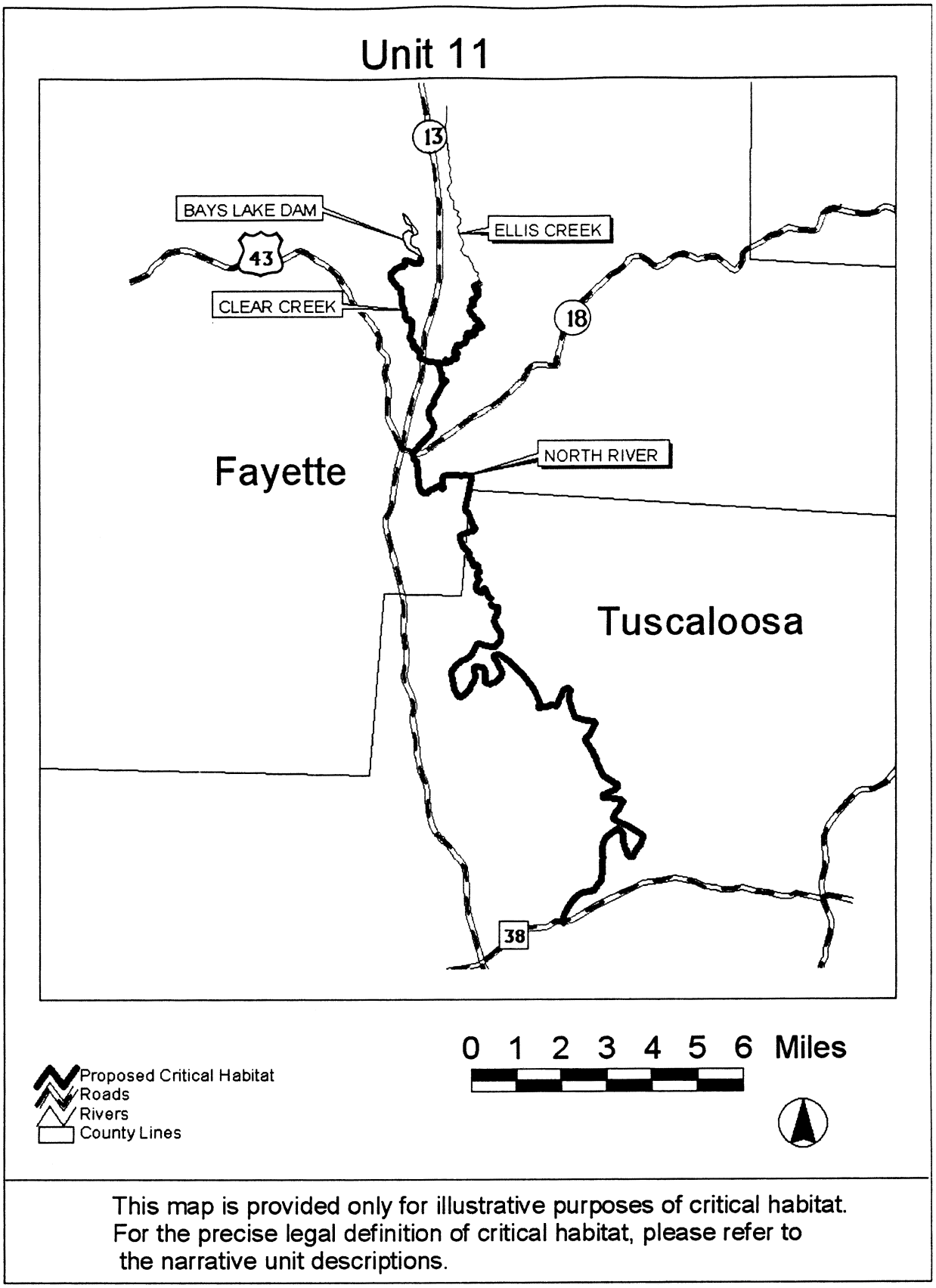
(xiii) Unit 11. North River and Clear Creek, Tuscaloosa, Fayette Counties, Alabama. This is a critical habitat unit for the ovate clubshell, triangular

kidneyshell, Alabama moccasinshell, orangenacre mucket, and dark pigtoe.

(A) Unit 11 includes the main stem of the North River from Tuscaloosa County Road 38 (T18S R10W S16), Tuscaloosa County, upstream to confluence of Ellis Creek (T16S R10W S6), Fayette County, Alabama; and Clear Creek from its confluence with North River (T16S R11W S13) to Bays Lake Dam (T16S R11W S2), Fayette County, Alabama.

(B) Map of Unit 11 follows:

BILLING CODE 4310–55–P



BILLING CODE 4310–55–C

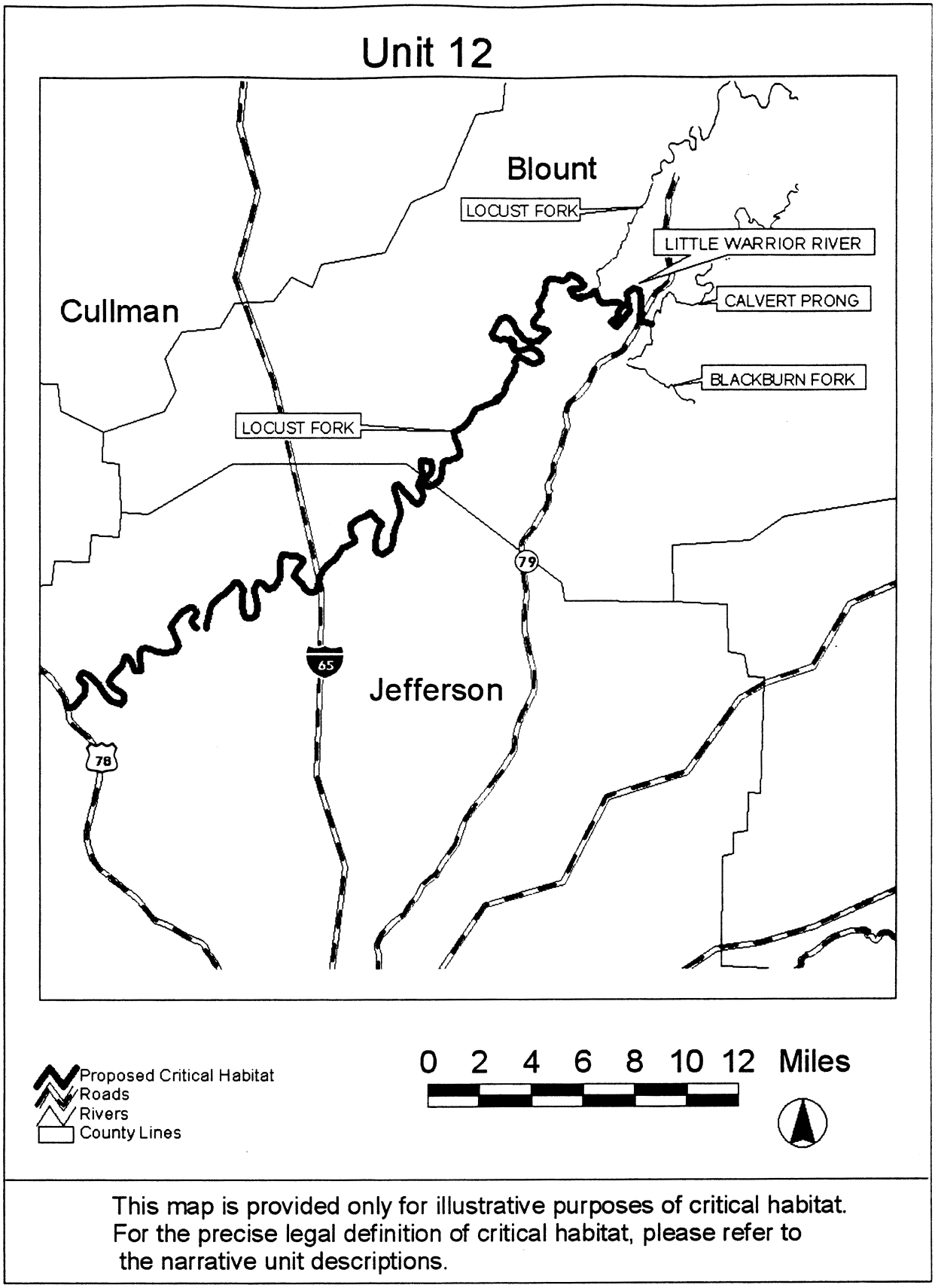
(xiv) Unit 12. Locust Fork and Little Warrior Rivers, Jefferson, Blount Counties, Alabama. This is a critical habitat unit for the ovate clubshell,

upland combshell, triangular kidneyshell, Alabama moccasinshell, orangenacre mucket, and dark pigtoe.

(A) Unit 12 includes the Locust Fork main stem from U.S. Highway 78 (T15S R4W S30), Jefferson County, upstream to the confluence of Little Warrior River (T13S R1W S3), Blount County, Alabama; and Little Warrior River from its confluence with the Locust Fork (T13S R1W S3), upstream to the confluence of Calvert Prong and Blackburn Fork (T13S R1W S12), Blount County, Alabama.

(B) Map of Unit 12 follows:

BILLING CODE 4310–55–P



BILLING CODE 4310–55–C

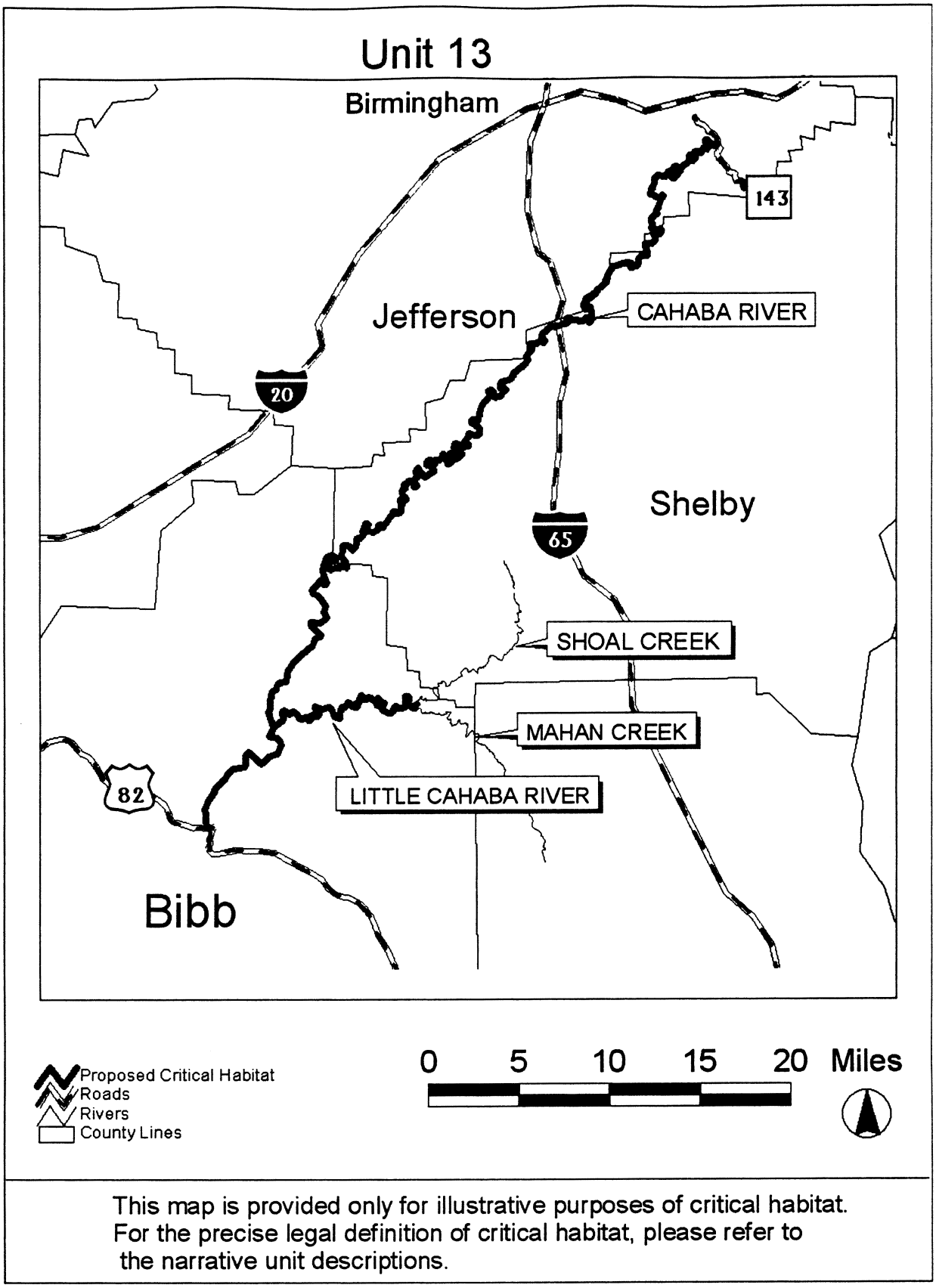
(xv) Unit 13. Cahaba River and Little Cahaba River, Jefferson, Shelby, Bibb Counties, Alabama. This is a critical habitat unit for the southern acornshell,

ovate clubshell, southern clubshell, upland combshell, triangular kidneyshell, Alabama moccasinshell, orangenacre mucket, and fine-lined pocketbook.

(A) Unit 13 includes the Cahaba River from U.S. Highway 82 (T23N R9E S26), Centerville, Bibb County, upstream to Jefferson County Road 143 (T18S R1E S33), Jefferson County, Alabama; and the Little Cahaba River from its confluence with the Cahaba River (T24N R10E S21), upstream to the confluence of Mahan and Shoal Creeks (T24N R11E S14), Bibb County, Alabama.

(B) Map of Unit 13 follows:

BILLING CODE 4310–55–P



BILLING CODE 4310–55–C

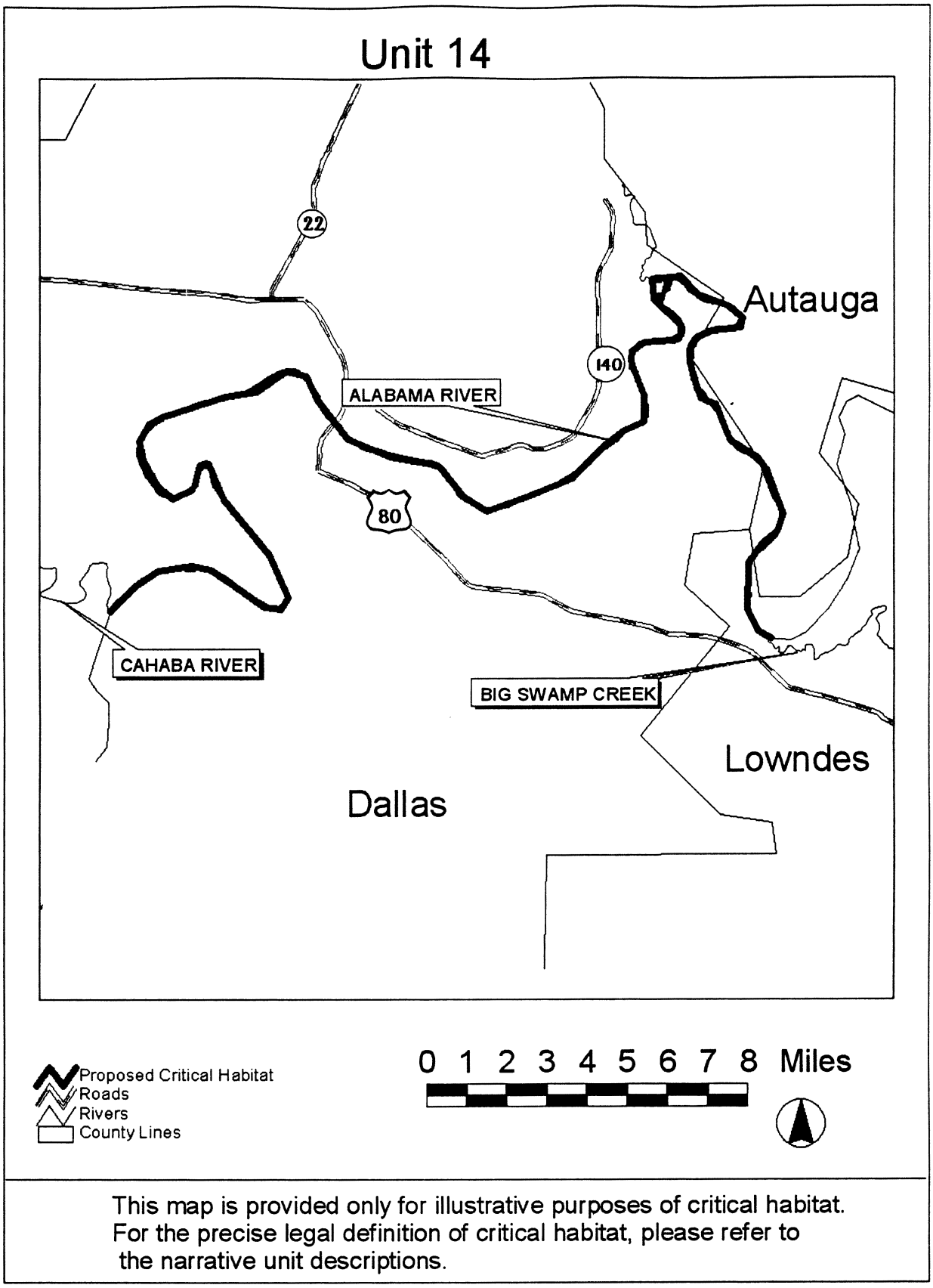
(xvi) Unit 14. Alabama River, Autauga, Lowndes, Dallas Counties, Alabama. This is a critical habitat unit

for the southern clubshell and orangenacre mucket.

(A) Unit 14 includes the Alabama River from the confluence of the Cahaba River (T16N R10E S32), Dallas County, upstream to the confluence of Big Swamp Creek (T15N R12E S1), Lowndes County, Alabama.

(B) Map of Unit 14 follows:

BILLING CODE 4310–55–P



BILLING CODE 4310–55–C

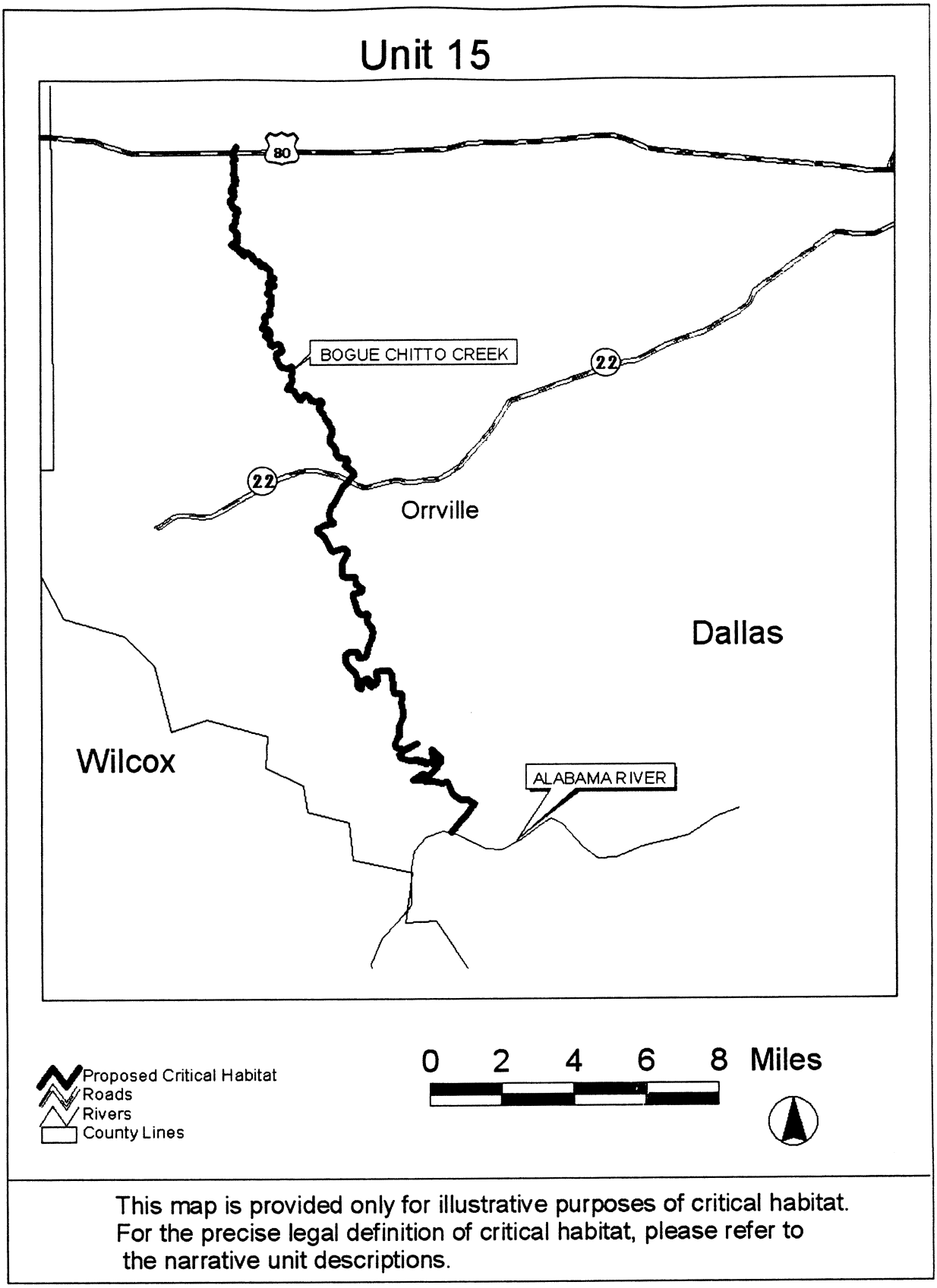
(xvii) Unit 15. Bogue Chitto Creek, Dallas County, Alabama. This is a critical habitat unit for the southern

clubshell, Alabama moccasinshell, and orangenacre mucket.

(A) Unit 15 includes the Bogue Chitto Creek main stem from its confluence with the Alabama River (T14N R8E S24), Dallas County, upstream to U.S. Highway 80 (T17N R7E S24), Dallas County, Alabama.

(B) Map of Unit 15 follows:

BILLING CODE 4310–55–P



BILLING CODE 4310–55–C

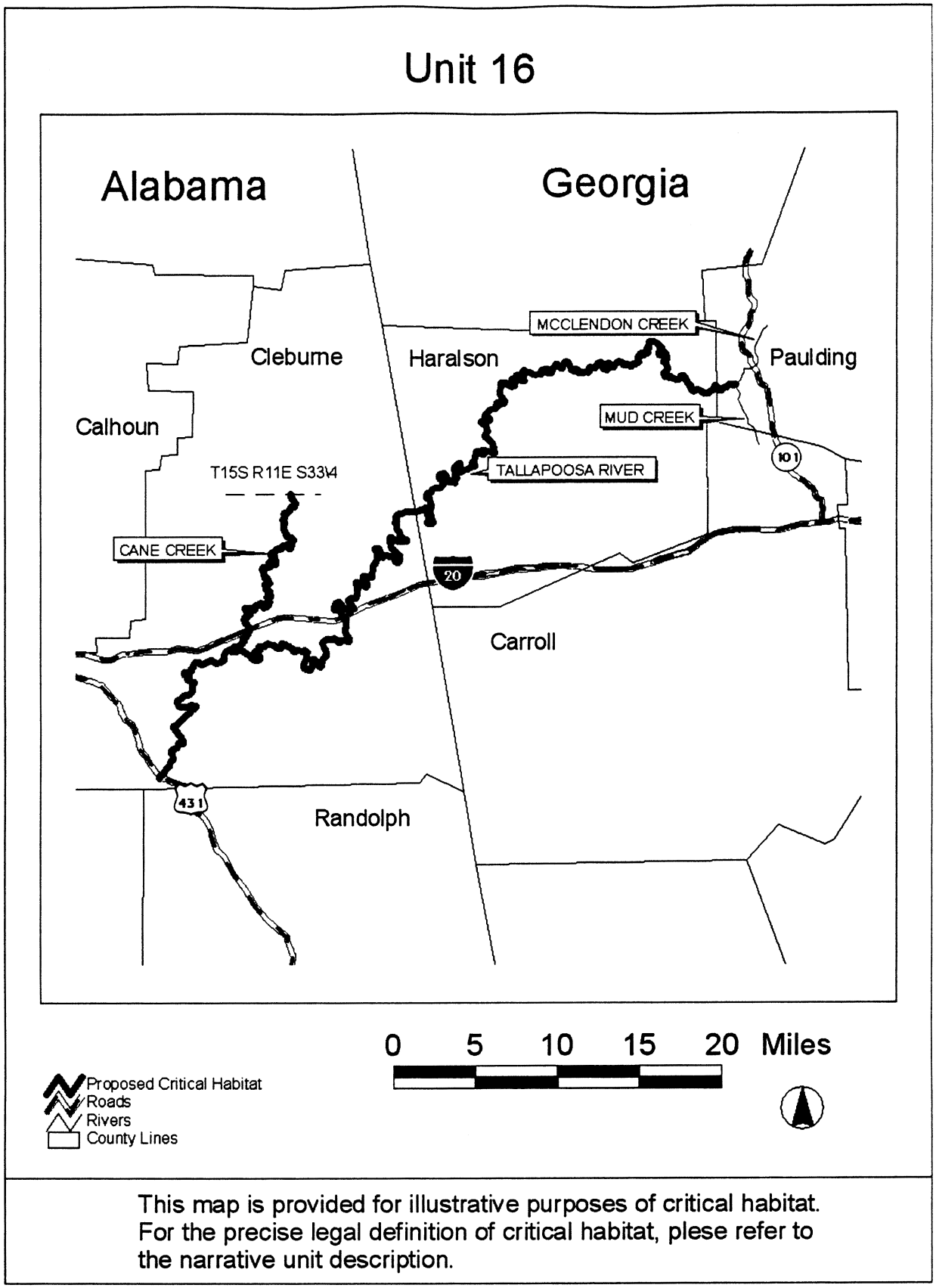
(xviii) Unit 16. Tallapoosa River, Cleburne County, Alabama, and Paulding, Haralson Counties, Georgia; Cane Creek, Cleburne County, Alabama.

This is a critical habitat unit for the fine-lined pocketbook.

(A) Unit 16 includes the main stem Tallapoosa River from U.S. Highway 431 (T17S R10E S31), Cleburne County, Alabama, upstream to the confluence of McClendon and Mud Creeks (33 °50′ 43″N 85 °00′45″ W), Paulding County, Georgia; and Cane Creek from its confluence with Tallapoosa River (T16S R10E S24), upstream to section 33/4 Line (T15S, R11E), Cleburne County, Alabama.

(B) Map of Unit 16 follows:

BILLING CODE 4310–55–P



This map is provided for illustrative purposes of critical habitat. For the precise legal definition of critical habitat, plese refer to the narrative unit description.

BILLING CODE 4310–55–C

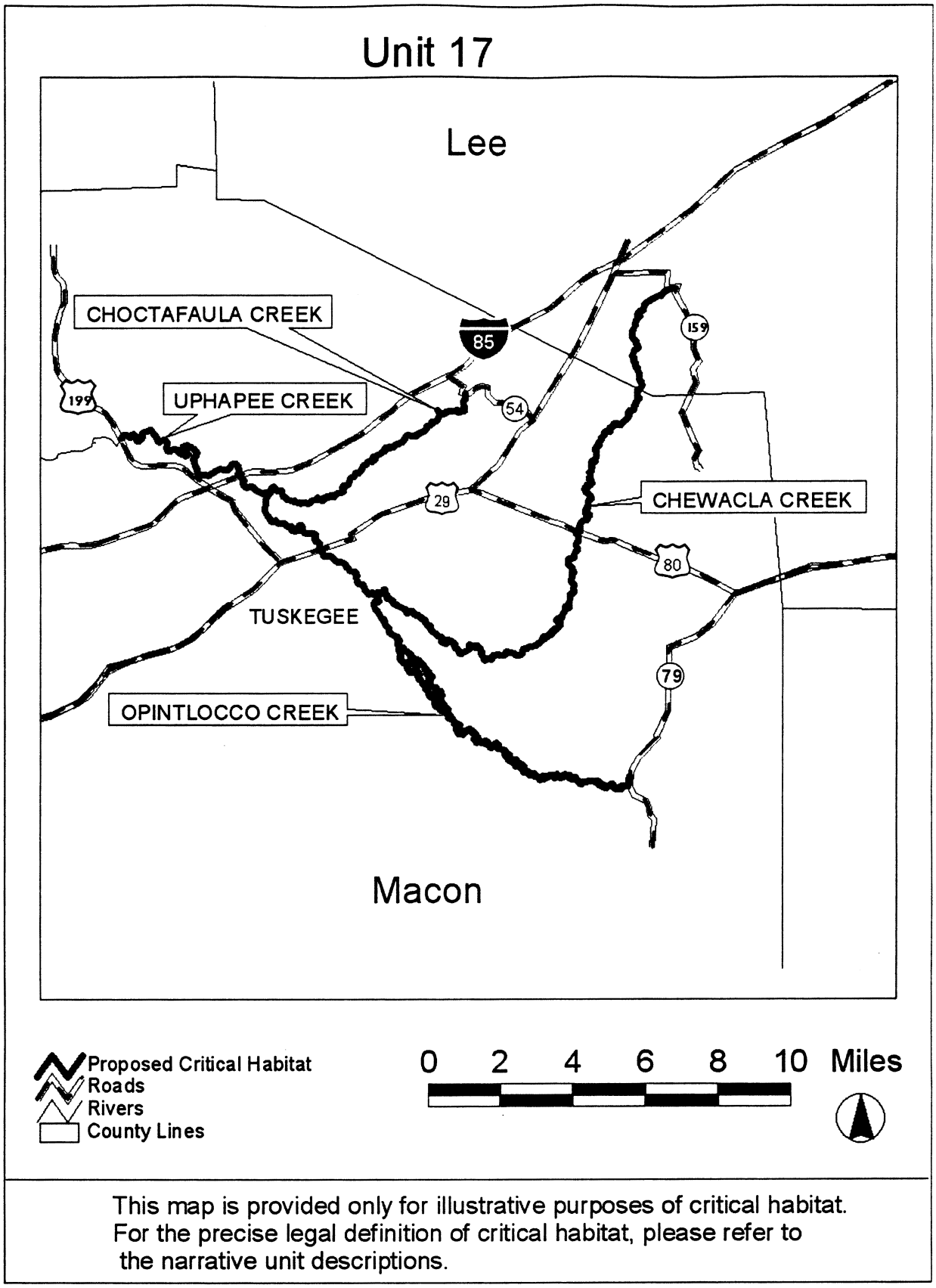
(xix) Unit 17. Uphapee, Choctafaula, and Chewacla Creeks, Macon, Lee Counties, Alabama. This is a critical habitat unit for the ovate clubshell,

southern clubshell, and fine-lined pocketbook.

(A) Unit 17 includes the mainstem of Uphapee Creek from Alabama Highway 199 (T17N R23E S3), upstream to the confluence of Opintlocco and Chewacla Creeks (T17N R24E S26), Macon County, Alabama; Choctafaula Creek, from confluence with Uphapee Creek (T17N R24E S8), upstream to Macon County Road 54 (T18N R 25E S31), Macon County, Alabama; Chewacla Creek, from confluence with Opintlocco Creek (T17N R24E S26), Macon County, Alabama, upstream to Lee County Road 159 (T18N R26E S18), Lee County, Alabama; Opintlocco Creek, from confluence with Chewacla Creek (T17N R24E S26), upstream to Macon County Road 79 (T16N R25E S25) Macon County, Alabama.

(B) Map of Unit 17 follows:

BILLING CODE 4310–55–P



BILLING CODE 4310–55–C

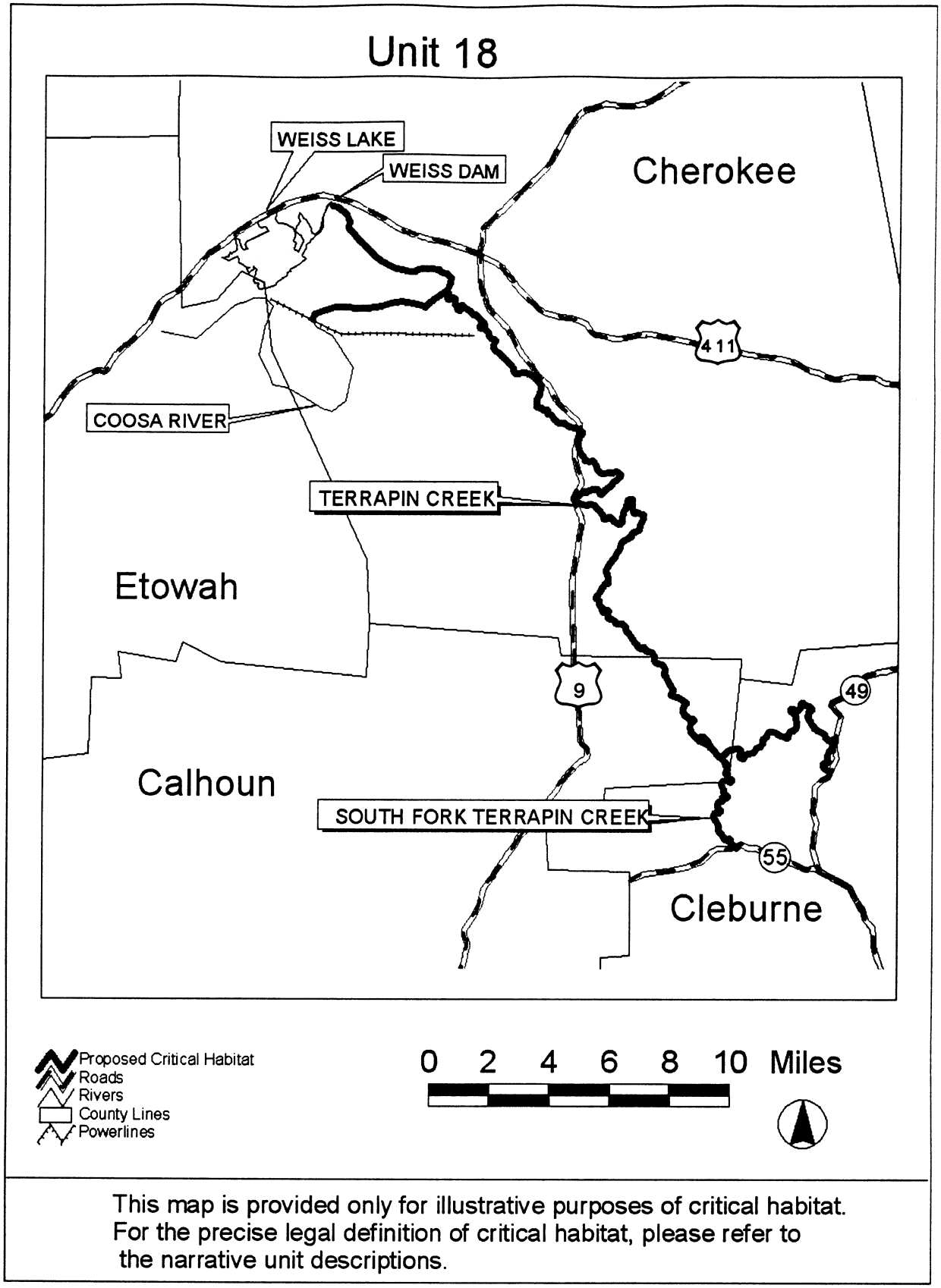
(xx) Unit 18. Coosa River (Old River Channel) and Terrapin Creek, Cherokee, Calhoun, Cleburne Counties, Alabama. This is a critical habitat unit for the

southern acornshell, ovate clubshell, southern clubshell, upland combshell, triangular kidneyshell, Coosa moccasinshell, southern pigtoe, and fine-lined pocketbook.

(A) Unit 18 includes the Coosa River main stem from the power line crossing southeast of Maple Grove, Alabama (T10S R8E S35), upstream to Weiss Dam (T10S R8E S13), Cherokee County, Alabama; Terrapin Creek, 53 km (33 mi) extending from its confluence with the Old Coosa River channel (T10S R9E S28), Cherokee County, upstream to Cleburne County Road 49 (T13S R11E S15), Cleburne County, Alabama; South Fork Terrapin Creek, 7 km (4 mi), from its confluence with Terrapin Creek (T13S R11E S18), upstream to Cleburne County Road 55 (T13S R11E S30), Cleburne County, Alabama.

(B) Map of Unit 18 follows:

BILLING CODE 4310–55–P



BILLING CODE 4310–55–C

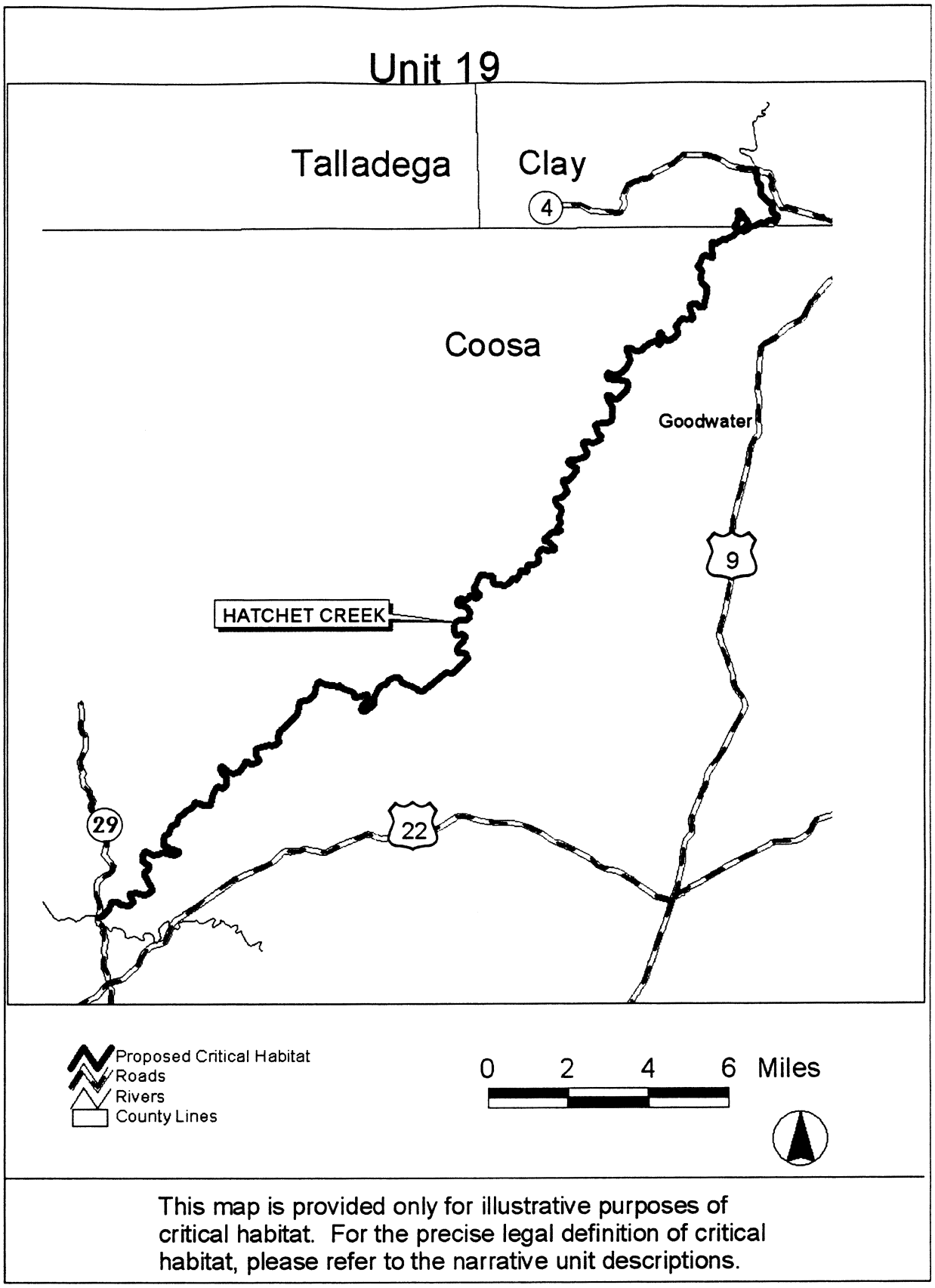
(xxi) Unit 19. Hatchet Creek, Coosa, Clay Counties, Alabama. This is a critical habitat unit for the southern acornshell, ovate clubshell, southern

clubshell, upland combshell, triangular kidneyshell, Coosa moccasinshell, southern pigtoe, and fine-lined pocketbook.

(A) Unit 19 includes the main stem of Hatchet Creek from the confluence of Swamp Creek at Coosa County Road 29 (T22N R17E S26), Coosa County, Alabama, upstream to Clay County Road 4 (T22S R6E S17) Clay County, Alabama.

(B) Map of Unit 19 follows:

BILLING CODE 4310–55–P



BILLING CODE 4310–55–C

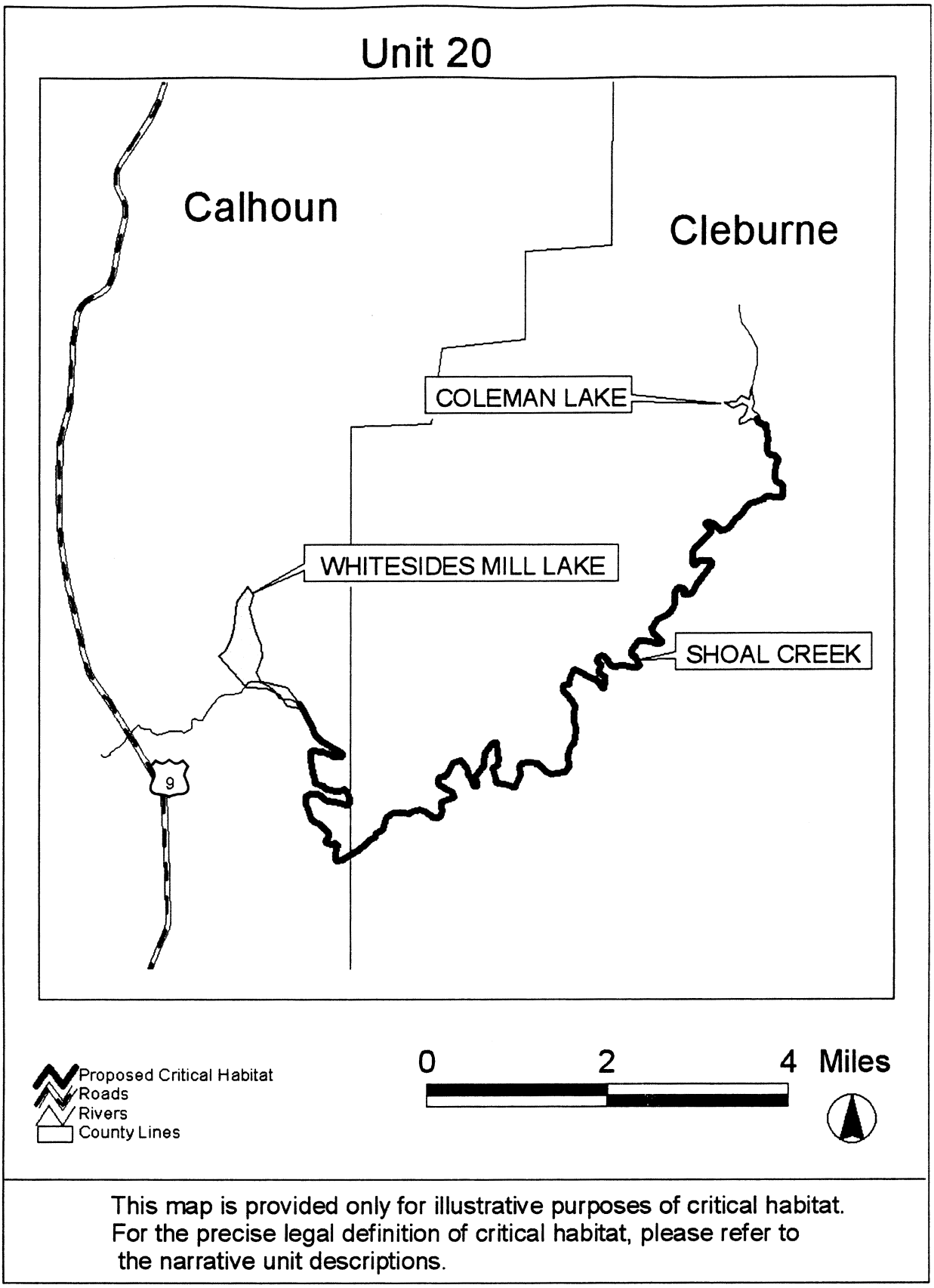
(xxii) Unit 20. Shoal Creek, Calhoun, Cleburne Counties, Alabama. This is a critical habitat unit for the triangular kidneyshell, Coosa moccasinshell,

southern pigtoe, and fine-lined pocketbook.

(A) Unit 20 includes the main stem of Shoal Creek from the headwater of Whitesides Mill Lake (T15S R9E S12), Calhoun County, Alabama, upstream to the tailwater of Coleman Lake Dam (T14S R10E S26), Cleburne County, Alabama.

(B) Map of Unit 20 follows:

BILLING CODE 4310–55–P



BILLING CODE 4310XC

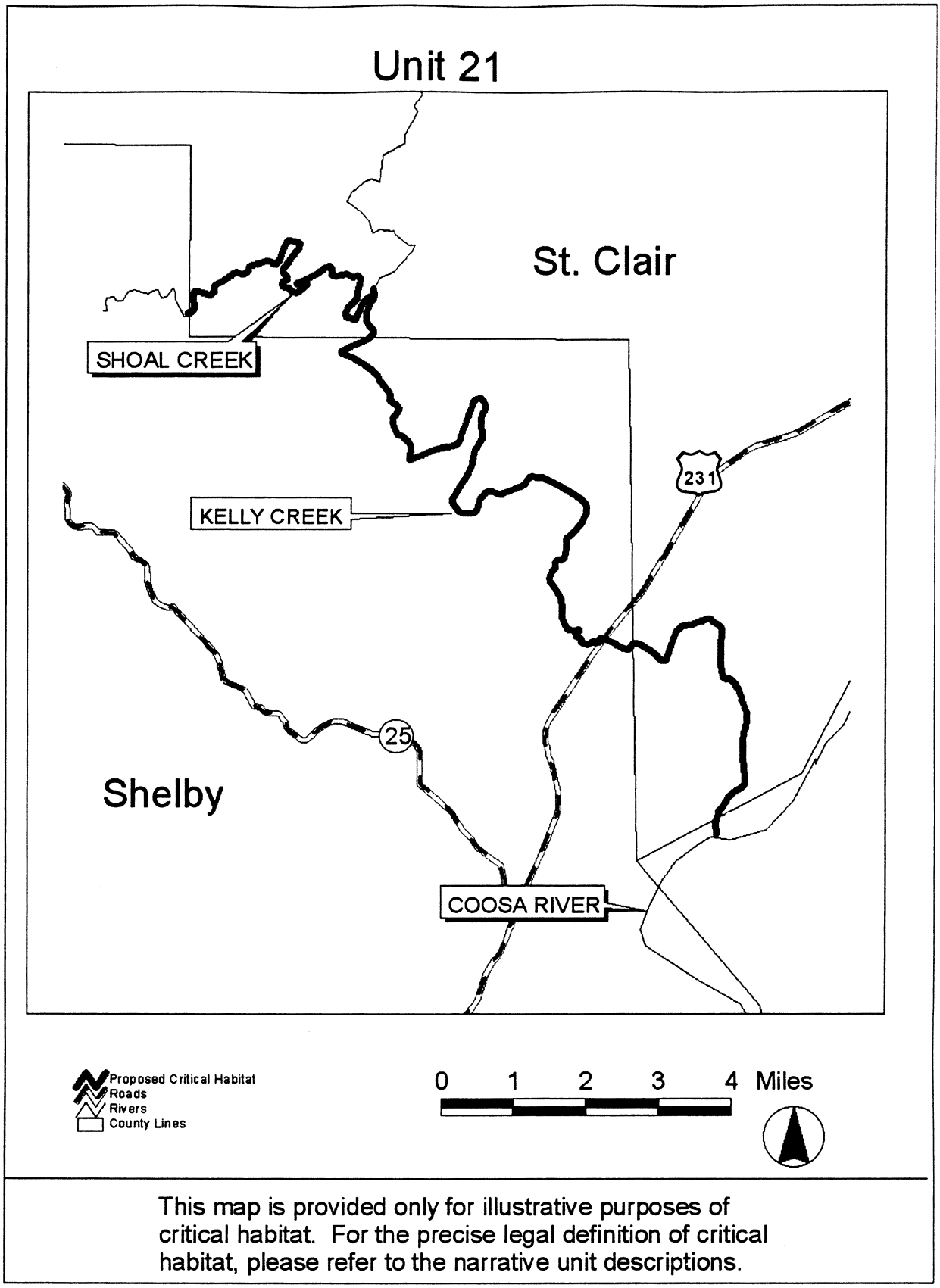
(xxiii) Unit 21. Kelly Creek and Shoal Creek, Shelby, St. Clair Counties, Alabama. This is a critical habitat unit for the southern acornshell, ovate

clubshell, southern clubshell, upland combshell, triangular kidneyshell, Coosa moccasinshell, southern pigtoe, and fine-lined pocketbook.

(A) Unit 21 includes the Kelly Creek main stem extending from the confluence with the Coosa River (T19S R3E S5), upstream to the confluence of Shoal Creek (T17S R2E S28), St. Clair County, Alabama; and the main stem of Shoal Creek from the confluence with Kelly Creek (T17S R2E S28), St. Clair County, Alabama, upstream to the St. Clair/Shelby County Line (T17S R2E S30), St. Clair County, Alabama.

(B) Map of Unit 21 follows:

BILLING CODE 4310–55–P



BILLING CODE 4310–55–C

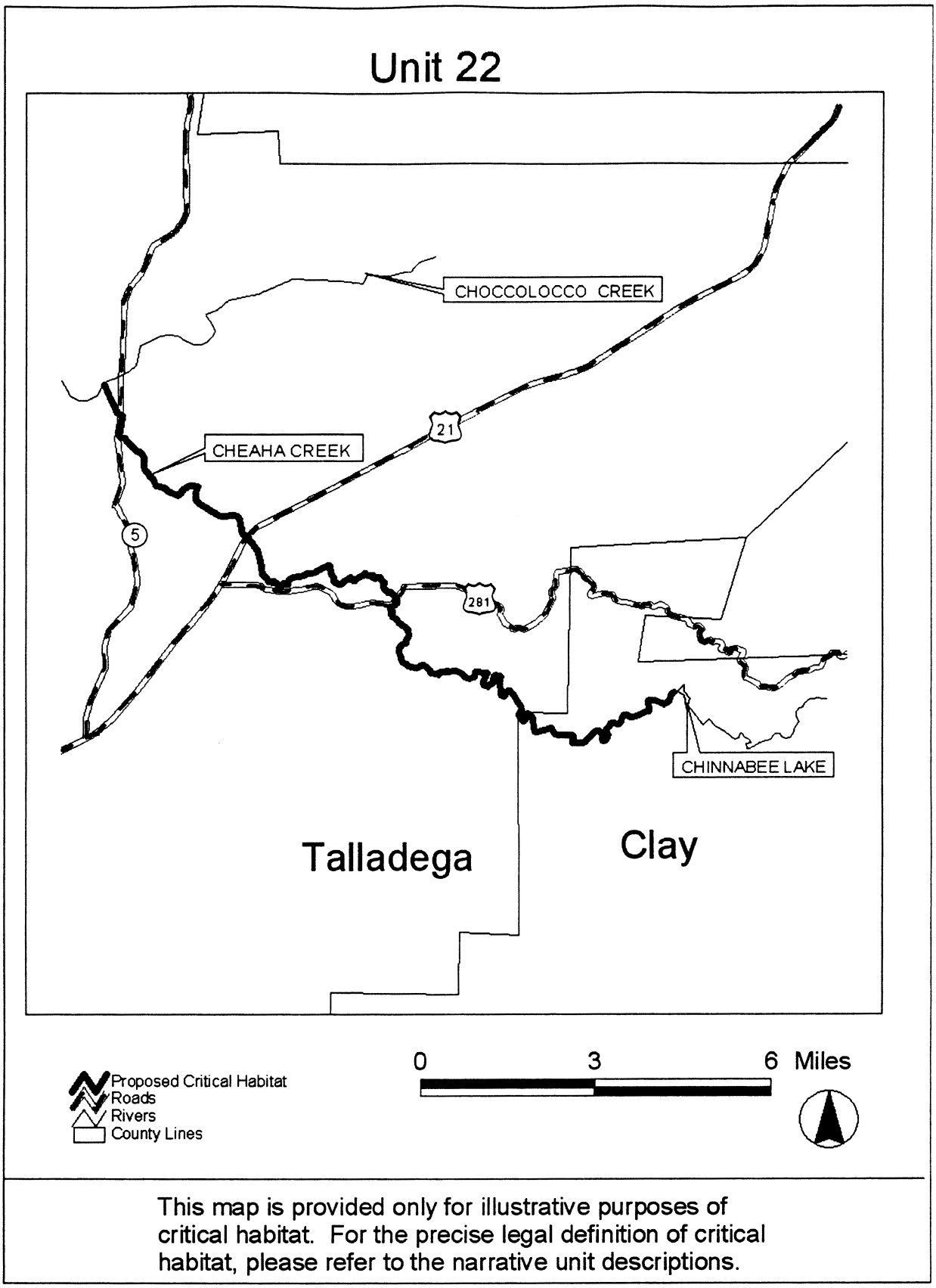
(xxiv) Unit 22. Cheaha Creek, Talladega, Clay Counties, Alabama. This is a critical habitat unit for the triangular kidneyshell, Coosa

moccasinshell, southern pigtoe, and fine-lined pocketbook.

(A) Unit 22 includes the main stem of Cheaha Creek from its confluence with Choccolocco Creek (T17S R6E S19), Talladega County, Alabama, upstream to the tailwater of Chinnabee Lake Dam (T18S R7E S14), Clay County, Alabama.

(B) Map of Unit 22 follows:

BILLING CODE 4310–55–P



BILLING CODE 4310–55–C

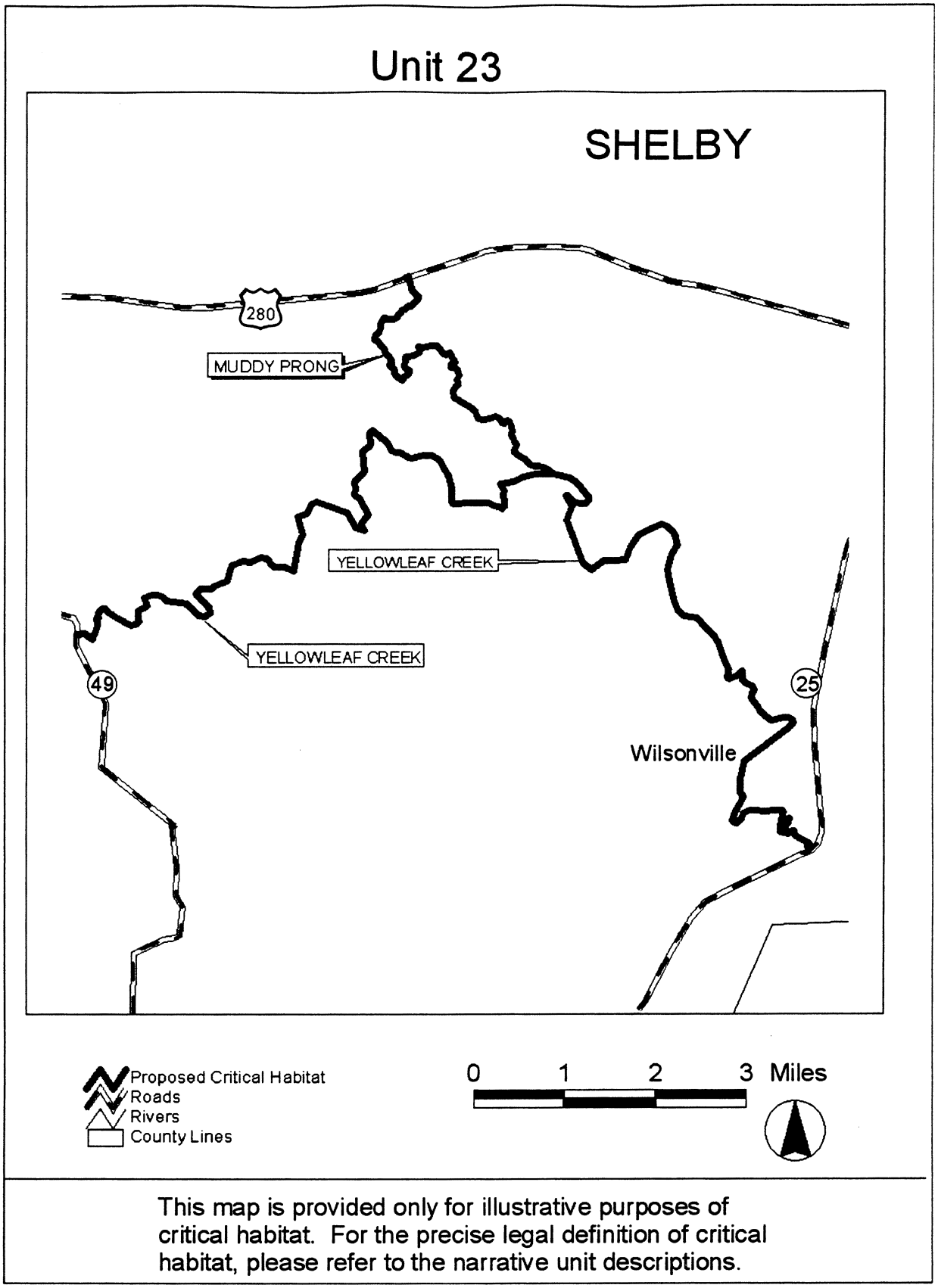
(xxv) Unit 23. Yellowleaf Creek and Mud Creek, Shelby County, Alabama. This is a critical habitat unit for the triangular kidneyshell, Coosa

moccasinshell, southern pigtoe, and fine-lined pocketbook.

(A) Unit 23 includes the Yellowleaf Creek main stem from Alabama Highway 25 (T20S R2E S29), upstream to Shelby County Road 49 (T20S R1W S13); and the Muddy Prong main stem extending from its confluence with Yellowleaf Creek (T20S R1E S1), upstream to U.S. Highway 280 (T19S R1E S28), Shelby County, Alabama.

(B) Map of Unit 23 follows:

BILLING CODE 4310–55–P



BILLING CODE 4310–55–C

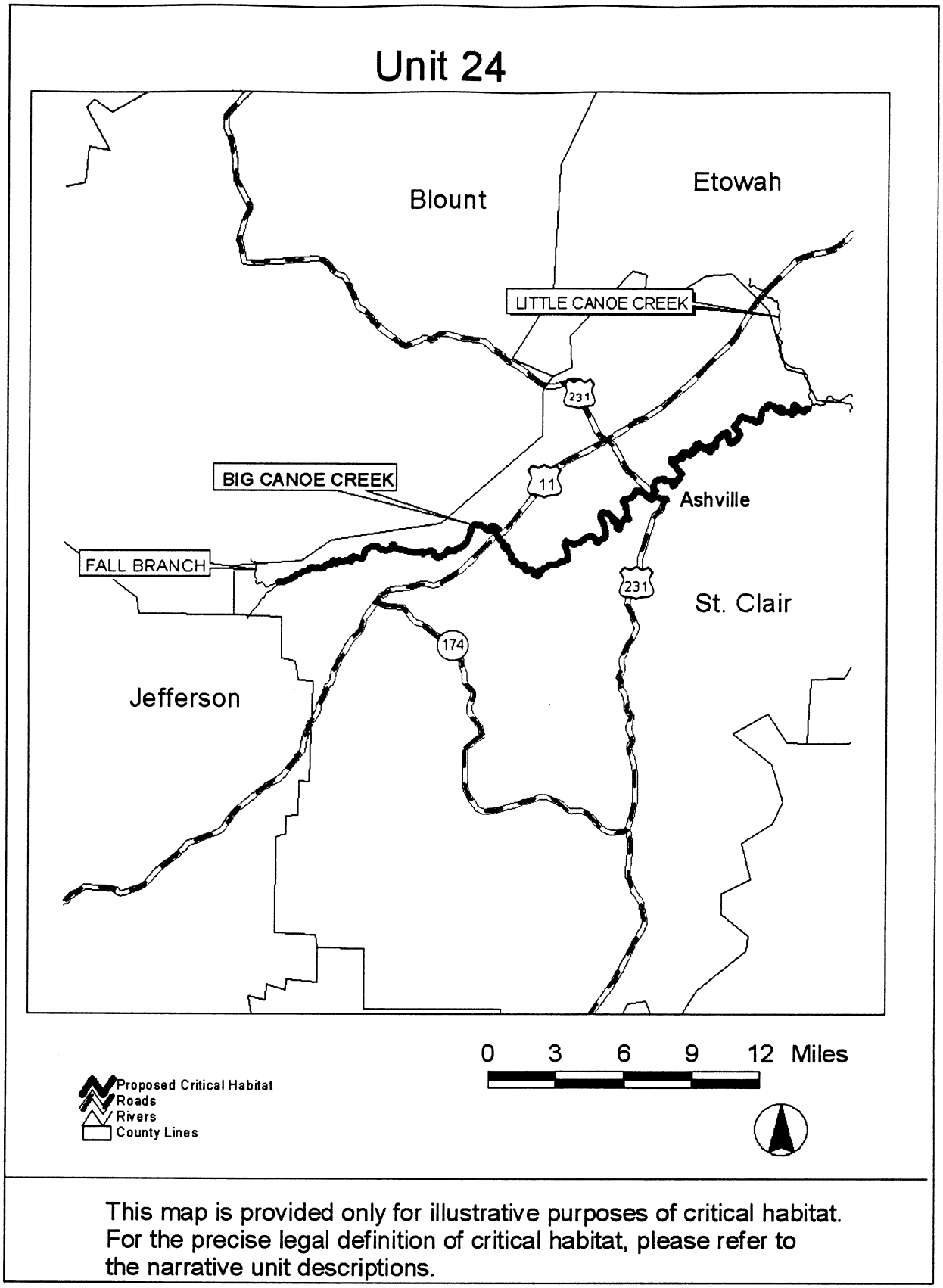
(xxvi) Unit 24. Big Canoe Creek, St. Clair County, Alabama. This is a critical habitat unit for the southern acornshell, ovate clubshell, southern clubshell,

upland combshell, triangular kidneyshell, Coosa moccasinshell, southern pigtoe, and fine-lined pocketbook.

(A) Unit 24 includes the main stem of Big Canoe Creek from its confluence with Little Canoe Creek at the St. Clair/Etowah County line (T13S R5E S17), St. Clair County, upstream to the confluence of Fall Branch (T14S R1E S28) St. Clair County, Alabama.

(B) Map of Unit 24 follows:

BILLING CODE 4310–55–P



BILLING CODE 4310–55–C

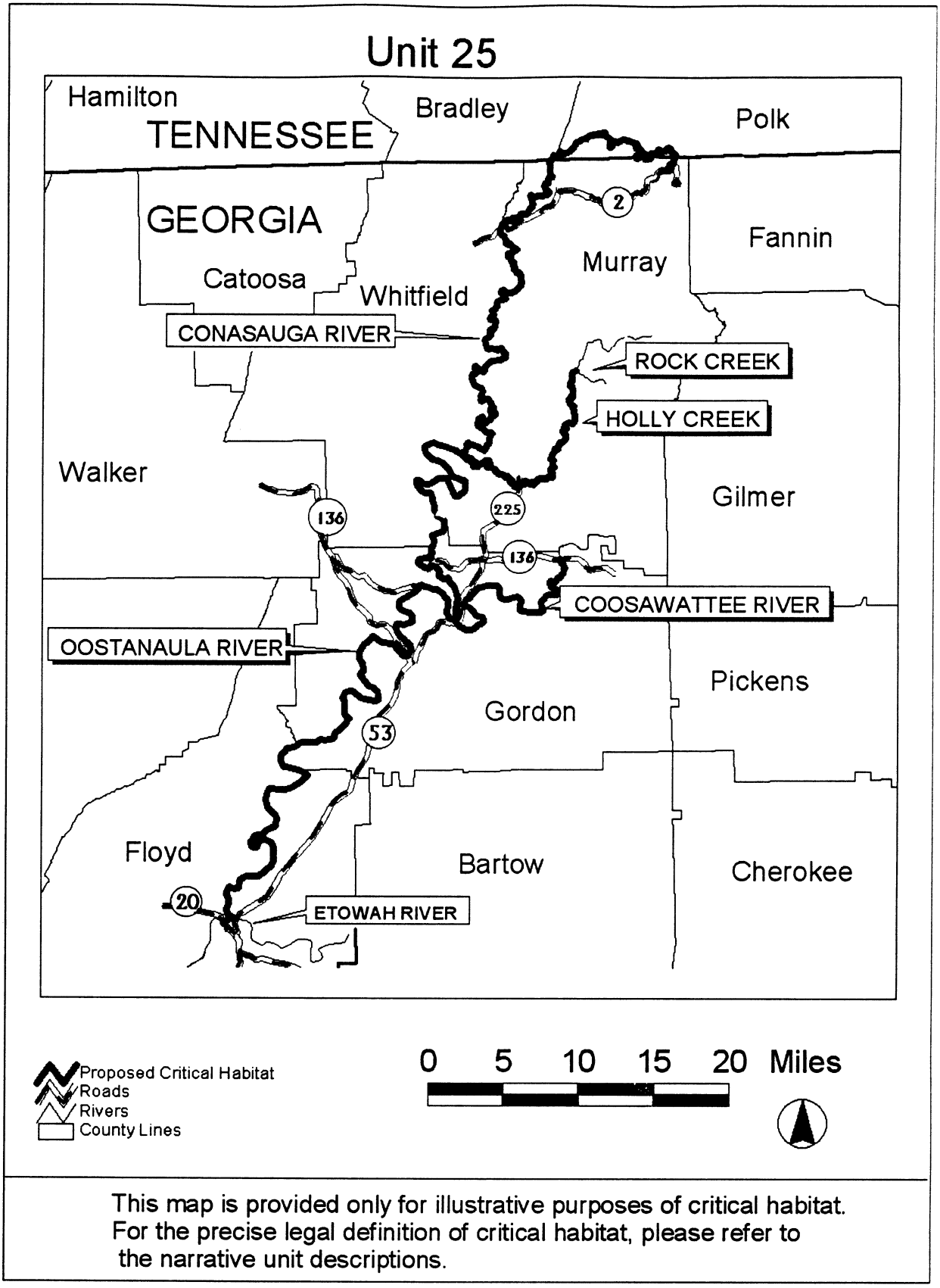
(xxvii) Unit 25. Oostanaula, Coosawattee, and Conasauga Rivers, and Holly Creek, Floyd, Gordon, Whitfield, Murray Counties, Georgia; Bradley, Polk

Counties, Tennessee. This is a critical habitat unit for the southern acornshell, ovate clubshell, southern clubshell, upland combshell, triangular kidneyshell, Alabama moccasinshell, Coosa moccasinshell, southern pigtoe, and fine-lined pocketbook.

(A) Unit 25 includes the Oostanaula River main stem from its confluence with the Etowah River, Floyd County, Georgia (34°15′13″N, 85°10′35″W), upstream to the confluence of the Conasauga and Coosawattee River, Gordon County, Georgia (34°32′32″N, 84°54′12″W); the Coosawattee River main stem from its confluence with the Conasauga River (34°32′32″N, 84°54′12″W), upstream to Georgia State Highway 136, Gordon County, Georgia (34°36′49″N, 84°46′43″W); the Conasauga River main stem from confluence with the Coosawattee River (34°32′32″N, 84°54′13″W), Gordon County, Georgia, upstream through Bradley and Polk Counties, Tennessee, to Murray County Road 2 (34°58′27″N, 84°38′43″W), Murray County, Georgia; and the main stem of Holly Creek from its confluence with the Conasauga River (34°42′12″N, 84°53′29″W), upstream to its confluence with Rock Creek, Murray County, Georgia (34°46′59″N, 84°45′25″W).

(B) Map of Unit 25 follows:

BILLING CODE 4310–55–P



BILLING CODE 4310–55–C

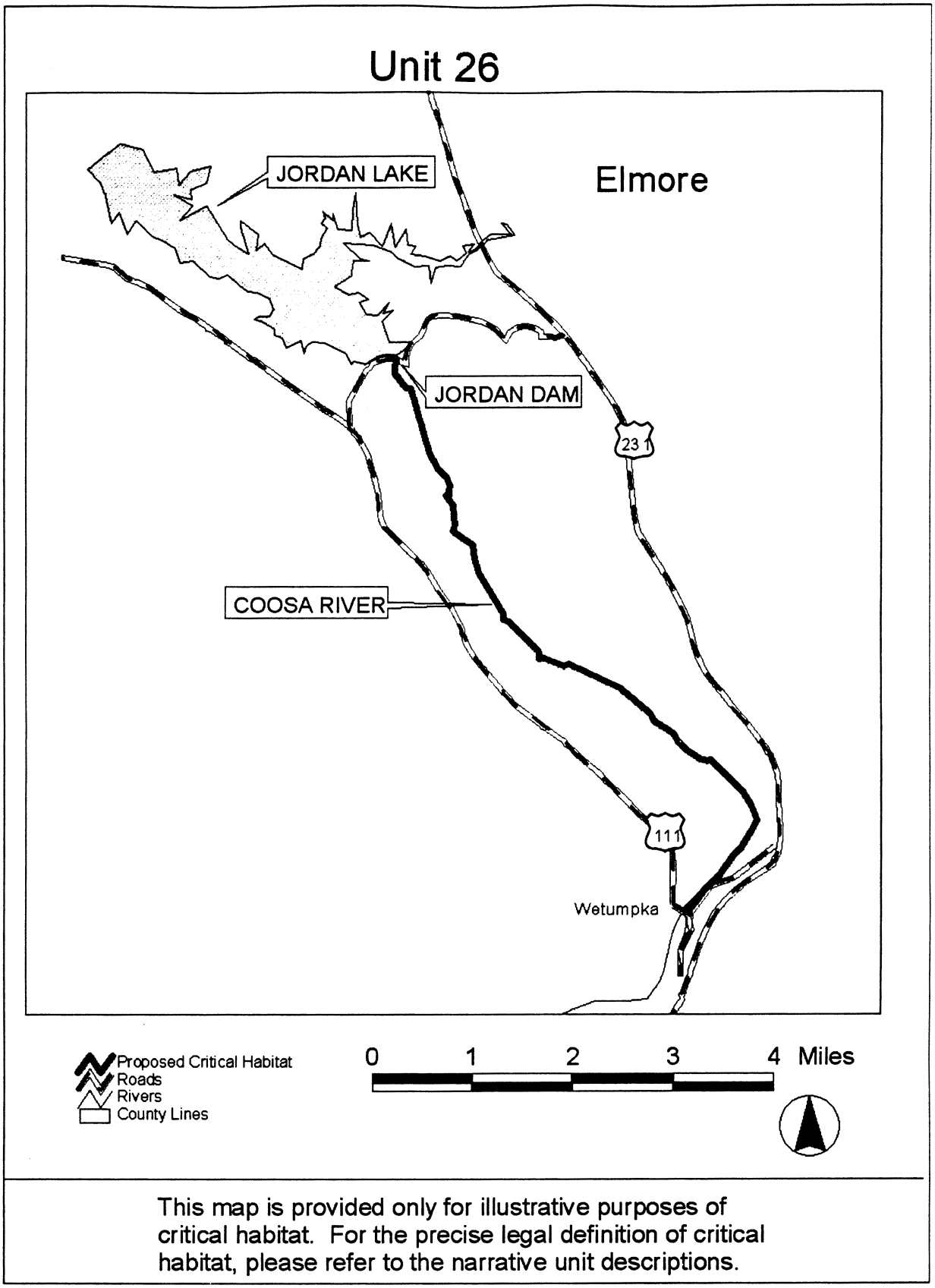
(xxviii) Unit 26. Lower Coosa River, Elmore County, Alabama. This is a critical habitat unit for the southern acornshell, ovate clubshell, southern

clubshell, upland combshell, triangular kidneyshell, Alabama moccasinshell, Coosa moccasinshell, southern pigtoe, and fine-lined pocketbook.

(A) Unit 26 includes the Coosa River main stem from Alabama State Highway 111 bridge (T18N R18/19E S24/19), upstream to Jordan Dam (T19N R18E S22), Elmore County, Alabama.

(B) Map of Unit 26 follows:

BILLING CODE 4310–55–P



This map is provided only for illustrative purposes of critical habitat. For the precise legal definition of critical habitat, please refer to the narrative unit descriptions.

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Dated: March 17, 2003.

Craig Manson,

Assistant Secretary for Fish and Wildlife and Parks.

[FR Doc. 03–6903 Filed 3–25–03; 8:45 am]

BILLING CODE 4310–55–C