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Endangered and Threatened Wildlife and Plants; Proposed Designation of Critical Habitat for Five Endangered Mussels in the Tennessee and Cumberland River Basins; Proposed Rule

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

RIN 1018–AI76

Endangered and Threatened Wildlife and Plants; Proposed Designation of Critical Habitat for Five Endangered Mussels in the Tennessee and Cumberland River Basins

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 five mussels in the Tennessee and Cumberland River Basins: the Cumberland elktoe (*Alasmidonta* atropurpurea), oyster mussel (Epioblasma capsaeformis), Cumberlandian combshell (Epioblasmo brevidens), purple bean (*Villosa* perpurpurea), and rough rabbitsfoot (Quadrula *cylindrica strigillata*), all of which are species listed as endangered under the Endangered Species Act of 1973, as amended (Act or ESA). We propose to designate 13 geographic areas (units) that include rivers and streams in the Tennessee and/or Cumberland River Basins as critical habitat for these five mussel species. These 13 units encompass approximately 892 river kilometers (rkm) (544 river miles (rmi)). Proposed critical habitat includes portions of Bear Creek (Mississippi, Alabama), the Duck River (Tennessee), Obed River (Tennessee), Powell River (Tennessee, Virginia), Clinch River and its tributaries (Copper Creek and Indian Creek) (Tennessee, Virginia), Nolichucky River (Tennessee), and Beech Creek (Tennessee) in the Tennessee River System and portions of Rock Creek (Kentucky), the Big South Fork and its tributaries (Bone Camp Creek, White Oak Creek, North White Oak Creek, New River, Crooked Creek, Clear Fork, and North Prong Clear Fork) (Kentucky, Tennessee), Buck Creek (Kentucky), Marsh Creek (Kentucky), Sinking Creek (Kentucky), and Laurel Fork (Kentucky) in the Cumberland River System.

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 will conduct an analysis of the economic impacts of designating these areas, 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.*** 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.

DATES: We will consider comments received by September 2, 2003. We must receive requests for public hearings, in writing, at the address shown in the **ADDRESSES** section by July 18, 2003.

ADDRESSES: If you wish to submit comments and information:

1. You may submit written comments and information to the Field supervisor, U.S. Fish and Wildlife Service, 446 Neal Street, Cookeville, TN 38501.

2. You may hand-deliver written comments and information to our Tennessee Field Office, at the above address, or fax your comments to (931) 528–7075.

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

All comments and materials received, as well as supporting documentation used in 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: Rob Tawes, at the above address (telephone (931) 528–6481, extension 213; facsimile (931) 528–7075).

SUPPLEMENTARY INFORMATION:

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 resulting from designation.

(2) Specific information on the amount and distribution of habitat for these five mussel and what habitat is essential to the conservation and why.

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

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

(5) Any foreseeable economic or other impacts resulting from the proposed designation, in particular, any impacts on small entities.

(6) Economic and other values associated with designating critical habitat for the mussels, such as those derived from nonconsumptive uses (*e.g.*, hiking, camping, enhanced watershed protection, 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–AI76" and your name and return address in your e-mail message. 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, 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 for us to withhold your name and/or address, you must state this request 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.

Disclaimer

Designation of critical habitat provides little additional protection to species. In 30 years of implementing the Act, the Service has found that the designation of statutory critical habitat provides little additional protection to most listed species, while consuming

significant amounts of scarce conservation resources. The present system for designating critical habitat has evolved since its original statutory prescription into a process that provides little real conservation benefit, is driven by litigation rather than biology, forces decisions to be made before complete scientific information is available, consumes enormous agency resources that would otherwise be applied to actions of much greater conservation benefit, and imposes huge social and economic costs. The Service believes that rational public policy demands serious attention to this issue in order to allow our limited resources to be applied to those actions that provide the greatest benefit to the species most in need of protection.

Role of Critical Habitat in Actual Practice of Administering and Implementing the Act

While attention to and protection of habitat is paramount to successful conservation actions, we have consistently found that, in most circumstances, the designation of critical habitat is of little additional value for most listed species, yet it consumes large amounts of conservation resources. [Sidle (1987. Env. Manage.11(4):429–437) stated, "Because the ESA can protect species with and without critical habitat designation, critical habitat designation may be redundant to the other consultation requirements of section 7."] Currently, only 306 species or 25 percent of the 1,211 listed species in the U.S. under the jurisdiction of the Service have designated critical habitat. We address the habitat needs of all 1,211 listed species through conservation mechanisms such as listing, section 7 consultations, the section 4 recovery planning process, the section 9 protective prohibitions of unauthorized take, section 6 funding to the States, and the section 10 incidental take permit process. The Service believes that it is these measures that may make the difference between extinction and survival for many species.

Procedural and Resource Difficulties in Designating Critical Habitat

With a budget consistently inadequate to fund all of the petition review, listing, and critical habitat designation duties required of us by statute, we have in the past prioritized our efforts and focused our limited resources on adding species in need of protection to the lists of threatened or endangered species. We have been inundated with lawsuits for our failure to designate critical habitat, and we face a growing number of lawsuits challenging critical habitat determinations once they are made. These lawsuits have subjected the Service to an ever-increasing series of court orders and court-approved settlement agreements, compliance with which now consumes nearly the entire listing program budget. This leaves the Service with little ability to prioritize its activities to direct scarce listing resources to the listing program actions with the most biologically urgent species conservation needs.

The consequence of the critical habitat litigation activity is that limited listing funds are used to defend active lawsuits, to respond to Notices of Intent (NOIs) to sue relative to critical habitat, and to comply with the growing number of adverse court orders. As a result, listing petition responses, the Service's own proposals to list critically imperiled species, and final listing determinations on existing proposals are significantly delayed. Litigation over critical habitat issues for species already listed and receiving the Act's full protection has precluded or delayed many listing actions nationwide.

The accelerated schedules of court ordered designations have left the Service with almost no ability to provide for adequate public participation or ensure a defect-free rulemaking process before making decisions on listing and critical habitat proposals due to the risks associated with noncompliance with judicially-imposed deadlines. This in turn fosters a second round of litigation in which those who fear adverse impacts from critical habitat designations challenge those designations. The cycle of litigation appears endless, is very expensive, and in the final analysis provides relatively little additional protection to listed species.

The costs resulting from the designation include legal costs, the cost of preparation and publication of the designation, the analysis of the economic effects and the cost of requesting and responding to public comment, and in some cases the costs of compliance with National Environmental Policy Act (NEPA), all are part of the cost of critical habitat designation. None of these costs result in any benefit to the species that is not already afforded by the protections of the Act enumerated earlier, and they directly reduce the funds available for direct and tangible conservation actions.

Background

We previously provided information on these species in our Final rule (January 10, 1997; 62 FR 1647). The following presents new information.

The Cumberland elktoe, Cumberlandian combshell, oyster mussel, purple bean, and rough rabbitsfoot are all bivalve mussels (possessing a soft body enclosed by two shells) in the family Unionidae. Unionid mussels, in general, live embedded in the bottom (mud, sand, gravel, cobble/boulder 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. Mussels are known to consume detritus (organic decomposed debris), diatoms, phytoplankton, zooplankton, and other microorganisms (*i.e.* bacteria and algae) (Coker et al. 1921; Churchill and Lewis 1924; Fuller 1974).

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 a parasitic stage on the fins, gills, or skin of a fish. Late stage mussel glochidia are released into the water column and they must find and attach to a suitable host fish in order to develop into a juvenile mussel. Glochidia may be released separately or in masses termed conglutinates. 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. Consequently, unionid mussels are specialized to only parasitize one or a few suitable host fish that occupy similar habitats as the mussels.

These 5 mussels are historically native to portions of the "Cumberlandian" Region of the Tennessee and Cumberland River Systems. The Cumberlandian Region, considered to be the center of freshwater mussel diversity in North America, historically contained over 100 species, 45 of which were found nowhere else (Starnes and Bogan 1988; Parmalee and Bogan 1998; Cicerello and Laudermilk 2001). The Cumberlandian Region encompasses the Cumberland River and its tributaries downstream to the vicinity of Clarksville, Montgomery County, Tennessee; the Tennessee River and its tributaries downstream to the vicinity of Muscle Shoals, Colbert and Lauderdale Counties, Alabama; the Duck River (Tennessee River system)

downstream to just below Columbia, Maury County, Tennessee (Ortmann 1924); and the Buffalo River (a lower Duck River tributary) (van der Schalie 1973). Biological factors relevant to these freshwater mussels' habitat needs are discussed in the "Methods and Analysis used to Identify Proposed Critical Habitat" section of this proposed rule. We present information below on taxonomy, life history, and distribution specific to these 5 Cumberlandian mussels. Additional information can be found in our final listing determination for these mussels (62 FR 1647) and agency draft recovery plan (April 22, 2003, 68 FR 19844) (Service 2003).

Taxonomy, Life History, and Distribution

Cumberland Elktoe (Alasmidonta atropurpurea (Rafinesque *1831))*

Adult Cumblerand elktoe may reach lengths of up to 10.0 centimeters (cm) (3.9 inches (in)) (Parmalee and Bogan 1998). Gravid females (females with larvae) have been observed between October and May, but fish infected with glochidia of the Cumberland elktoe have not been encountered until March (Gordon and Layzer 1993). While glochidial infestation from this species has been recorded on 5 native fish species, glochidia successfully transformed or developed only on the northern hogsucker (Hypentelium *nigricans*) under laboratory conditions (Gordon and Layzer 1993). This species appears to prefer habitats in medium-sized streams that contain sand and mud substrata interspersed with cobbles and large boulders (Call and Parmalee 1981; Parmalee and Bogan 1998).

The Cumberland elktoe is endemic to the upper Cumberland River system in southeast Kentucky and north-central Tennessee. It appears to have historically occurred only in the main stem of the Cumberland River and primarily its southern tributaries upstream from the hypothesized original location of Cumberland Falls near Burnside, Pulaski County, Kentucky (Cicerello and Laudermilk 2001). This species has apparently been extirpated from the main stem of the Cumberland River as well as Laurel River and its tributary, Lynn Camp Creek (Service 2003). Based on recent records, the Cumberland elktoe continues to persist in 12 Cumberland River tributaries: Laurel Fork, Claiborne County, Tennessee and Whitley County, Kentucky; Marsh Creek, McCreary County, Kentucky; Sinking Creek, Laurel County, Kentucky; Big South Fork, Scott County, Tennessee, and McCreary County, Kentucky; Rock Creek, McCreary County, Kentucky; North Fork White Oak Creek, Morgan and Fentress County, Tennessee; Clear Fork, Fentress, Morgan, and Scott Counties, Tennessee; North Prong Clear Fork and Crooked Creek, Fentress County, Tennessee; White Oak Creek, Scott County, Tennessee; Bone Camp Creek, Morgan County, Tennessee; and the New River, Scott County, Tennessee (Call and Parmalee 1981; Bakaletz 1991; Gordon 1991; Cicerello 1996; Parmalee and Bogan 1998; Cicerello and Laudermilk 2001; Ronald Cicerello, Kentucky State Nature Preserves Commission, pers, comm. 2002, 2003; Service 2003).

Oyster Mussel [Epioblasma *capsaeformis* [Lea *1834))*

According to Parmalee and Bogan (1998), adult oyster mussels can reach lengths of up to 7.0 cm (2.8 in). Ortmann (1924) was the first to note color differences in female oyster mussel mantle pads (shell lining). The mantle color appears to be bluish or greenish white in the Clinch River, grayish to blackish in the Duck River, and nearly white in the Big South Fork population (Ortmann 1924; Service 2003). In addition, the Duck River form achieves nearly twice the size of specimens from other populations. Two small projections (microattractants) at the junction of the mantle pads serve to attract host fish. Subtle differences in the morphology of these projections or structures also exist in these two populations (J.W. Jones, Virginia Tech, pers.comm. 2002).

Spawning probably occurs in the oyster mussel in late spring or early summer (Gordon and Layzer 1989). Glochidia of the oyster mussel have been identified on seven native host fish species, including the wounded darter (Etheostoma *vulneratum*), redline darter (*E.* rufilineatum), bluebreast darter (E. camurum), dusky darter (Percina *sciera*), banded sculpin (Cottus carolinae), black sculpin (*C. baileyi*), and mottled sculpin (*C. bairdi*) (Yeager and Saylor 1995; J.W. Jones and R.J. Neves, U.S. Geological Survey (USGS), unpublished (unpub.) data 1998). Oyster mussels typically occur in sand and gravel substrate in streams ranging from medium-sized creeks to large rivers (Gordon 1991; Parmalee and Bogan 1998). They apparently prefer shallow riffles and shoals and have been found associated with water willow (*Justicia* americana) beds (Ortmann 1924; Gordon 1991; Parmalee and Bogan 1998).

The oyster mussel was one of the most widely distributed Cumberlandian mussel species, with historical records existing from six States (Alabama, Georgia, Kentucky, North Carolina, Tennessee, and Virginia). It has apparently been eliminated from both main stems of the Cumberland and Tennessee Rivers and a large number of their tributaries (Fraley and Ahlstedt 2001; S.A. Ahlstedt, USGS, pers. comm. 2002; Service 2003). This mussel is now only extant in a handful of stream and river reaches in four States in the Tennessee and Cumberland River systems, including the Duck River, Maury and Marshall Counties, Tennessee; Powell River, Claiborne and Hancock Counties, Tennessee, and Lee County, Virginia; Clinch River, Hancock County, Tennessee, and Scott, Russell, and Tazewell Counties, Virginia; Nolichucky River, Hamblen and Cocke Counties, Tennessee; and Big South Fork of the Cumberland River, McCreary County, Kentucky, and Scott County, Tennessee (Wolcott and Neves 1990; Ahlstedt 1991; Bakaletz 1991; Gordon 1991; Ahlstedt and Tuberville 1997; S.A. Ahlstedt, pers. comm. 2002; Service 2003).

Curnberlandian Combshell [Epioblasma brevidens (Lea *1831))*

Most mature Cumberlandian combshell are approximately 5 cm (2 in) in length, but may reach 8 cm (3.1 in) (Parmalee and Bogan, 1998). Spawning in this species most likely occurs in late winter (Gordon 1991). Glochidia of the Cumberlandian combshell have been identified on several native host fish species, including the wounded darter, redline darter, bluebreast darter, snubnose darter (Etheostoma simoterum), greenside darter (E. blennioides), logperch (Percina *caprodes*), banded sculpin, black sculpin, and mottled sculpin (Yeager and Saylor 1995; J.W. Jones and R.S. Neves, USGS, unpub. data 1998). This species is typically associated with riffle and shoal areas in medium to large-sized rivers (Gordon 1991; Parmalee and Bogan 1998). It is found in substrata ranging from coarse sand to cobble (Gordon 1991).

This species, like the oyster mussel, was once widely distributed, historically occurring in five States (Alabama, Kentucky, Mississippi, Tennessee, and Virginia). It has likewise apparently been eliminated from the mainstems of the Tennessee and Cumberland Rivers and several of their tributaries (Service 2003). It is now restricted to five stream reaches. The Cumberlandian combshell persists in Bear Creek, Colbert County, Alabama, and Tishomingo County, Mississippi; Powell River, Claiborne and Hancock

counties, Tennessee, and Lee County, Virginia; Clinch River, Hancock County, Tennessee, and Scott, Russell, and Tazewell Counties, Virginia; Big South Fork, Scott County, Tennessee and McCreary County, Kentucky; and Buck Creek, Pulaski County, Kentucky (Isom and Yokely 1968; Schuster et *al.* 1989; Ahlstedt 1991; Bakaletz 1991; Gordon 1991; Ahlstedt and Tuberville 1997; Hagman 2000; Ahlstedt, pers. comm. 2002; B. Jones, Mississippi Museum of Natural Science, pers. comm. 2002; Cicerello, pers.comm. 2003; Garner and McGregor, in press).

Purple Bean *(Villosa* perpurpurea (Leo 1861))

Adult purple beans are typically 2.5 to 7.5 cm (1.0 to 3.0 in) in length (R. Tawes, personal observation, 2003). Gravid females have been observed in January and February (Ahlstedt, 1991; Bob Butler, Service, pers. comm. 2003). Glochidia of the purple bean have been identified on the fantail darter (Etheostoma flabellare), greenside darter, and mottled sculpin (Watson and Neves 1996). This species inhabits small creeks to medium-sized rivers and can be found in a variety of substrates (Gordon 1991; Parmalee and Bogan 1998).

The purple bean is endemic to the upper Tennessee River drainage in Tennessee and Virginia. Its historical range included the Powell River, Lee County, Virginia; Clinch River system, Claiborne, Grainger, and Hancock Counties, Tennessee, and Russell, Scott, Tazewell, and Wise Counties, Virginia; Emory and Obed Rivers, Morgan and Cumberland counties, Tennessee; and Holston River System, Hawkins and Sullivan Counties, Tennessee, and Scott and Washington Counties, Virginia. It has apparently been extirpated from the Powell River, Emory River, North Fork Beech Creek (Holston River System) and North Fork Holston River (Service 2003). The purple bean persists in portions of the Clinch River mainstem, Hancock County, Tennessee, and Scott, Russell, and Tazewell Counties, Virginia; Copper Creek (a Clinch River tributary), in Scott County, Virginia; Indian Creek (a Clinch River tributary), in Tazewell County, Virginia; in the Obed River, Morgan and Cumberland Counties, Tennessee; and in Beech Creek, a tributary of the Holston River, Hawkins County, Tennessee (Ahlstedt 1991; Gordon 1991; Winston and Neves 1997; Watson and Neves 1998; Ahlstedt and Tuberville 1997; S.A. Ahlstedt, pers. comm. 2000, 2002, 2003; Fraley and Ahlstedt 2001).

Rough Rabbitsfoot *(Quadrula cylindrica strigillata* (Wright, *1898))*

The rough rabbitsfoot is the largest of the five mussels, with adult specimens sometimes reaching 12 cm (5 in) in length (Parmalee and Bogan, 1998). Spawning in this species apparently occurs from May through June (Yeager and Neves 1986). Glochidia of rough rabbitsfoot have been identified on the whitetail shiner (*Cyprinella galactura*), spotfin shiner (Cyprinella spiloptera), and bigeye chub (Hybopsis amblops) (Yeager and Neves 1986). This species prefers clean sand and gravel substrate in streams ranging from medium-sized creeks to medium-sized rivers (Parmalee and Bogan 1998).

Like the purple bean, the rough rabbitsfoot is endemic to the upper Tennessee River system. The rough rabbitsfoot historically occupied the Powell River, Hancock and Claiborne Counties, Tennessee, and Lee County, Virginia; Clinch River system, Hancock and Claiborne Counties, Tennessee, and Russell, Scott, and Tazewell Counties, Virginia; and Holston River System, Hawkins and Sullivan Counties, Tennessee, and Scott and Washington Counties, Virginia. It is apparently extirpated from the entire Holston River system (Service, 2003). It currently persists in portions of the Powell River, Claiborne and Hancock Counties, Tennessee and Lee County, Virginia; Clinch River, Hancock County, Tennessee and Scott, Russell, and Tazewell Counties, Virginia; and in Indian Creek, Tazewell County, Virginia (Ahlstedt 1981; Gordon 1991; Ahlstedt and Tuberville 1997; Winston and Neves 1997; Watson and Neves 1998; S.A. Ahlstedt, pers. comm. 2000, 2002, 2003; Fraley and Ahlstedt 2001).

The summary of these five mussels presented above represents our current understanding of their historical and current range and distribution. Research is ongoing regarding identification of some species. For example, varying mantle coloration, microattractant configuration, size differential, and spawning cycles may indicate that the oyster mussel is actually a species complex (more than one species represented). Researchers from Virginia Tech are in the process of formally describing the Duck River variety (J.W. Jones, Virginia Tech, in press), and some malacologists, molluscs biologists, believe that the Big South Fork variety is actually a distinct, undescribed species, or possibly a variant of the tan riffleshell (Epioblasma *florentina walkeri*), a closely related species (S.A. Ahlstedt, USGS, pers. comm. 2002). A recent genetic investigation on the genus *Epioblasma* using mitochondria1 DNA markers suggested that the tan riffleshell and the oyster mussel may be the same species (Buhay et *al.* 2002). Because these observations have not yet been published or peer reviewed and/or are not conclusive, we believe for the purposes of this proposed rule that the Duck River and Big South Fork populations are true E. capsaeformis. 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

These five mussels, like many other Cumberlandian Region mussel taxa, have undergone significant reductions in total range and population density (Layzer *et al.* 1993; Williams et *al.* 1993; Neves et *al.* 1997; Fraley and Ahlstedt 2000; Cicerello and Laudermilk 2001; Service 2003), primarily resulting from human-induced changes in stream and river channels, including channel modifications (*e.g.*, dams, dredging, mining) and historic or episodic water pollution events (Schuster et *al.* 1989; Gordon 1991; Neves et *al.* 1997; Parmalee and Bogan 1998; Cicerello and Laudermilk 2001). The entire length of the main stems of the Tennessee and Cumberland Rivers and many of their largest tributaries are now impounded or greatly modified by the discharge of tailwaters (Service 2003). For example, more than 3,700 rkm (2,300 rmi) (about 20 percent) of the Tennessee River and its tributaries were impounded by the Tennessee Valley Authority by 1971 (Service 2003). Dams permanently alter the free-flowing aquatic habitat required by many mussels and their host fish. None of the five mussels 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. Mussel populations in free-flowing river sections below dams can be adversely affected or extirpated from reduced dissolved oxygen levels, unnatural flow regimes, and colder temperatures, or greatly modified by the dams or their tailwater releases (Neves et *al.* 1997). 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 de-snagging (woody debris

removal), 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 various point-sources such as mines, industrial plants, and municipal sewage treatment facilities also have contributed to the demise or decline of the five species in certain portions of their historical 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 could result in decreased dissolved oxygen concentration, increased acidity and conductivity, and other changes in water chemistry, which may impact mussels or their host fish.

An additional major impact on individual populations of the five mussels that has resulted from historic activities (especially dam construction) was separation and isolation of populations by impoundments or large stretches of unsuitable habitat, rendering natural reproduction between those populations (and associated genetic interchange) problematic (Service 2003). Once existing in hundreds of river kilometers, these five mussels now survive in only a few relatively small, isolated populations of questionable long-term viability which cover portions of Virginia, Kentucky, Alabama, Tennessee, and Mississippi (Service 2003). Small populations are more vulnerable to natural random events such as droughts, as well as to changes in human activities and land-use practices that impact aquatic habitats (Neves et *al.* 1997). Current threats to surviving populations of these five mussels include continued habitat loss and fragmentation, cumulative effects of land use activities on aquatic environments, population isolation and associated deleterious genetic effects such as inbreeding depression, and competition with invasive exotic mussel species (Foose et *al.* 1995; Neves et *al.* 1997). Non-point source pollution, such as sediment and agrochemical run-off, which are known to adversely affect aquatic invertebrates (Waters 1995; Folkerts 1997) also poses a continuing threat to the long-term survival of these remaining mussel populations (Wolcott and Neves 1990; Neves et al. 1997; Service 2003). More detailed information on the threats to these species can be found in the January 10, 1997, final listing determination (62 FR 1647) and the agency draft recovery plan for these five species (Service 2003).

Previous Federal Actions

We discussed our previous Federal actions in the Final listing rule for these 5 mussel species (62 FR 1649). The following discuss our Federal actions since the Final listing rule.

On January 10, 1997, we published a final rule listing the 5 mussels as endangered. At that time, we determined that critical habitat was not prudent because it would result in no known benefit to the five species and that designation could pose a further threat to the five mussels by publishing their site-specific localities.

In June 1998, a technical draft recovery plan for the five mussels was written and underwent a technical review dealing primarily with the biological accuracy and sufficiency of the plan. We released an agency draft recovery plan on April 22, 2003, and disseminated to State and Federal agencies, universities, public officials, nongovernmental organizations, and knowledgeable individuals for review and comment on all aspects of the plan. We published in the **Federal Register** a Notice of Draft Recovery Plan Availability (68 FR 19844). The comment period will close on June 23, 2003.

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-prudent critical habitat determination for the Cumberlandian combshell, Cumberland elktoe, purple bean, rough rabbitsfoot, and oyster mussel (United States District Court, Eastern District of Tennessee (Southern Appalachian Biodiveristy Project v. U.S. Fish and Wildlife Service et al., No. 2:00–CV–361). On November 8, 2001, the District Court issued an order directing us to re-evaluate our prudency determination for these five mussels and submit new proposed prudency determinations for the Cumberland elktoe to the **Federal Register** no later than May 19, 2003, and for the remaining four mussels to the **Federal Register** no later than June 16, 2003. We were also directed to submit by those same dates new proposed critical habitat designations, if prudent. Additionally, for these mussels in which critical habitat was found to be prudent, we were directed to finalize our designation not less than 12 months following the prudency determination.

This proposal is the product of our re-evaluation of our 1997 determination that critical habitat for these five mussels was not prudent. It reflects our interpretation of recent judicial opinions on critical habitat designation and the standards placed on us for making a prudency determination. If additional information becomes available on the species' biology or distribution, or threats to the species, we may reevaluate this proposal to propose additional critical habitat, propose boundary refinements that substantially change existing proposed critical habitat, or withdraw our proposal to designate critical habitat.

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.

The designation of critical habitat does not affect land ownership or establish a refuge, wilderness, reserve, preserve, or other conservation area. It does not allow government or public access to private lands. Federal agencies must consult with the Service on activities they undertake, fund, or permit that may affect critical habitat. However, the Act prohibits unauthorized take of listed species and requires consultation for activities that may affect them, including habitat alterations, regardless of whether critical habitat has been designated. The Service has found that the designation of critical habitat provides little additional protection to most listed species.

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 and 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. When we designate critical habitat, we may not have the information necessary to identify all 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 which areas might be found to be essential if better information became available, or which 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 we will include the area 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 currently 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. There are several thousands of kilometers of perennial streams in the Cumberlandian Region. Many of these flow through private property and may not have been adequately surveyed for mussels. 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.

Prudency Determination

Section 4(a)(3) of the Act and its implementing regulations (50 CFR 424.12) require that, to the maximum extent prudent and determinable, we designate critical habitat at the time a species is listed as endangered or threatened. Our regulations at 50 CFR 424.12(a)(1) state that the designation of critical habitat is not prudent when one or both of the following situations exist: (1) The species is threatened by taking or other activity and the identification of critical habitat can be expected to increase the degree of threat to the species or (2) such designation of critical habitat would not be beneficial to the species. In our January 10, 1997, final rule (62 FR 1647), we determined that both situations applied to these five mussels, and consequently indicated that the designation of critical habitat was not prudent.

However, in the past few years, several of our determinations that the designation of critical habitat would not be prudent have been overturned by court decisions. For example, in Conservation Council for Hawaii v. Babbitt, the United States District Court for the District of Hawaii ruled that the Service could not rely on the "increased threat" rationale for a "not prudent" determination without specific evidence of the threat to the species at issue (2 F. Supp. 2d 1280 [D. Hawaii 19981). Additionally, in Natural Resources Defense Council v. U.S. Department of *the* Interior, the United States Court of Appeals for the Ninth Circuit ruled that the Service must balance, in order to invoke the "increased threat rationale," the threat against the benefit to the species of designating critical habitat 113 F. 3d 1121, 1125 (9th Cir. 1997).

We continue to be concerned that the five mussels are vulnerable to unrestricted collection, vandalism, or disturbance of their habitat and that these threats might be increased by the designation of critical habitat, publication of critical habitat maps, and further dissemination of location and habitat information. The low numbers and restricted range of these mussels make it unlikely that their populations could withstand even moderate collecting pressure, or vandalism. However, at this time we do not have specific evidence for the taking, collection, trade, vandalism, or other unauthorized human disturbance specific to these five mussels.

The courts also have ruled that, in the absence of a finding that the designation of critical habitat would increase threats to a species, the existence of another type of protection, even if it offers potentially greater protection to the species, does not justify a "not prudent" finding (Conservation Council for Hawaii v. Babbitt 2 F. Supp. 2d 1280). We are already working with Federal and State agencies, private individuals, and organizations in carrying out conservation activities for these five mussels and in conducting surveys for

additional occurrences of the species and to assess habitat conditions. These entities are fully aware of the distribution, status, and habitat requirements for these mussels, as currently known. However, the designation may provide additional information to individuals, local and State governments, and other entities engaged in long-range planning, since areas essential to the conservation of the species are more clearly defined and, to the extent currently feasible, the primary constituent elements of the habitat necessary to the survival of the species are specifically identified. Accordingly, we withdraw our previous determination that the designation of critical habitat will not benefit these five mussel species. Therefore, we determine that the designation of critical habitat is prudent for the Cumberland elktoe, oyster mussel, Cumberlandian combshell, purple bean, and rough rabbitsfoot and propose to designate critical habitat for these mussels. At this time, we have sufficient information necessary to identify specific areas as essential to the conservation of these five mussel species and are therefore proposing critical habitat (see "Methods and Analysis used to Identify Proposed Critical Habitat" section below for a discussion of information used in our reevaluation).

Methods and Analysis Used To Identify Proposed Critical Habitat for Five Mussel Species

As required by section 4(b)(2) of the Act and its implementing regulations (50 CFR 424.12), we used the best scientific information available to determine critical habitat areas that contain the physical and biological features that are essential for the conservation of these 5 mussels. We reviewed the available information pertaining to the historic and current distributions, life histories, host fishes, 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; recent biological surveys and reports and communications with other qualified biologists or experts; Statewide Geographic Information System (GIS) species occurrence coverages provided by the Kentucky State Nature Preserves Commission, Tennessee Department of Environment and Conservation, and Tennessee Valley Authority; peer-reviewed scientific publications; the final listing rule for the five mussels; and our draft agency recovery plan for these mussels. We considered all collection records within the last 15 years from streams currently and historically known to be occupied by one or more of the species (see "Taxonomy, Life History, and Distribution" section above).

As discussed in part under the "Summary of Decline" section of this rule and the agency draft recovery plan (Service 2003), the five mussels are highly restricted in distribution, generally occur in small populations, and show little evidence of recovering from historic habitat loss without significant human intervention. In fact, the draft recovery plan states that recovery for the five mussels is not likely in the near future because of the extent of their decline, the relative isolation of remaining populations, and varied threats to their continued existence. Therefore, the recovery plan emphasizes protection of surviving populations of these five mussels and their stream and river habitats, enhancement and restoration of habitats, and population management, including augmentation and reintroduction of the mussels.

Much of what is known about the specific physical and biological habitat requirements of these five mussels is summarized above in the "Background" section of this rule and in the agency draft recovery plan. 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, in accordance with sections 3(5)(A)(i) and 4(b)(1)(A) of the Act and regulations at 50 CFR 424.12. 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; and habitats that are protected from disturbance or are representative of the historical geographical and ecological distribution of a species.

On the basis of the best available information, we include the following as primary constituent elements essential for the conservation of the five mussels:

1. Permanent, flowing stream reaches with 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 the five mussels and their host fish;

2. Geomorphically stable stream and river channels and banks (structurally stable stream cross section);

3. Stable substrates, consisting of mud, sand, gravel, and/or cobble/boulder, with low amounts of fine sediments or attached filamentous algae;

4. Water quality (including temperature, turbidity, oxygen content, and other characteristics) necessary for the normal behavior, growth, and survival of all life stages of the five mussels and their host fish; and

f. Fish hosts with adequate living, foraging, and spawning areas for them.

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.

We considered several factors in the selection and proposal of specific areas for critical habitat for these five mussels. We assessed the recovery strategy outlined in the agency draft recovery plan for these species, which emphasizes: (1) Protection and stabilization of surviving populations (2) protection and management of their habitat (3) augmentation of existing small populations (4) reestablishment1 reintroduction of new populations within their historic ranges, and (5) research on species biology and ecology. Small, isolated populations are subject to the loss of unique genetic material (genetic drift) (Soulé 1980; Lacy et *al.* 1995) and the gradual loss of reproductive success or fecundity due to limited genetic diversity (Foose et *al.* 1995). They are likewise more vulnerable to extirpation from random catastrophic events and to changes in human activities and land-use practices (Soulé 1980; Lacy et *al.* 1995). The ultimate goal of the agency draft recovery plan is to restore enough viable (self-sufficient) populations of these five mussels such that each species no longer needs protection under the Act.

In the agency draft recovery plan, we selected the number of distinct viable stream populations required for delisting of each of the five mussels on the basis primarily of the historic distribution of each species (Table 1). For example, the rough rabbitsfoot is narrowly endemic to the upper Tennessee River basin. It historically occupied only three river reaches and, therefore, its conservation can be

achieved with fewer populations. We have concluded that identification of critical habitat that would provide for the number of populations outlined in Table 1 for each species is essential to their conservation.

TABLE 1.—NUMBER OF DISTINCT VIABLE STREAM POPULATIONS OF FIVE CUMBERLANDIAN MUSSELS REQUIRED BEFORE DELISTING CAN OCCUR AS OUTLINED IN DRAFT AGENCY RECOVERY PLAN (SERVICE 2003)

Species	Number of populations required for delisting
Cumberland elktoe	10
Oyster mussel	11
Cumberlandian combshell	10
Purple bean	4
Rough rabbitsfoot	3

Our approach to delineating specific critical habitat units, based on the recovery strategy outlined above, focused first on considering the historic ranges of the five mussels. We evaluated streams and rivers within the historic ranges of these five mussels for which there was evidence that these species had occurred there at some point (*i.e.,* collection records). Within the historic range of these species, we found that a large proportion of the streams and rivers in the Tennessee and Cumberland River Basins that historically supported these mussels has been modified by existing dams and their impounded waters. Extensive portions of the Tennessee and Cumberland River drainages, including the mainstem of the Cumberland River, segments of the Holston River, the Powell River, the Tennessee River mainstem, and numerous tributaries of these rivers, 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 discussion above). We also did not consider several streams with single site occurrence records of a single species as essential to the conservation of these species because these areas exhibited limited habitat availability, isolation, degraded habitat, and/or low management value or potential (*e.g.,* Cedar Creek in Colbert County, Alabama; Little Pigeon River in Sevier County, Tennessee). Similarly, we did not consider as essential areas from which there have been no collection records of these species for several decades (*e.g.,* portions of the upper Holston River system in Tennessee and Virginia, Buffalo River, Little South Fork of the Cumberland River, Laurel River).

We then identified 13 stream or river reaches (units) within the historic range of these species for which our data (*i.e.,* collection records over the last 15 years and view of experts) indicate that one or more of the 5 mussel species are present along with the primary constituent elements (see Table 2; Index map). These units total approximately 892 rkm (544 rmi), in Alabama, Kentucky, Mississippi, Tennessee, and Virginia. We believe that these areas support darters, minnows, sculpins, and other fishes that have been identified as hosts or potential hosts for one or more of the mussels, as evidenced by known fish distributions (Etnier and Starnes 1998), the persistence of the mussels over extended periods of time, or field evidence of recruitment (Ahlstedt pers. comm. 2002, B. Butler, pers.comm. 2002). We consider all of these 13 reaches essential for the conservation of these 5 mussels. As discussed in the agency draft recovery plan, long-term conservation of these five mussels is unlikely in their currently reduced and fragmented state. Therefore, it is essential to include in this designation these 13 reaches within the historic range of all 5 mussels that still contain mussels and the primary constituent elements of habitat.

We then considered whether these essential areas were adequate for the conservation of these five mussels. As indicated in the agency draft recovery plan, threats to the five species are compounded by their limited distribution and isolation and it is unlikely that currently occupied habitat is adequate for the conservation of all five species. Conservation of these species requires expanding their ranges into currently unoccupied portions of their historic habitat because small, isolated, fragmented aquatic populations, as discussed previously, 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.

Each of the 13 habitat units is currently occupied by 1 or more of the 5 listed mussels. Because portions of the historic range of each of the 5 mussels are shared with three or more of the other mussel species, there is considerable overlap between species' current and historic distribution within the 13 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 oyster mussel historically inhabited seven units and currently inhabits five. Successful reintroduction of the species into units that they historically occupied (and that are currently occupied by one or more of the five mussels) would expand the number of populations, thereby reducing the threat of extinction.

We believe that the habitat proposed for designation in these 13 units is essential to the conservation of all 5 mussels and that the 13 units encompass sufficient habitat necessary for the recovery of 3 of these 5 species (the Cumberland elktoe, purple bean, and rough rabbitsfoot.) However, we do not believe that the 13 units provide sufficient essential habitat for the conservation of the oyster mussel and Cumberlandian combshell, based on the number of viable populations required for conservation and recovery of these two species (Table 1). For example, these 13 proposed units include occupied habitat for 5 existing oyster mussel populations and include unoccupied habitat in three other areas that could support oyster mussel populations. Our agency draft recovery plan, however, requires 11 viable populations of the oyster mussel before it may be delisted. The essential area as defined by our 13 units is not adequate to ensure the conservation of the oyster mussel and Cumberlandian combshell. Therefore, we then considered free-flowing river reaches that historically contained the Cumberlandian combshell and oyster mussel but that have had no collection records for the past 15 years, and that, resulting from water quality and quantity improvements, likely contain suitable habitat for these mussels. Through our analysis, we identified 4 such reaches that are separated by dams and impoundments from free-flowing habitats that contain extant populations of oyster mussels and Cumberlandian combshells. These areas are the lower French Broad River below Douglas Dam to its confluence with the Holston River, Sevier and Knox Counties, Tennessee; the free-flowing reach of the Holston River below Cherokee Dam to its confluence with the French Broad River, Jefferson, Grainger, and Knox Counties, Tennessee; the Tennessee River mainstem below Wilson Dam in Colbert and Lauderdale Counties, Alabama; and a stretch of the Rockcastle River in Laurel, Rockcastle, and Pulaski Counties, Kentucky. Natural recolonization of these areas by these two species is unlikely; however, these

species can be reintroduced into these areas to create the additional viable populations necessary to conserve and recover the species. We have therefore concluded that these four reaches are also essential to the conservation of the oyster mussel and Cumberlandian combshell.

Although we have concluded that they are essential, we are not proposing to designate critical habitat in each of these 4 reaches, due to their current or potential status as nonessential experimental population areas. Section 10(j) of the Act states critical habitat shall not be designated for any experimental population determined to be not essential to the continued existence of the species. On June 14, 2001, we published a final rule to designate nonessential experimental population status under section 10(j) of the Act for the reintroduction of 17 Federally listed species (including the oyster mussel and Cumberlandian combshell) to the free-flowing reach below Wilson Dam, in the Tennessee River (66 FR 32250). Therefore, we are not proposing critical habitat for the oyster mussel and Cumberlandian combshell in the Tennessee River mainstem below Wilson Dam in Colbert and Lauderdale Counties, Alabama.

In addition, we are actively considering the remaining three reaches (the lower French Broad, lower Holston, and Rockcastle Rivers) for designation as nonessential experimental populations in order to facilitate the reintroduction of the oyster mussel and Cumberlandian combshell, as well as numerous other listed mussels, fishes, and snails. Therefore, while we recognize their likely importance to our recovery strategy for these species, we are not proposing these three river reaches as critical habitat. A further discussion of these areas can be found below (see Exclusions under 4(b)(2) section).

In summary, the habitat contained within the 13 proposed units described below and the habitat within the 4 historic reaches designated or under consideration for nonessential experimental population status constitute our best determination of areas essential for the conservation, and eventual recovery, of these 5 Cumberlandian mussels. We are proposing as critical habitat only 13 habitat units encompassing approximately 849 rkm (528 rmi) of stream and river channels in Alabama, Mississippi, Tennessee, Kentucky, and Virginia. Each of these units is occupied by one or more of the 5 mussels. Although these 13 areas represent only a small proportion of each species' historic range, these habitat units include a significant proportion of the Cumberlandian Region'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 (*e.g.*, 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. 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 consenration 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 the five mussel species. Therefore, we have determined that the proposed units require special management or protection.

Proposed Critical Habitat Designation

The areas that we are proposing for designation as critical habitat for the five mussels provide one or more of the primary constituent elements described above. Table 2 summarizes the location and extent of proposed critical habitat, and whether or not that critical habitat is currently occupied or unoccupied. These areas require special management considerations to ensure their contribution to the consenration of these mussels. For each stream reach proposed as a critical habitat unit, the up-stream and downstream boundaries are described in general detail below; more precise estimates are provided in the Regulation Promulgation section of this rule.

TABLE 2*.—APPROXIMATE RIVER DISTANCES, BY DRAINAGE AREA, FOR OCCUPIED AND UNOCCUPIED PROPOSED CRITICAL HABITAT FOR THE FIVE ENDANGERED MUSSEL SPECIES

Species	Approximate river distances currently occupied by the species		Approximate river distances currently unoccupied by the species	
	River kilometers	River miles	River kilometers	River miles
Cumberland elktoe	204	128		
Oyster mussel	511	322	119	74.5
Cumberlandian combshell	527	330	82	51
Purple bean	330	216	154	94
Rough rabbitsfoot	390	244.5	21	13
Total	1962	1240.5	376	232.5

*Table 2 refers to the location and extent of proposed critical habitat for each species. For more detail, refer to § 17.95

Species. Stream (Unit). and State	Currenly occupied		Currently unoccupied	
Cumberland elktoe:				
Rock Creek (Unit 8), KY	11	7		
Big South Fork (Unit 9), TN, KY	43	27		
North Fork White Oak Creek (Unit 9), TN	11	7		
New River (Unit 9), TN	14.5	9		
Clear Fork (Unit 9), TN	40	25		
White Oak Creek (Unit 9), TN	10	6		
Bone Camp Creek (Unit 9), TN	6	4		
Crooked Creek (Unit 9), TN	14.5	9		
North Prong Clear Fork (Unit 9), TN	14.5	9		
Sinking Creek (Unit 11), KY	13	8		
Marsh Creek (Unit 12), KY	19	12		
Laurel Fork (Unit 13), TN, KY	8	5		
Total	204	128		
Oyster mussel:				
Duck River (Unit 1). TN	74	46		
Bear Creek (Unit 2). AL, MS	.....	.....	40	25
Powell River (Unit 4). TN, VA	154	94		
Clinch River (Unit 5), TN, VA	242	150		
Copper Creek (Unit 5), VA	.....	.....	21	13
Nolichucky River (Unit 6), TN	8	5		
Big South Fork (Unit 9), TN, KY	43	27		
Buck Creek (Unit 10). KY	.....	.....	58	36
Total	511	322	119	74.5
Cumberlandian combshell:				
Duck River (Unit 1). TN	.....	.....	74	46
Bear Creek (Unit 2). AL, MS	40	25		
Powell River (Unit 4), TN, VA	154	94		
Clinch River (Unit 5), TN, VA	242	148		
Nolichucky River (Unit 6), TN	.....	.....	8	5
Big South Fork (Unit 9), TN, KY	43	27		
Buck Creek (Unit 10), KY	58	36		
Total	527	330	82	51
Purple bean:				
Obed River (Unit 3). TN	40	25		
Powell River (Unit 4), TN, VA	.....	.....	154	94
Clinch River (Unit 5), TN, VA	242	148		
Copper Creek (Unit 5), VA	21	13		
Indian Creek (Unit 5), VA	4	2.5		
Beech Creek (Unit 7), TN	23	14		
Total	330	216	154	94
Rough rabbitsfoot:				
Powell River (Unit 4), TN, VA	154	94		
Clinch River (Unit 5), TN, VA	242	148		
Copper Creek (Unit 5). VA	.....	.....	21	13
Indian Creek (Unit 5), VA	4	2.5		
Total	390	244.5	21	13

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 units for designation as critical habitat for these five mussels.

Unit 1. Duck River, Maury and Marshall Counties, Tennessee

Unit 1 encompasses 74 rkm (46 rmi) of the mainstem of the Duck River channel from rkm 214 (rmi 133) (0.3 rkm (0.2 rmi) upstream of the First Street Bridge) in the City of Columbia. Maury County. Tennessee. upstream to Lillards Mill Dam at rkm 288 (rmi 179), Marshall County. Tennessee. This reach of the Duck River contains a robust, viable population of the oyster mussel (Ahlstedt 1991; Gordon 1991; S.A. Ahlstedt USGS. pers. comm. 2002) and historically supported the Cumberlandian combshell (Hinkley and Marsh 1885; Ortmann 1925; Isom and

Yokley 1968; van der Schalie 1973; Gordon 1991).

Unit *2*. Bear Creek, Colbert County, Alabama, and Tishomingo County, Mississippi

Unit 2 encompasses 40 rkm (25 rmi) of the mainstem of Bear Creek from the backwaters of Pickwick Lake at rkm 37 (rmi 23), Colbert County, Alabama, upstream through Tishomingo County, Mississippi, ending at the Mississippi1 Alabama State line. Recent mussel surveys in the Mississippi section of Bear Creek confirmed that the Cumberlandian combshell is still extant there (R.M. Jones, MMNS, pers, comm. 2002), and continues to be present in the Colbert County, Alabama portion of the unit (Isom and Yokley 1968; Garner and McGregor, in press). Bear Creek is in the historical range of the oyster mussel (Ortmann 1925).

Unit 3. *Obed* River, *Cumberland and* Morgan Counties, Tennessee

Unit 3 encompasses 40 rkm (25 rmi) and begins at the confluence of the Obed with the Emory River, Morgan County, Tennessee, and continues upstream to Adams Bridge, Cumberland County, Tennessee. This unit currently contains a population of the purple bean (Gordon 1991; S.A. Ahlstedt, USGS, pers. comm. 2002) and is also within designated critical habitat for the Federally listed spotfin chub (*Erimonax* monacha) (see "Existing Critical Habitat" and Table 3). Unit 3 is located within the Obed National Wild and Scenic River, a unit of the National Park Service. and the Catoosa Wildlife Management Area, which is owned by the Tennessee Wildlife Resources Agency.

Unit *4*. Powell River, *Claiborne* and Hancock Counties, Tennessee, and Lee County, Virginia

Unit 4 encompasses 154 rkm (94 rmi) and includes the Powell River from the U.S. 25E Bridge in Claiborne County, Tennessee, upstream to river mile 159 (upstream of Rock Island in the vicinity of Pughs) Lee County, Virginia. This reach is currently occupied by the Cumberlandian combshell (Ahlstedt 1991; Gordon 1991), rough rabbitsfoot (Service 2003), and oyster mussel (Wolcott and Neves 1990), and was historically occupied by the purple bean (Ortmann 1918). It is also existing critical habitat for the Federally listed slender chub (Erimystax cahni) and yellowfin madtom (Noturus *flavipinnis*) (*see* "Existing Critical Habitat" and Table 3).

Unit *5*. Clinch River and tributaries, Hancock County, Tennessee, and Scott, Russell, and Tazewell Counties, Virginia

Unit 5 totals 272 rkm (171 rmi), including 242 rkm (148 rmi) of the Clinch River from rkm 255 (rmi 159) immediately below Grissom Island, Hancock County, Tennessee, upstream to its confluence with Indian Creek in Cedar Bluff, Tazewell County, Virginia; 4 rkm (2.5 rmi) of Indian Creek from its confluence with the Clinch River upstream to the fourth Norfolk Southern Railroad crossing at Van Dyke, Tazewell County, Virginia; and 21 rkm (13 rmi) of Copper Creek from its confluence with the Clinch River upstream to Virginia State Route 72, Scott County, Virginia. The Clinch mainstem currently contains the oyster mussel, rough rabbitsfoot, Cumberlandian combshell, and purple bean (Gordon 1991; Ahlstedt and Tuberville 1997; S.A. Ahlstedt, USGS, pers. comm. 2002). Indian Creek currently supports populations of the purple bean and rough rabbitsfoot (Winston and Neves 1997; Watson and Neves 1998). Copper Creek is currently occupied by a low density population of the purple bean, and contains historic records of both the oyster mussel and rough rabbitsfoot (Ahlstedt 1981; Fraley and Ahlstedt 2001; Ahlstedt, pers. comm. 2003). Copper Creek is critical habitat for the yellowfin madtom and a portion of the proposed Clinch River mainstem section is critical habitat for both the slender chub and the yellowfin madtom (*see* "Existing Critical Habitat" and Table 3).

Unit 6. Nolichucky River, Hamblen and Cocke Counties, Tennessee

Unit 6 includes 8 rkm (5 rmi) of the mainstem of the Nolichucky River and extends from rkm 14 (rmi 9) (approximately 0.6 rkm (0.4 rmi) upstream of Enka Dam) to Susong Bridge in Hamblen, Cocke Counties, Tennessee. The Nolichucky River currently supports a small population of the oyster mussel (S.A. Ahlstedt, USGS, pers. comm. 2002) and was historically occupied by the Cumberlandian combshell (Gordon 1991).

Unit 7. Beech Creek, Hawkins County, Tennessee

Unit 7 encompasses 23 rkm (14 rmi) and extends from rkm 4 (rmi 2) of Beech Creek (in the vicinity of Slide, Tennessee) upstream to the dismantled railroad bridge at rkm 27 (rmi 16). It supports the best remaining population of purple bean and the only remaining population of this species in the Holston River drainage (Ahlstedt 1991; S.A. Ahlstedt, USGS, pers. comm. 2002).

Unit 8. Rock Creek, *McCreary* County, Kentucky

Unit 8 includes 11 rkm (7 rmi) of the mainstem of Rock Creek and begins at the Rock Creek/White Oak Creek confluence and extends upstream to Dolan Branch at rkm 18 (rmi 11) in McCreary County, Kentucky. This unit, which is bounded by the Daniel Boone National Forest and some private inholdings, is currently occupied by the Cumberland elktoe (Cicerello 1996).

Unit 9. Big South Fork and Tributaries, Fentress, Morgan, and Scott Counties, Tennessee, and McCreary County, Kentucky

Unit 9 encompasses 153 rkm (95 rmi) and consists of 43 rkm (27 rmi) of the Big South Fork of the Cumberland River mainstem from its confluence with Laurel Crossing Branch (downstream of Big Shoals), McCreary County, Kentucky, upstream to its confluence with the New River and Clear Fork, Scott County, Tennessee; 11 rkm (7 rmi) of North Fork White Oak Creek from its confluence with the Big South Fork upstream to Panther Branch, Fentress County, Tennessee; 14.5 rkm (9 rmi) of the New River from its confluence with Clear Fork upstream to U.S. Highway 27, Scott County, Tennessee; 40 rkm (25 rmi) of Clear Fork from its confluence with the New River upstream to its confluence with North Prong Clear Fork, Morgan, Fentress Counties, Tennessee; 10 rkm (6 rmi) of White Oak Creek from its confluence with Clear Fork upstream to its confluence with Bone Camp Creek, Morgan County, Tennessee; 6 rkm (4 rmi) of Bone Camp Creek from its confluence with White Oak Creek upstream to Massengale Branch, Morgan County, Tennessee; 14.5 rkm (9 rmi) of Crooked Creek from its confluence with Clear Fork upstream to Buttermilk Branch, Fentress County, Tennessee; and 14.5 rkm (9 rmi) of North Prong Clear Fork from its confluence with Clear Fork upstream to Shoal Creek, Fentress County, Tennessee. The mainstem of the Big South Fork currently supports the Cumberland elktoe and the best remaining Cumberlandian combshell population in the Cumberland system (Bakaletz 1991; Gordon 1991; R.R. Cicerello, Kentucky State Nature Preserves Commission (KSNPC), pers. comm. 2003). The mainstem of the Big South Fork also currently contains the oyster mussel (S.A. Ahlstedt, USGS, pers. comm. 2002; Service 2003). The remainder of the unit contains habitat currently occupied by the Cumberland elktoe (Call and Parmalee 1981; Bakaletz 1991; Gordon 1991). The largest population of

Cumberland elktoe in Tennessee is in the headwaters of the Clear Fork system (Call and Parmalee 1981; Bakaletz 1991). The Big South Fork and its many tributaries may actually serve as habitat for one large interbreeding population of the Cumberland elktoe (Service 2003).

Unit 10. Buck Creek, *Pulaski* County, Kentucky

Unit 10 encompasses 58 rkm (36 rmi) and includes Buck Creek from the State Route 192 Bridge upstream to the State Route 328 Bridge in Pulaski County, Kentucky. Buck Creek is currently occupied by the Cumberlandian combshell (Gordon 1991; Hagman 2000; R.R. Cicerello, KSNPC, pers. comm. 2003) and historically supported the oyster mussel (Schuster et al. 1989; Gordon 1991).

Unit 11. Sinking Creek, Laurel County, Kentucky

Unit 11 encompasses 13 rkm (8 rmi) and extends from the Sinking Creek/ Rockcastle River confluence upstream to Sinking Creek's confluence with Laurel Branch in Laurel County, Kentucky. This unit contains a strong population of Cumberland elktoe (R.R. Cicerello, KSNPC, pers. comm. 2002). This unit is primarily within land owned by the Daniel Boone National Forest, but also includes private lands.

Unit 12, Marsh Creek, McCreary County, Kentucky

Unit 12 includes 24 rkm (15 rmi) and consists of Marsh Creek from its confluence with the Cumberland River upstream to the State Road 92 bridge. This unit, which is bounded by lands owned by the Daniel Boone National Forest and private landowners, currently contains the State of Kentucky's best population of Cumberland elktoe (R.R. Cicerello, KSNPC, pers. comm. 2003) and the best remaining mussel fauna in the Cumberland River above Cumberland Falls (Cicerello and Laudermilk 2001).

Unit 13. Laurel Fork, Claiborne County, *Tennessee, and Whitley County, Kentucky*

Unit 13 includes 8 rkm (5 rmi) of Laurel Fork of the Cumberland River from the Campbell/Claiborne County line upstream through Claiborne County, Tennessee to 11 rkm (6.85 rmi) in Whitley County, Kentucky. The upstream terminus is 2 river miles upstream of the Kentucky/Tennessee State line. A "sporadic" population of Cumberland elktoe currently persists in this area (Cicerello and Laudermilk 2001).

Existing Critical Habitat

Approximately 206.5 miles (38 percent) of the proposed critical habitat for the five mussels (within three units) are already designated critical habitat for the yellowfin madtom, slender chub, or spotfin chub (Table 3). The spotfin chub, slender chub, and yellowfin madtom are listed as threatened species under the Act. Our consultation history on these existing critical habitat units is provided in the "Effects of Critical Habitat Designation Section."

TABLE 3.—WITHIN PROPOSED CRITICAL HABITAT DESIGNATION FOR THE FIVE MUSSELS, REACHES AND STREAMS THAT ARE CURRENTLY DESIGNATED CRITICAL HABITAT FOR OTHER FEDERALLY LISTED SPECIES

Unit (unit #)	Species	Reference	Length of overlap (km/mi)
Obed River (3)	spotfin chub	(42 FR 45527) ..	40125
Powell River (4)	yellowfin madtom, slender chub	(42 FR 45527) ..	154194
Clinch River (5) (and Copper Creek)	yellowfin madtom, slender chub	(42 FR 45527) ..	142/87.5
Total			3361206.5

Land Ownership

Streambeds of non-navigable waters and most navigable waters are owned by the riparian landowner. Waters of navigable streams are considered public waters by the States of Mississippi, Alabama, Tennessee, Kentucky, and Virginia. Table 4 summarizes primary riparian land ownership in each of the proposed units. Approximately 79 percent, 671 rkm (418 rmi), of stream channels proposed as critical habitat are bordered by private lands.

Public land adjacent to proposed critical habitat units consists of approximately 170 km (107 mi) of riparian lands, including the Obed Wild and Scenic River and the Catoosa Wildlife Management Area in the Obed River Unit (40 km (25 mi)); Daniel Boone National Forest in the Rock Creek, Sinking Creek, and Marsh Creek Units (30 km (19 mi)); and the Big South Fork National River and Recreation Area in the Big South Fork Unit (109 km (68 mi)).

TABLE 4.—ADJACENT RIPARIAN LAND OWNERSHIP IN PROPOSED CRITICAL HABITAT UNITS (RKM/RMI) IN THE TENNESSEE AND CUMBERLAND RIVER BASINS

Critical habitat units	Private	State	Federal
1. Duck River	74/46		
2. Bear Creek	40125		
3. Obed River		32/20	815
4. Powell River	154/94		
5. Clinch River and tributaries	272/171		
6. Nolichucky River	815		
7. Beech Creek	23/14		
8. Rock Creek	11/7		
9. Big South Fork and tributaries	44/27		109168
10. Buck Creek	58/36		
11. Sinking Creek	815		513
12. Marsh Creek	1016		1419

TABLE 4.—ADJACENT RIPARIAN LAND OWNERSHIP IN PROPOSED CRITICAL HABITAT UNITS (RKM/RMI) IN THE TENNESSEE AND CUMBERLAND RIVER BASINS — Continued

Critical habitat units	Private	State	Federal
13. Laurel Fork	8/5	.....	
Totals	689/434	32/20	170/107

Effects of Critical Habitat Designation

ESA Section 7 Consultation

The regulatory effects of a critical habitat designation under the Act are triggered through the provisions of section 7, which apply 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 of the Act requires Federal agencies, including the Service, to ensure that actions they fund, authorize, or carry out are not likely to destroy or adversely modify critical habitat. In our regulations at 50 CFR 402.02, we define destruction or adverse modification as "a direct or indirect alteration that appreciably diminishes the value of critical habitat for both the survival and recovery of a listed species. Such alterations include, but are not limited to: alterations adversely modifying any of those physical or biological features that were the basis for determining the habitat to be critical." 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.*, F.3d 434), the Court found our definition of destruction or adverse modification 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. During a conference on the effects of a Federal action on proposed critical habitat, we make nonbinding 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. Also, if we conduct a formal consultation during conference, 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 would 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 five 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. An action occurring only within a unit or group of units may appreciably reduce the value of the critical habitat for the recovery of the species and therefore result in a determination of adverse modification.

When we issue a biological opinion that concludes that an 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 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 Critical Habitat for the Five Mussels

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 five 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, water withdrawal, 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 long-term survival and recovery of the species. Such activities could include, but are not limited to, excessive sedimentation from livestock grazing, road construction, channel alteration, 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 long-term 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 long-term survival and recovery of the species. Such activities could include but are not limited to channelization, impoundment, road and bridge construction, mining, dredging, and destruction of riparian vegetation.

Previous Section 7 Consultations

We have consulted on over 100 Federal actions (or activities that required Federal permits) involving these 5 species since they received protection under the Act. Nine of these were formal consultations. Federal actions that we have reviewed include Federal land management plans, road and bridge construction and maintenance, water quality standards, recreational facility development, dam construction and operation, surface mining proposals, and issuance of permits under section 404 of the Clean Water Act. Federal agencies involved with these activities included the U.S. Army Corps of Engineers; Tennessee Valley Authority; U.S. Forest Service; Environmental Protection Agency; Office of Surface Mining, Reclamation and Enforcement; National Park Service; Federal Highway Administration; and the Service. The nine formal consultations that have been conducted all involved Federal projects, including five bridge replacements in Tennessee, Kentucky, and Virginia; two Federal land management plans; and the review of two scientific collecting permits for one or more of the five mussel species. None of these formal consultations resulted in a finding that the proposed action would jeopardize the continued existence of any of the five species or destroy or adversely modify existing critical habitat previously designated in the area.

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 five 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 7.3) 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, minimization of work in the wetted channel, restriction of riparian clearing, monitoring of channel morphology and mussel populations, sign installation, protection of buffer zones, avoidance of pollution, cooperative planning efforts, minimization of ground disturbance, use of sediment barriers, use of best management practices to minimize erosion, mussel relocation from bridge pier footprints, and funding research useful for mussel conservation. In reviewing past formal consultations, we anticipate the need to reinitiate only one consultation on Federal actions as a result of this proposed designation. The Daniel Boone National Forest in Kentucky is in the process of finalizing their Forest Plan. The Forest Service may be required to revise this plan to account for proposed critical habitat designations in Rock Creek, Sinking Creek, and Marsh Creek.

As mentioned in the "Existing Critical Habitat" section, 36 percent of the areas proposed critical habitat is currently designated critical habitat for the spotfin chub, yellowfin madtom, or slender chub. We have conducted 56 informal consultations involving existing critical habitat for these fish in the areas proposed as critical habitat for the five mussels in the Obed River, Powell River, and Clinch River in Tennessee. All of these consultations involved both the potential adverse effects to the species and the potential adverse modification or destruction of critical habitat. These consultations, which were similar to consultations carried out for the five mussel species, primarily included utility lines, bridge replacements and reconstructions, gravel dredging, and an oil spill on Clear Creek (a tributary of the Obed River and designated critical habitat for the spotfin chub). We have consulted on seven projects that involved existing critical habitat for the yellowfin madtom and/or slender chub in Virginia. Three of these consultations were formal, involving projects like bridge crossing on the Clinch and Powell Rivers. None of these formal consultations resulted in a finding that the proposed activity would destroy or adversely modify existing critical habitat previously designated in the area.

The designation of critical habitat for these five mussels will have no impact on private landowner activities that do not involve 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: Alabama—Daphne, FWS Ecological Services Office (251/441–5181); Kentucky—Frankfort, FWS Ecological Services Office (502/695–0468); Mississippi—Jackson, FWS Ecological Services Office (601/965–4900); Tennessee—Cookeville, FWS Ecological Services Office (931/528–6481); Virginia—Abingdon, FWS Ecological Services Office (276/623–1233).

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 data available, and after taking into consideration the economic and any other relevant impact of specifying any 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. Our preliminary analysis (discussed below) of the following three river reaches: the free-flowing reach of the French Broad River below Douglas Dam to its confluence with the Holston River, Sevier and Knox Counties, Tennessee; the free-flowing reach of the Holston River below Cherokee Dam to its confluence with the French Broad River, Jefferson, Grainger, and Knox Counties, Tennessee; and the free flowing reach of the Rockcastle River from the backwaters of Cumberland Lake upstream to Kentucky Route 1956 Bridge, in Laurel, Rockcastle, and Pulaski Counties, Kentucky, finds that the benefits of excluding these areas from the designation of critical habitat for the oyster mussel and Cumberlandian combshell outweighs the benefits of including them. Therefore, on the basis of our analysis below, we are proposing to exclude these three river reaches from critical habitat.

Benefits of Inclusion

The principal benefit of designating these portions of the lower French Broad, lower Holston, and Rockcastle Rivers as critical habitat would result from the requirement under section 7(a)(2) of the Act that Federal agencies consult with us to ensure that any actions that they fund, authorize, or carry out do not destroy or adversely modify critical habitat. No consultations have occurred for the oyster mussel and Cumberlandian combshell in these areas since they are not occupied by these two species. However, consultations are already occurring for other federally listed species, like the endangered pink mucket (*Lampsilis* abrupta) mussel (found in the Holston River), the threatened snail darter (*Percina* tanasi) (found in both the French Broad and Holston Rivers), and the Cumberland bean (Villosa trabalis) mussel (found in the Rockcastle River) in these areas. Even though these species do not have designated critical habitat, consultations evaluating impacts to the species would still take into consideration habitat and habitat impacts which may constitute take of the species. Projects that would adversely affect critical habitat for the Cumberlandian combshell and oyster mussel (if it were designated) would likely also trigger consultation with us under section 7 of the Act because of their potential to adversely affect the listed species already present. Thus, we find that the additional benefit through section 7 consultation due to designation of critical habitat for the oyster mussel and Cumberland combshell would be minimal.

Since 1997, we have been involved in 25 consultations regarding the snail darter and pink mucket in the lower French Broad and Holston Rivers. Approximately 10 of these consultations have involved the Tennessee Valley Authority (TVA).TVA manages the dams upstream of the area on the lower French Broad and Holston Rivers, and issues permits for docks and recreational structures along these two river reaches. The TVA has improved water quality in the two subject reaches by instituting minimum flows for the protection of aquatic life and by increasing the dissolved oxygen content of the water. In a letter to us dated December 9,1998, TVA expressed its support for mussel recovery efforts in the Tennessee Valley streams and tailwaters. TVA would likely be involved in consultations regarding critical habitat (if it were designated) on the Holston and French Broad Rivers. Because TVA is already working with us to improve water quality in the two subject reaches and below other dams in Tennessee, designation may reduce the success of these continued cooperative efforts.

Similarly, the segment of the Rockcastle River is listed as a State Scenic River and designated as an "Outstanding State Resource Water" (OSRW) by the State of Kentucky because of the presence of federally protected species. OSRWs are given more consideration during the State environmental review process, and their designation provides some additional protections for streams from proposed development activities, all of which affords them increased recognition and additional protections under the State's environmental review process. Since 1994, we have had only 12 informal consultations on this stretch of the Rockcastle River, all involving the Cumberland bean. These consultations included a forest management plan for the Daniel Boone National Forest. Oyster mussels and Cumberlandian combshells placed into the Rockcastle River through NEP designations would be treated as species proposed for listing by the Forest Service, and therefore would still be considered during Federal management actions under section 7 of the Act. Because this stretch has very little consultation history and possesses current protections from existing State designations and the presence of the Cumberland bean, the benefit that would be gained for the oyster mussel and Cumberlandian combshell through section 7 protections provided by a critical habitat designation is relatively minor.

The identification of habitat essential to the conservation of the species can provide some informational benefits to the public, State and local governments, scientific organizations, and Federal agencies, and may facilitate conservation efforts. However, we believe that there would be little additional informational benefit from including the lower Holston, lower French Broad River, and Rockcastle Rivers as critical habitat, because this proposal identifies all areas that are essential to the conservation of the species, regardless of whether all of these areas are designated as critical habitat. Consequently, we believe that informational benefits will be provided to the lower Holston, French Broad, and Rockcastle Rivers, even though these areas are not proposed as critical habitat.

Benefits of Exclusion

Congress made significant changes to the Act, with the addition of section 10(j) in 1982, which provides for the designation of specific reintroduced populations of listed species as "experimental populations." This section was designed to provide us with innovative means to introduce a listed species into unoccupied habitat within its historic range when doing so would foster the conservation and recovery of the species. Experimental populations provide us with a flexible, proactive means to meet recovery criteria while not alienating stakeholders, such as municipalities and landowners, whose cooperation is essential for eventual success of the reintroduced population.

Section 10(j) increases our flexibility in managing an experimental population by allowing us to treat the population as threatened, regardless of the species' status elsewhere in its range. Threatened status gives us more discretion in developing and implementing management programs and special regulations for a population and allows us to develop any regulations we consider necessary to provide for the conservation of a threatened species. This flexibility allows us to manage the experimental population in a manner that will ensure that current and future land, water, or air uses and activities will not be unnecessarily restricted and the population can be managed for recovery purposes.

When we designate a population as experimental, section 10(j) of the Act requires that we determine whether that population is either essential or nonessential to the continued existence

of the species, on the basis of the best available information. Nonessential experimental populations located outside the National Wildlife Refuge System or National Park System lands are treated, for the purposes of section 7 of the Act, as if they are proposed for listing, while on National Wildlife Refuges or National Parks the species is treated as threatened. Section 7(a)(2) of the Act, which requires Federal agencies to ensure that their activities are not likely to jeopardize the continued existence of a listed species, would not apply except on National Wildlife Refuge System and National Park System lands only. Experimental populations determined to be "essential" to the survival of the species would remain subject to the consultation provisions of section 7(a)(2) of the Act.

The flexibility gained by establishment of an experimental population through section 10(j) would be of little value if a designation of critical habitat overlaps it. This is because Federal agencies would still be required to consult with us on any actions that may adversely affect critical habitat. In effect, the flexibility gained from section 10(j) would be rendered useless by the designation of critical habitat. In fact, section 10(j)(2)(C)(ii) of the Act states that critical habitat shall not be designated under the Act for any experimental population determined to be not essential to the continued existence of a species.

As mentioned above, the recovery strategy for the oyster mussel and Cumberlandian combshell outlined in the agency draft recovery plan requires the reestablishment/reintroduction of these two mussels into areas of their historic ranges. Because of their currently reduced and fragmented state, the mussels face enhanced threats and would never be able to repopulate these reaches naturally. We strongly believe that, in order to achieve recovery for these mussels, in accordance with the Service's Recovery Plan we would need the flexibility provided for in section 10(j) of the Act to help ensure the success of reestablishing these mussels in the specified areas of the lower French Broad, Rockcastle, and Holston Rivers which have been identified as having medium to high recovery potential. Use of section 10(j) is meant to encourage local cooperation through management flexibility. Nonessential experimental populations in certain areas are often our only mechanism to achieve recovery. We believe it is crucial for recovery of these two mussels that we have the support of the public in these three river reaches when we move forward in the reintroduction efforts required in our agency draft recovery plan. However, critical habitat is often viewed negatively by the public since it is not well understood and there are many misconceptions about how it affects private landowners (Patlis 2001).

The specified areas in the lower Holston and French Broad Rivers represent years of planning and coordination between the Service, the State of Tennessee, TVA, and others to recover aquatic species and their habitat. We have cooperation and support from the State of Tennessee, TVA, and others in considering these areas an NEP. We continue to have extensive cooperation and support from these stakeholders in working towards aquatic species recovery in general in the Tennessee and Cumberland River Basins. Due to work done in large part by these agencies as well as by landowners, municipalities, and other stakeholders, we have collectively improved the water and habitat quality in these areas to the point where there are suitable reintroduction sites in certain areas for a host of listed species, including 1 federally listed, endangered, aquatic snail, 5 federally listed fishes (2 endangered and 3 threatened), and 14 additional federally listed, endangered, freshwater mussels. Designating these 2 reaches as critical habitat could jeopardize the establishment and success of the reintroductions as well as this cooperative effort that we are considering for the Cumberlandian combshell and oyster mussel as well as these other species to achieve their recovery criteria.

Similarly, the Rockcastle River contains a robust mussel community (Thompson 1985; Cicerello 1992) second only to the Big South Fork as the best remaining representation of preimpoundment (before the water was dammed) mussel fauna in the Cumberland River System (R.R. Cicerello, KSNPC, pers. comm. 2003). However, the oyster mussel and Cumberlandian combshell no longer occur in this river. We have worked for years with the Daniel Boone National Forest to protect the water quality and unique mussel community found in the Rockcastle River. Designating unoccupied critical habitat in the Rockcastle River would be viewed as an unnecessary regulatory intrusion into a cooperative relationship between our agencies. It would also likely be viewed negatively by local stakeholders, whose very support we need to effect the recovery of these rare mussel taxa by reintroducing them into suitable historic habitat found there.

In summary, we believe that the benefits of excluding the lower French Broad, Rockcastle, and Holston Rivers areas outweigh the benefits of their inclusion as critical habitat. Including these areas may result in some benefit through additional consultations with Federal agencies whose activities may affect critical habitat. However, overall this benefit is minimal because of the presence of other listed species with similar habitat requirements which are, and will continue to be, considered in consultation. A proposed designation in these two river reaches would also provide little additional informational benefit to the public, State and governmental agencies, and others. On the other hand, an exclusion will greatly benefit the overall recovery of the oyster mussel and Cumberlandian combshell (as well as 20 other federally listed species) by allowing us to use the flexibility and greater public acceptance of section 10(j) of the Act to reestablish the oyster mussel and Cumberlandian combshell in other portions of their historic range where they no longer occur. We also believe that the exclusion of the specified areas in the lower French Broad, lower Holston, and Rockcastle Rivers will not lead to the extinction of these two mussels based on their occurrences in other river and stream stretches, and the cooperative partnerships in place for establishing these NEPs. We seek comment on our preliminary determination to exclude these areas from critical habitat.

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 on this proposed rule 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, Tennessee Field 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 document 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? (5) 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 notice easier to understand to: Office of Regulatory Affairs, Department of the Interior, Room 7229, 1849 C Street, NW., Washington, DC 20240. You may e-mail your comments to this address: Execse&ios.doi.gov.

Required Determinations

Regulatory Planning and Review

In accordance with Executive Order 12866, this document is not a significant rule and, therefore, was not 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 ESA 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 five mussels. We will make this analysis available for public comment before we finalize 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 that 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. To determine if potential economic impacts to these small entities are significant, we consider the types of activities that might trigger regulatory impacts under this rule, as well as the types of project modifications that may result.

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, the 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 *American* 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). 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 five mussels.

If this critical habitat designation is finalized, Federal agencies must also consult with us if their activities may affect designated critical habitat. However, we believe this will result in only minimal additional regulatory burden on Federal agencies or their applicants because consultation would already be required because of 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.

Since the five mussels were listed (1997), we have conducted nine formal consultations involving one or more of these species. These formal consultations, which all involved Federal projects, included five bridge replacements, two Federal land management plans, an intra-agency review of the Wilson Dam NEP and associated collecting permits, and an intra-agency review of collection

permits needed by researchers involved in endangered mussel propagation. These nine consultations resulted in non-jeopardy biological opinions.

We also reviewed approximately 100 informal consultations that have been conducted since these 5 species were listed involving private businesses and industries, counties, cities, towns, or municipalities. At least 15 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, transmission lines, pipelines, mines, and road and utility development authorized by various Federal agencies, or review of National Pollution Discharge Elimination System permit applications to State water quality agencies by developers, municipalities, mines, businesses, and others. 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 100 activities in the Tennessee and Cumberland River Basins, 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 6 years since the five mussels were listed, there have been no formal consultations regarding actions by small entities. This does not meet the definition of "substantial." In addition, we see 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 all 13 of the proposed critical habitat units are currently occupied by one or more listed mussels, 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 5 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 review of the draft economic analysis prepared pursuant to section 4(b)(2) of the Act and Executive Order 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 & 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. This rule is not a significant regulatory action under Executive Order 12866, and 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 (2 U.S.C. 1501 et seq.)

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 rule's effect on nonfederal governments.

Takings

In accordance with Executive Order 12630 ("Government Actions and Interference with Constitutionally Protected Private Property Rights"), we have analyzed the potential takings implications of proposing to designate approximately 544 rmi in 13 river and stream reaches in Alabama, Mississippi, Tennessee, Kentucky, and Virginia. This preliminary assessment concludes that this proposed rule does not pose significant takings implications. However, we have not yet completed the economic analysis for this proposed rule. Once the economic analysis is available, we will review and revise this preliminary assessment as warranted.

Federalism

In accordance with Executive Order 13132, this rule does not have significant Federalism effects. A Federalism assessment is not required. In keeping with Department of the Interior policies, the Service requested information from, and coordinated development of this critical habitat proposal with, appropriate State resource agencies in Mississippi, Alabama, Tennessee, Kentucky, and Virginia. The designation of critical habitat for these five species imposes no additional restrictions to those currently in place, and, therefore, has little additional impact on State and local governments and their activities. The designation may provide 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 conservation of the species are specifically identified. While this definition and this identification do not alter where and what federally sponsored activities may occur, they may assist these local governments in long-range planning, rather than leaving them to wait 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 that it meets 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 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 the five mussel species.

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 Act permits are covered by an existing OMB approval and are assigned clearance No. 1018–0094, Forms 3–200–55 and 3–200–56, 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 these five mussels. Therefore, designation of critical habitat for the five 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 Cookeville Field Office (see **ADDRESSES** section).

Author

The primary author of this notice is Rob Tawes (931/528–6481, extension 213) (see **ADDRESSES** section).

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 § 17.11(h), revise each of the entries here, listed in alphabetical order under "CLAMS" in the List of Endangered and Threatened Wildlife, so that they read as follows:

§ 17.11 Endangered and threatened wildlife.

* * * * *

(h) * * *

Species		Historic range	Vertebrate population where endangered or threatened	Status	When listed		Special rules
Common name	Scientific name						
		*	*	*	*	*	
CLAMS							
Bean, Purple	*Villosa* perpurpurea	U.S.A. (TN, VA)	NA	E	602	17.95(f)	NA
Combshell, Cumberlandian.	Epioblasma brevidens.	U.S.A. (AL, KY, MS, TN, VA).	NA	E	602	17.95(f)	NA
Elktoe, Cumberland	*Alasmidonta atropurpurea.*	U.S.A. (KY, TN)	NA	E	602	17.95(f)	NA
Mussel, oyster	Epioblasma capsaeformis.	U.S.A. (AL, GA, KY, MS, NC, TN, VA).	NA	E	602	17.95(f)	NA
Rabbitsfoot, rough	*Quadrula* cylindrica *strigillata.*	U.S.A. (TN, VA)	NA	E	602	17.95(f)	NA
		*	*	*	*	*	

3. In § 17.95, at the end of paragraph (f), add an entry for five Cumberland and Tennessee River Basin mussels species to read as follows:

517.95 Critical habitat—fish and wildlife.

* * * * *

(f) *Clams* and snails.

* * * * *

Five Tennessee and Cumberland River Basin mussels species: Purple bean (*Villosa perpurpurea*), Cumberlandian combshell (*Epioblasma* brevidens), Cumberland elktoe (Alasmidonta *atropurpurea*), oyster mussel (Epioblasmo *capsaeformis*), and rough rabbitsfoot (*Quadrula cylindrica strigillata*).

(1) Primary constituent elements.

(i) The primary constituent elements essential for the conservation of the

purple bean (Villosa perpurpurea), Cumberlandian combshell (Epioblasrna brevidens), Cumberland elktoe (*Alasmidonta atropurpurea*), oyster mussel (Epioblasrna capsaeforrnis), and rough rabbitsfoot (*Quadrula cylindrica strigillata*) 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:

(A) Permanent, flowing stream reaches with 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 the five mussels and their host fish;

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

(C) Stable substrates consisting of mud, sand, gravel, and/or cobble/boulder, with low amounts of fine sediments or attached filamentous algae;

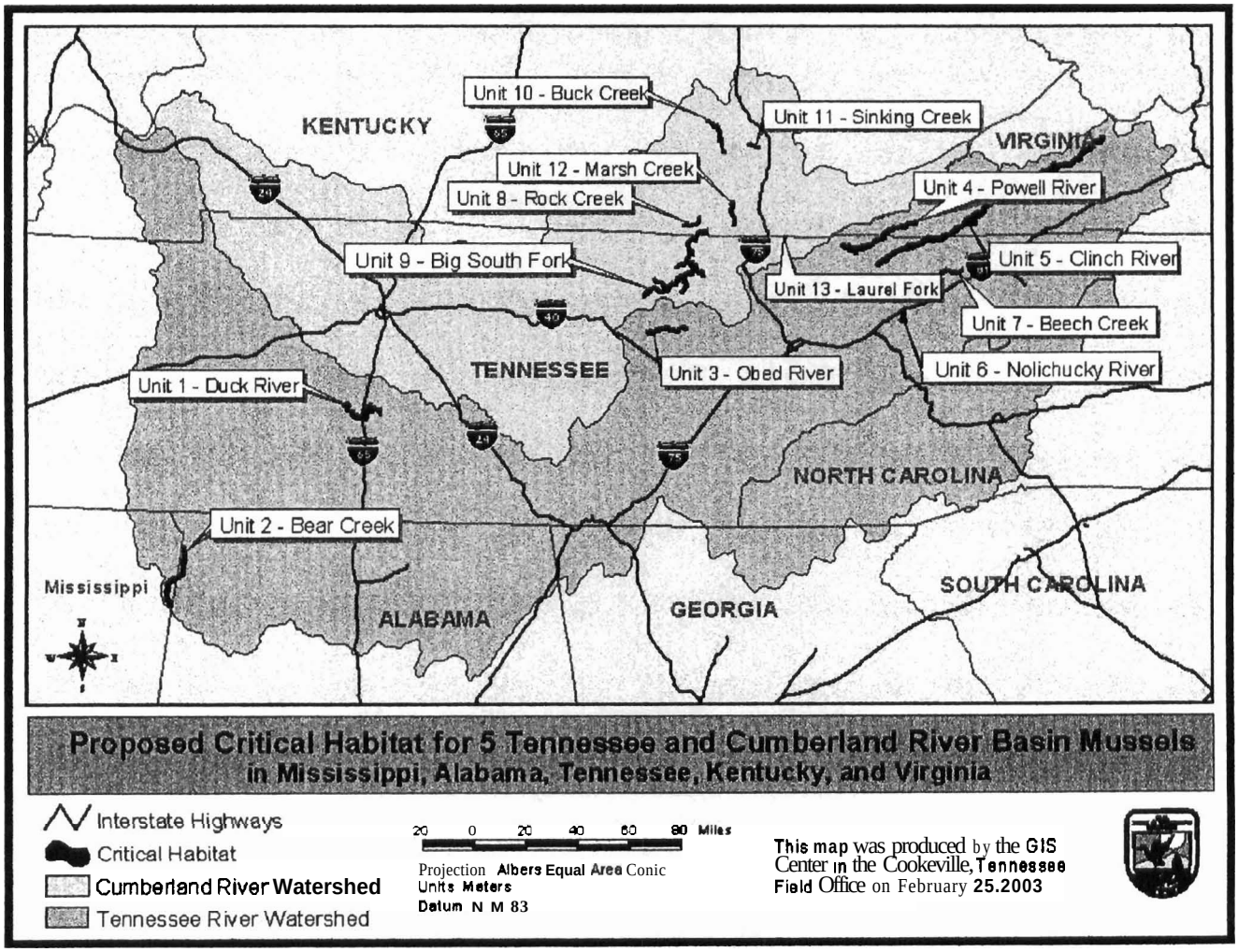
(D) Water quality (including temperature, turbidity, oxygen content, and other characteristics) necessary for the normal behavior, growth, and survival of all life stages of the five mussels and their host fish; and

(E) Fish hosts with adequate living, foraging, and spawning areas.

(ii) [Reserved]

(2) Critical habitat unit descriptions and maps.

(i) Index map. The index map showing critical habitat units in the States of Mississippi, Alabama, Tennessee, Kentucky, and Virginia for the five Tennessee and Cumberland River Basin mussels follows:



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

TABLE OF FIVE TENNESSEE AND CUMBERLAND RIVER BASIN MUSSELS, THEIR CRITICAL HABITAT UNITS, AND STATES CONTAINING THOSE CRITICAL HABITAT UNITS

Species	Critical habitat units	States
Purple bean, *(Villosa perpurpurea)*	Units 3, 4, 5, **7**	TN. VA
Cumberlandian combshell, *(Epioblasma brevidens)*	Units 1, 2, 4, **5, 6, 9,** 10	AL, KY, MS, TN, VA.

TABLE OF FIVE TENNESSEE AND CUMBERLAND RIVER BASIN MUSSELS, THEIR CRITICAL HABITAT UNITS, AND STATES CONTAINING THOSE CRITICAL HABITAT UNITS—Continued

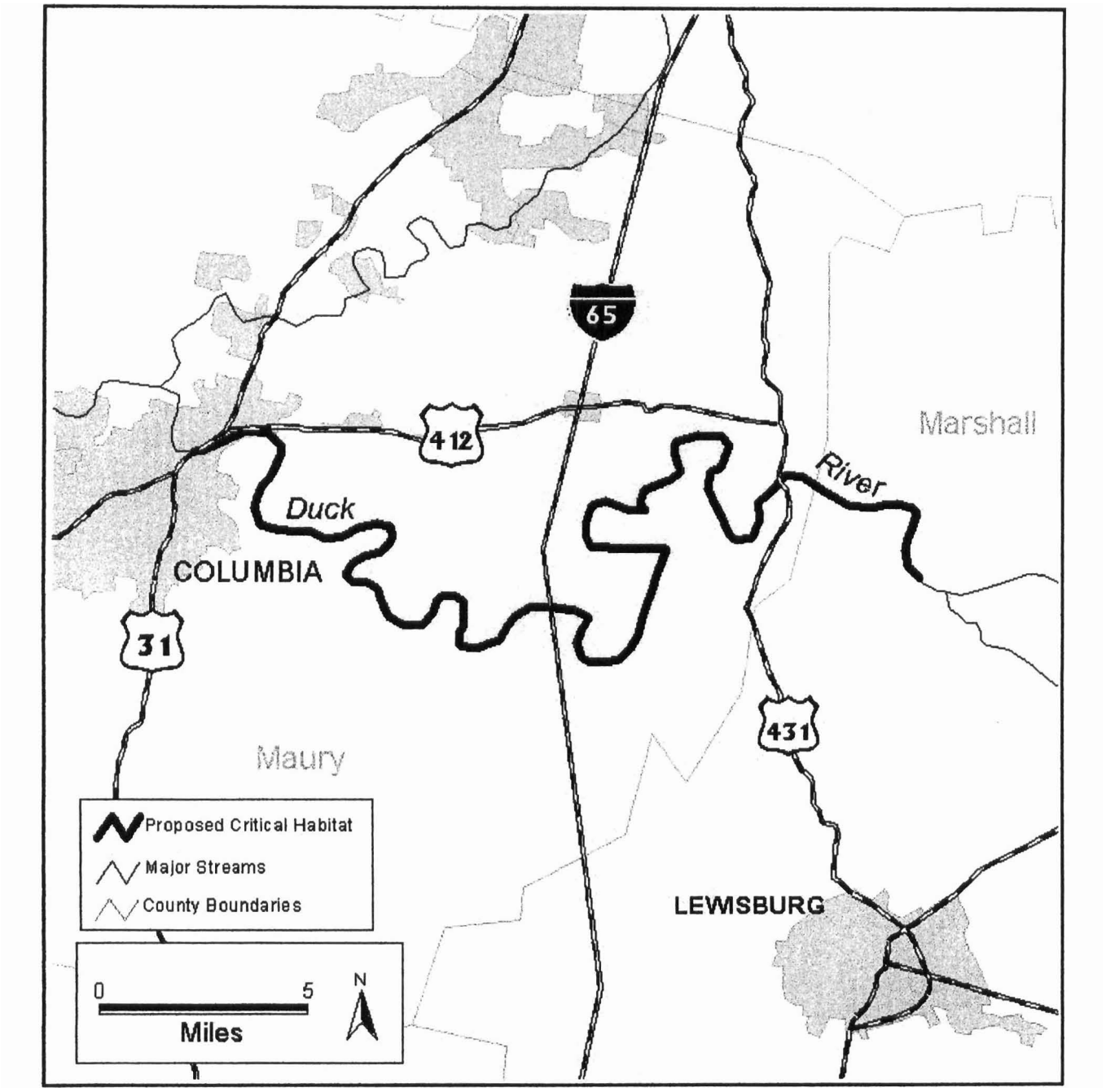
Species	Critical habitat units	States
Cumberland elktoe, *(Alasmidonta atropurpurea)*	Units 8, 9, 11, 12, 13	KY, TN.
Oyster mussel, *(Epioblasma capsaeformis)*	Units 1, 2, 4, 5, 6, 9, 10	AL, KY, MS, TN, VA.
Rough rabbitsfoot *(Quadrula cylindrica strigillata)*	Units 4, 5	TN, VA.

(iii) *Unit* 1. Duck River, Marshall and Maury Counties, Tennessee. This is a critical habitat unit for the oyster mussel and Cumberlandian combshell.

(A) Unit 1 includes the mainstem of the Duck River from rkm 214 (rmi 133) (0.3 rkm (0.2 rmi) upstream of the First Street Bridge) (−87.03 longitude, 35.63 latitude) in the City of Columbia, Maury County, Tennessee, upstream to Lillards Mill Dam at rkm 288 (rmi 179) (−86.78 longitude, 35.58 latitude), Marshall County, Tennessee.

(B) Map of Unit 1 follows:

Unit 1 - Duck River: Critical Habitat for Oyster mussel and Cumberlandian combshell



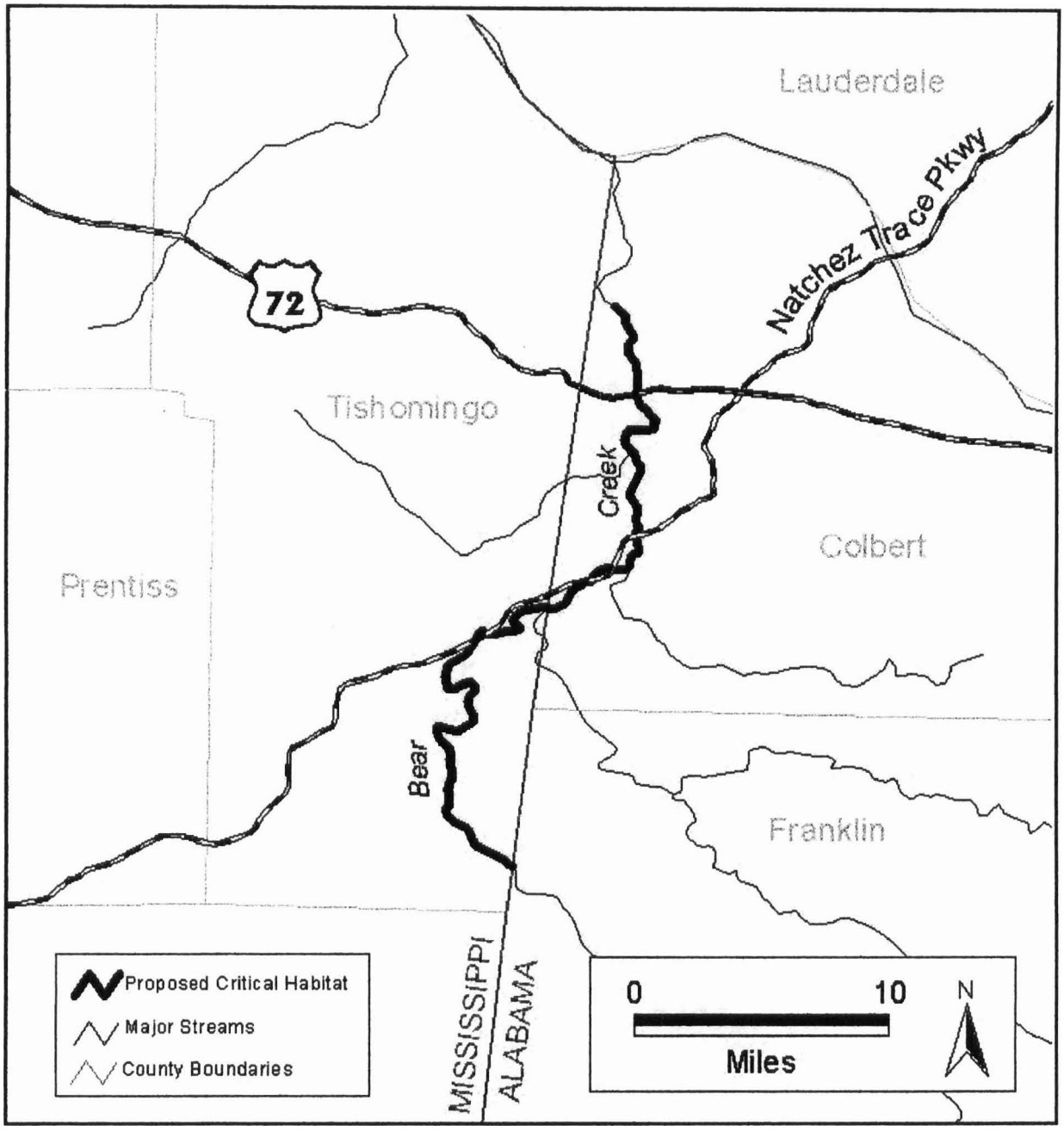
This map is provided for illustrative purposes of critical habitat only. For the precise legal definition of critical habitat, please refer to the narrative unit descriptions.

(iv) *Unit* 2. Bear Creek, Colbert County, Alabama, and Tishomingo County, Mississippi. This is a critical habitat unit for the oyster mussel and Cumberlandian combshell.

(A) Unit 2 consists of the mainstem of Bear Creek from the backwaters of Pickwick Lake at rkm 37 (rmi 23) (−88.09 longitude, 34.81 latitude), Colbert County, Alabama, upstream through Tishomingo County, Mississippi, ending at the Mississippi/Alabama state line.

(B) Map of Unit 2 follows:

Unit 2 - Bear Creek: Critical Habitat for Oyster mussel and Cumberlandian combshell



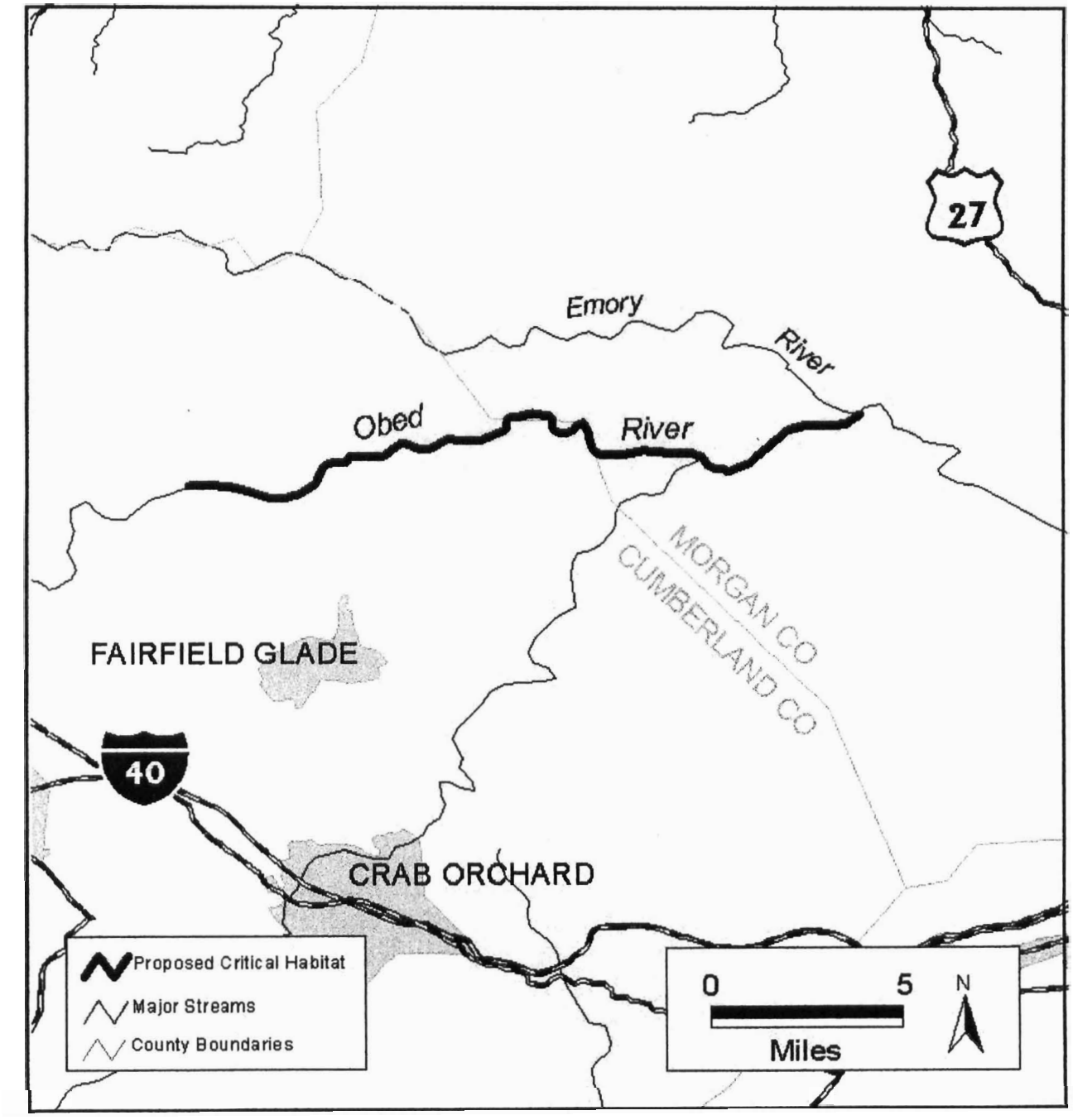
This map is provided for illustrative purposes of critical habitat only. For the precise legal definition of critical habitat, please refer to the narrative unit descriptions.

(v) *Unit 3.* Obed River, Cumberland and Morgan Counties, Tennessee. This is a critical habitat unit for the purple bean.

(A) Unit 3 includes the Obed River mainstem from its confluence with the Emory River (–84.69 longitude, 36.09 latitude), Morgan County, Tennessee, upstream to Adams Bridge, Cumberland County, Tennessee (–84.95 longitude, 36.07 latitude).

(B) Map of Unit 3 follows:

Unit 3 - Obed River: Critical Habitat for Purple bean



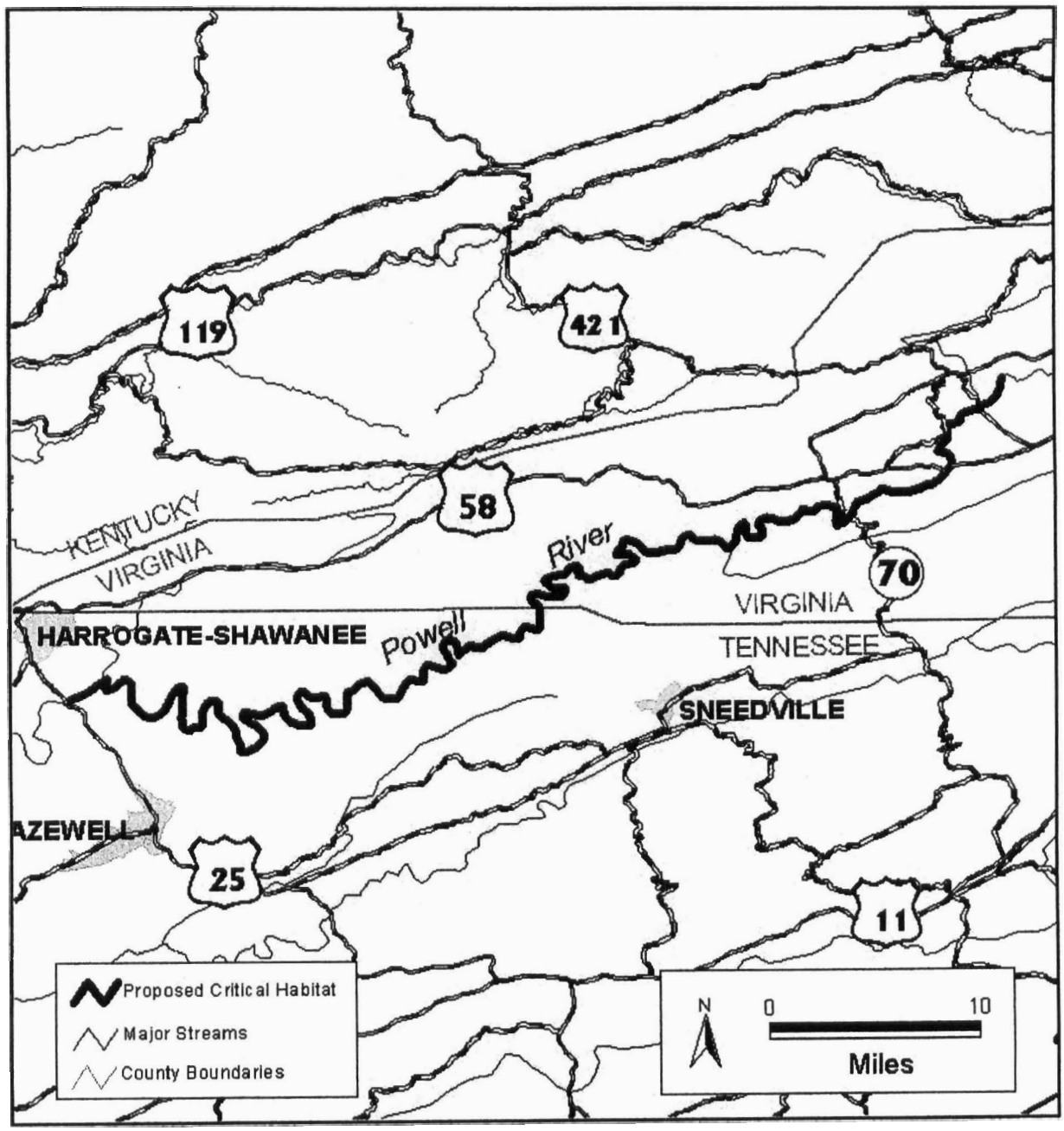
This map is provided for illustrative purposes of critical habitat only. For the precise legal definition of critical habitat, please refer to the narrative unit descriptions.

(vi) *Unit* 4. Powell River, Claiborne and Hancock Counties, Tennessee, and Lee County, Virginia. This is a critical habitat unit for the purple bean, Cumberlandian combshell, oyster mussel, and rough rabbitsfoot.

(A) Unit 4 includes the mainstem of the Powell River from the U.S. 25E bridge in Claiborne County, Tennessee **(–83.63** longitude, **36.53** latitude), upstream to river mile 159 (upstream of Rock Island in the vicinity of Pughs) Lee County, Virginia.

(B) Map of Unit 4 follows:

Unit 4 - Powell River: Critical Habitat for Purple bean, Cumberlandian combshell, Oyster mussel, and Rough rabbitsfoot



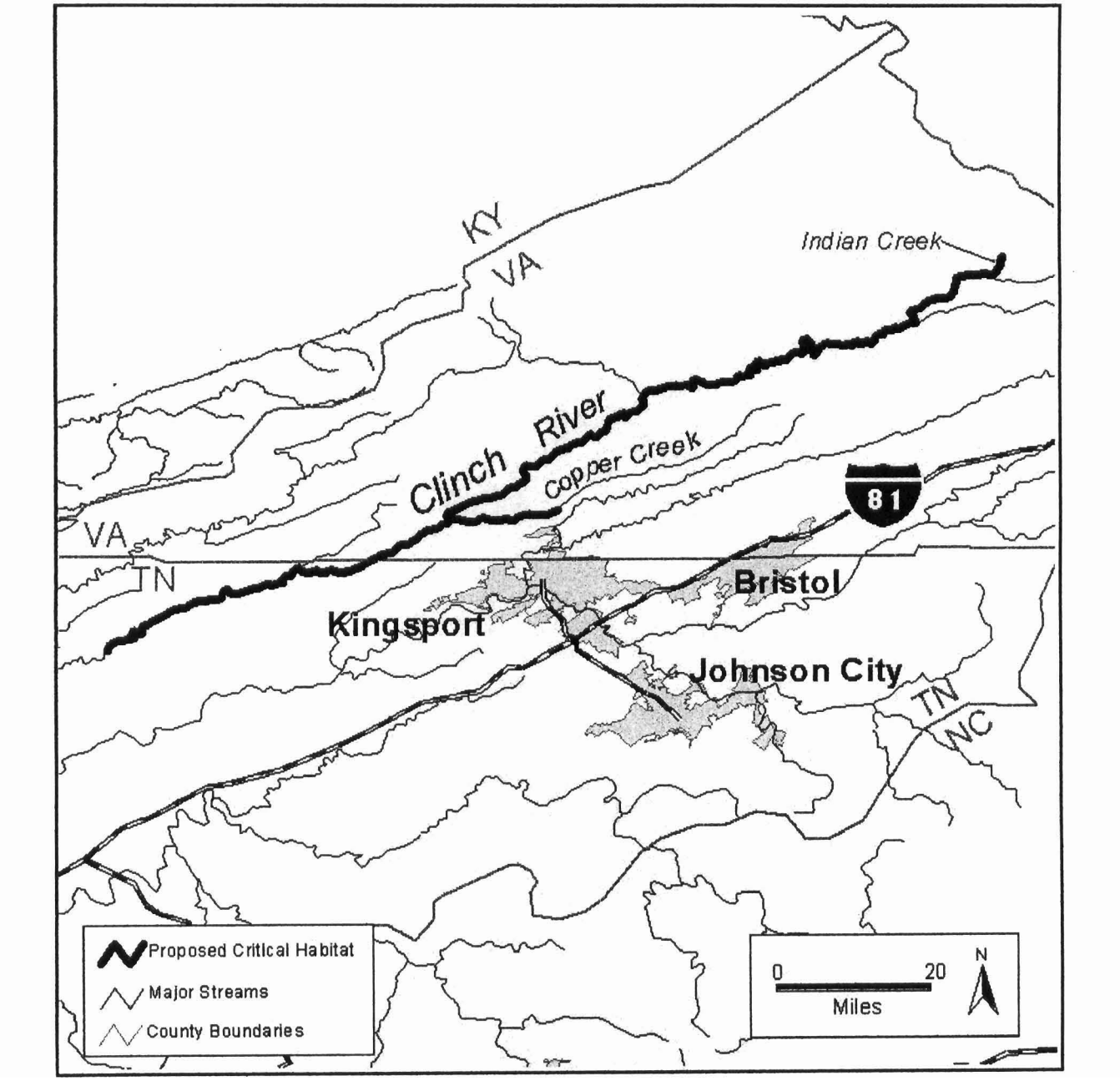
This map is provided for illustrative purposes of critical habitat only. For the precise legal definition of critical habitat, please refer to the narrative unit descriptions.

(vii) *Unit 5.* Clinch River, Hancock County, Tennessee, and Scott, Russell, and Tazewell Counties, Virginia; Copper Creek, Scott County, Virginia; and Indian Creek, Tazewell County, Virginia. This is a critical habitat unit for the purple bean, Curnberlandian combshell, oyster mussel, and rough rabbitsfoot.

(A) Unit 5 includes the Clinch River mainstem from rkm 255 (rmi 159) (−83.36 longitude, 36.43 latitude) immediately below Grissom Island, Hancock County, Tennessee, upstream to its confluence with Indian Creek in Cedar Bluff, Tazewell County, Virginia (−81.80 longitude, 37.10 latitude); Copper Creek in Scott County, Virginia, from its confluence with the Clinch River (−82.74 longitude, 36.67 latitude) upstream to Virginia State Route 72 (−82.56 longitude, 36.68 latitude); and Indian Creek from its confluence with the Clinch River upstream to the fourth Norfolk Southern Railroad crossing at Van Dyke, Tazewell County, Virginia (−81.77 longitude, 37.14 latitude).

(B) Map of Unit 5 follows:

Unit 5 - Clinch River: Critical Habitat for Purple bean, Cumberlandian combshell, Oyster mussel, and Rough rabbitsfoot.



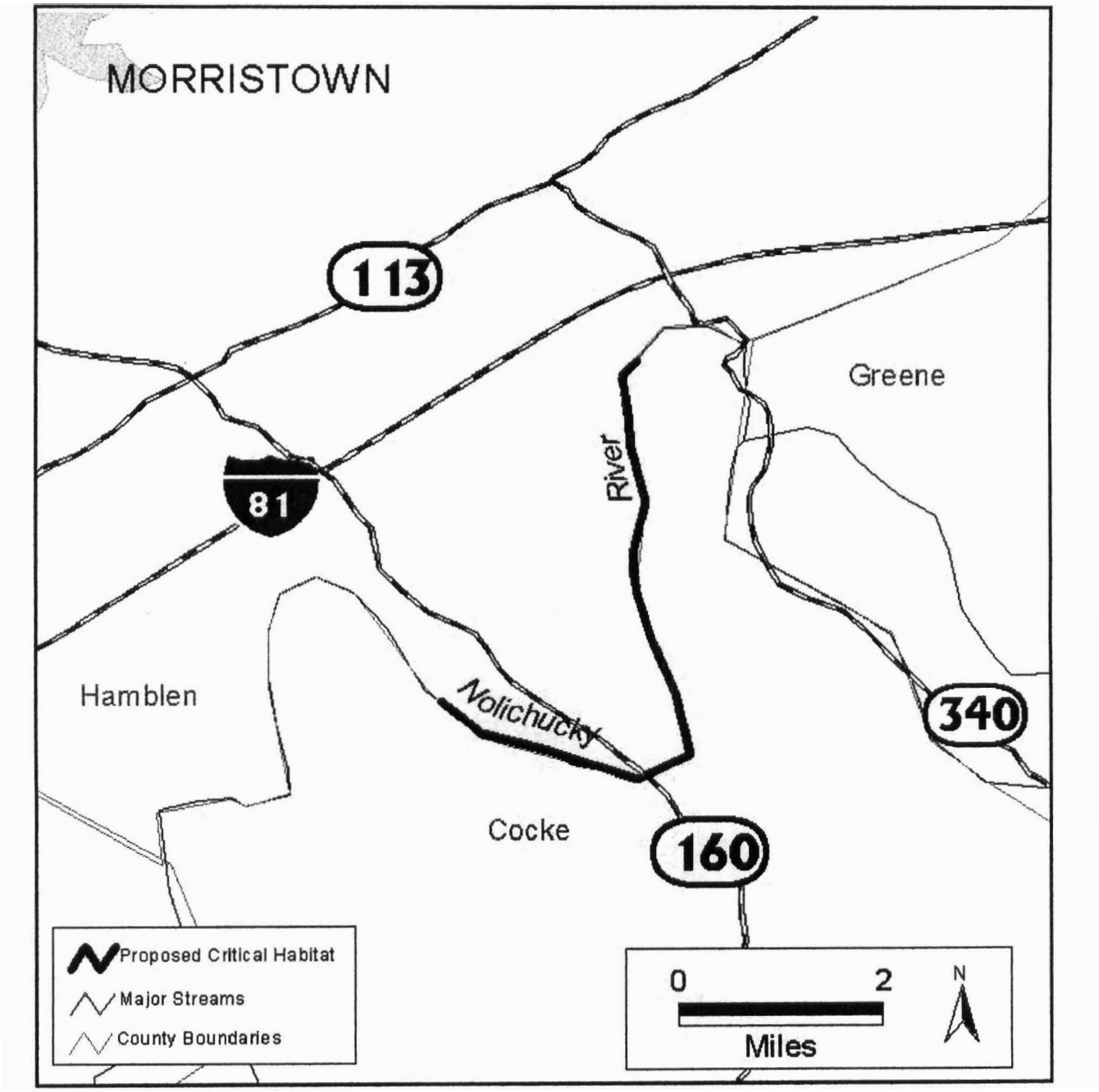
This map is provided for illustrative purposes of critical habitat only. For the precise legal definition of critical habitat, please refer to the narrative unit descriptions.

(viii) *Unit* 6. Nolichucky River, Hamblen and Cocke Counties, Tennessee. This is a critical habitat unit for the Cumberlandian combshell and oyster mussel.

(A) Unit 6 consists of the mainstem of the Nolichucky River from rkm 14 (rmi 9) (−83.18 longitude, 36.18 latitude) (approximately 0.6 rkm (0.4 rmi) upstream of Enka Dam) upstream to Susong Bridge (−83.20 longitude, 36.14 latitude) in Hamblen and Cocke Counties, Tennessee.

(B) Map of Unit 6 follows:

Unit 6 - Nolichucky River: Critical Habitat for Cumberlandian combshell and Oyster mussel



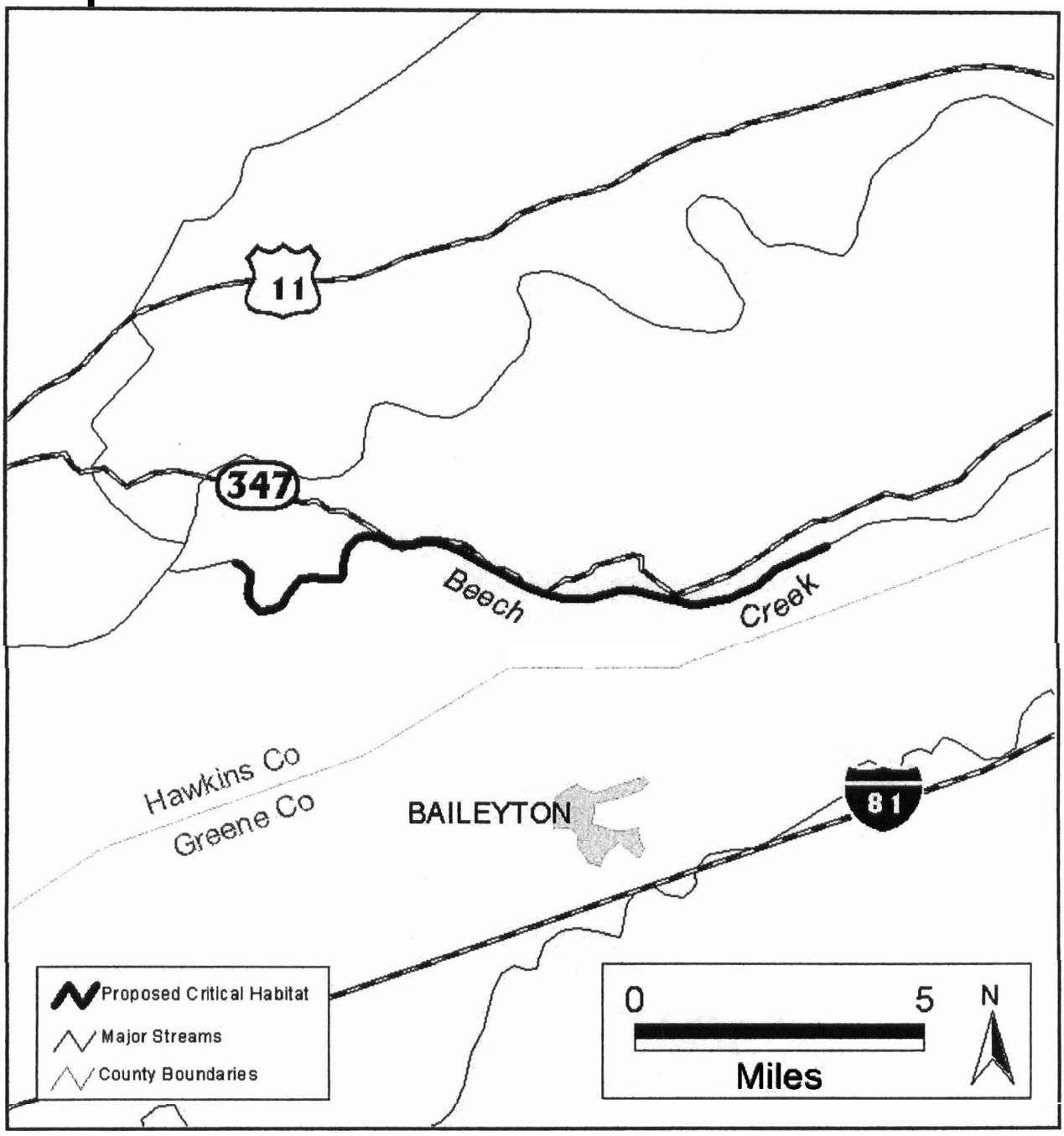
This map is provided for illustrative purposes of critical habitat only. For the precise legal definition of critical habitat, please refer to the narrative unit descriptions.

(ix) *Unit 7*. Beech Creek, Hawkins County, Tennessee. This is a critical habitat unit for the purple bean.

(A) Unit 7 includes the Beech Creek mainstem from rkm 4 (rmi 2) (−82.92 longitude, 36.40 latitude) of Beech Creek (in the vicinity of Slide, Tennessee) upstream to the dismantled railroad bridge at rkm 27 (rmi 16) (−82.77 longitude, 36.40 latitude).

(B) Map of Unit 7 follows:

Unit 7 - Beech Creek: Critical Habitat for Purple bean



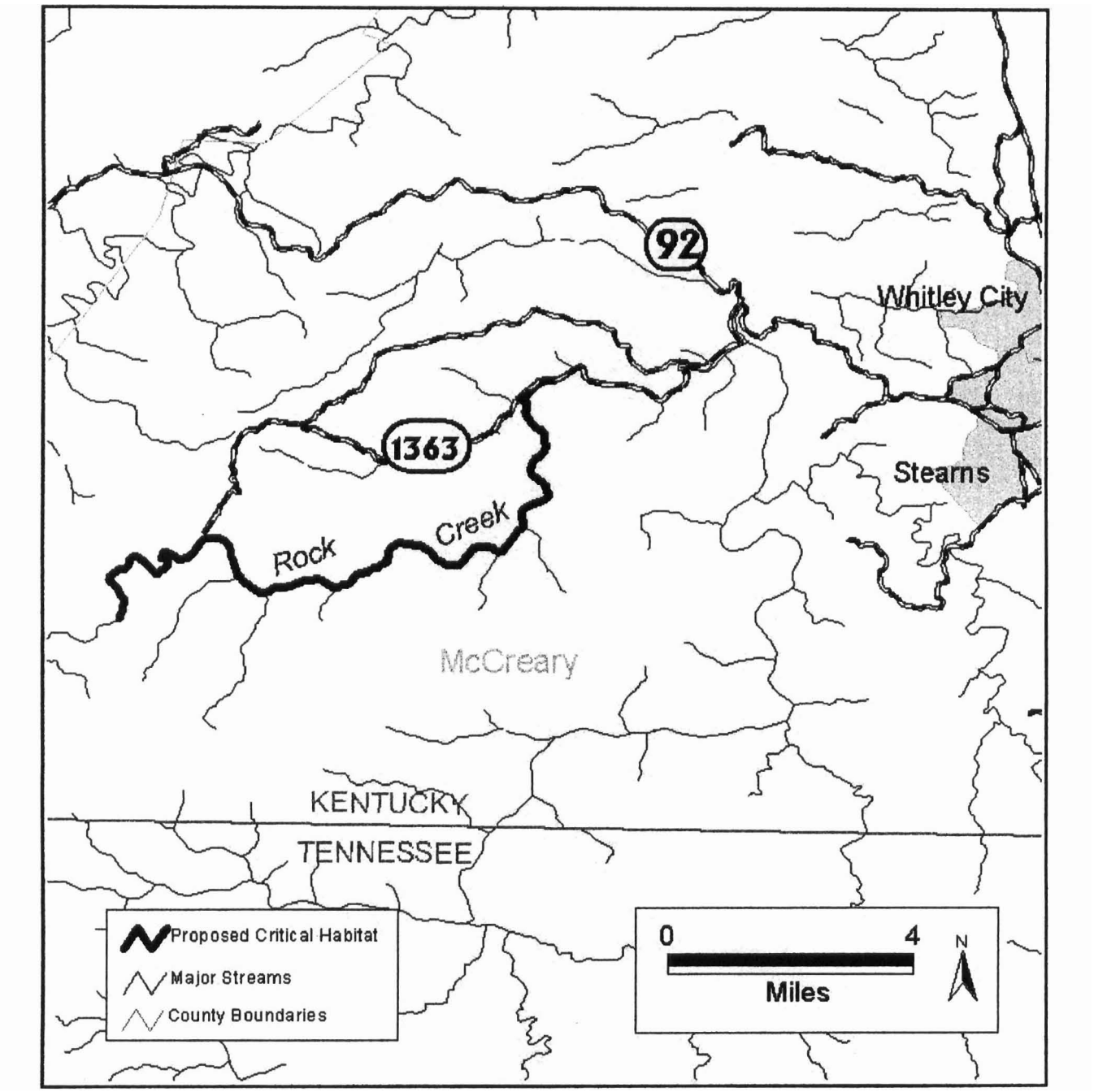
This map is provided for illustrative purposes of critical habitat only. For the precise legal definition of critical habitat, please refer to the narrative unit descriptions.

(x) *Unit* 8. Rock Creek, McCreary County, Kentucky. This is a critical habitat unit for the Cumberland elktoe.

(A) Unit 8 includes the mainstem of Rock Creek from its confluence with White Oak Creek (-84.59 longitude, 36.71 latitude), upstream to Sinking Creek rkm 18 (rmi 11) (-84.69 longitude, 36.65 latitude), McCreary County, Kentucky.

(B) Map of Unit 8 follows:

Unit 8 - Rock Creek: Critical Habitat for Cumberland elktoe



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

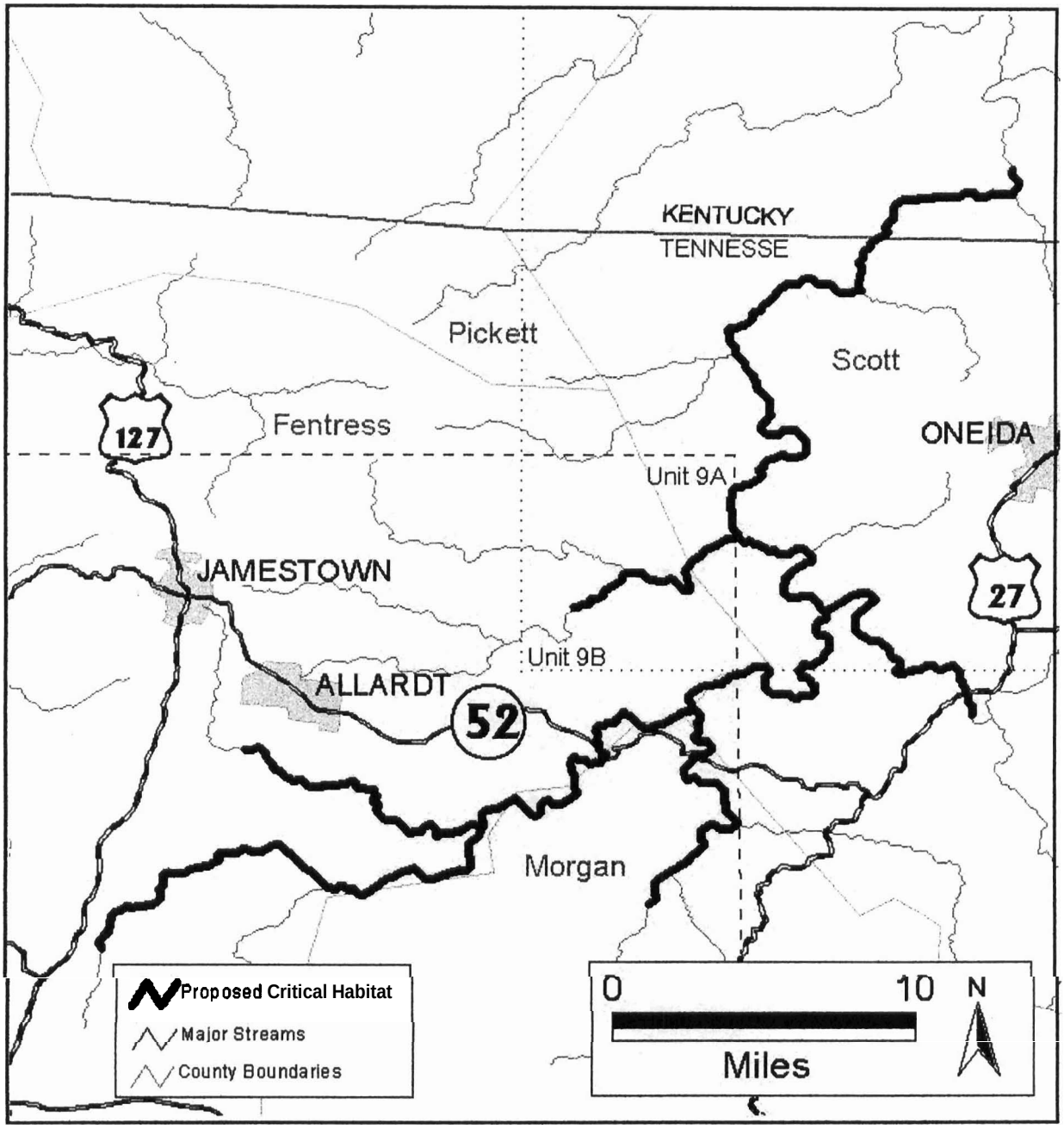
(xi) *Unit* 9. Big South Fork of the Cumberland River and its tributaries, Fentress, Morgan, and Scott Counties, Tennessee, and McCreary County, Kentucky. This is a critical habitat unit

for the Cumberlandian combshell, Cumberland elktoe, and oyster mussel.

(A) Unit 9 consists of the Big South Fork of the Cumberland River mainstem from its confluence with Laurel Crossing Branch (−84.54 longitude, 36.64 latitude), McCreary County, Kentucky, upstream to its confluence with the New River and Clear Fork, Scott County, Tennessee; North White Oak Creek from its confluence with the Big South Fork upstream to Panther Branch (−84.75 longitude, 36.42 latitude), Fentress County, Tennessee; New River from its confluence with Clear Fork upstream to U.S. Highway 27 (−84.55 longitude, 36.38 latitude), Scott County, Tennessee; Clear Fork from its confluence with the New River upstream to its confluence with North Prong Clear Fork, Morgan and Fentress Counties, Tennessee; White Oak Creek from its confluence with Clear Fork upstream to its confluence with Bone Camp Creek, Morgan County, Tennessee; Bone Camp Creek from its confluence with White Oak Creek upstream to Massengale Branch (−84.71 longitude, 36.28 latitude), Morgan County, Tennessee; Crooked Creek from its confluence with Clear Fork upstream to Buttermilk Branch (−84.92 longitude, 36.36 latitude), Fentress County, Tennessee; and North Prong Clear Fork from its confluence with Clear Fork upstream to Shoal Creek (−84.97 longitude, 36.26 latitude), Fentress County, Tennessee.

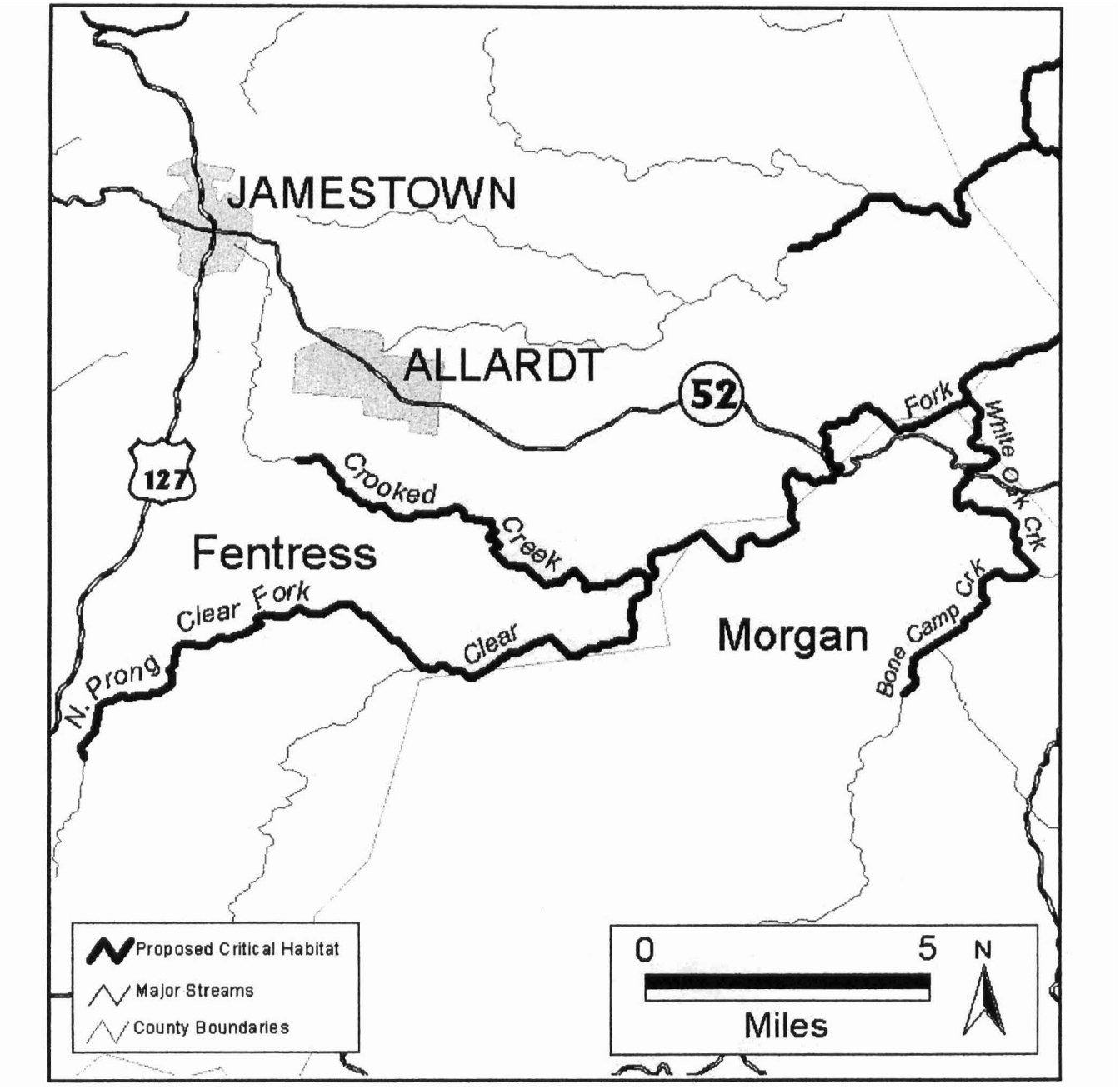
(B) Maps of Unit 9 follow:

Unit 9 - Big South Fork: Critical Habitat for Cumberland combshell, Cumberland elktoe, and Oyster mussel



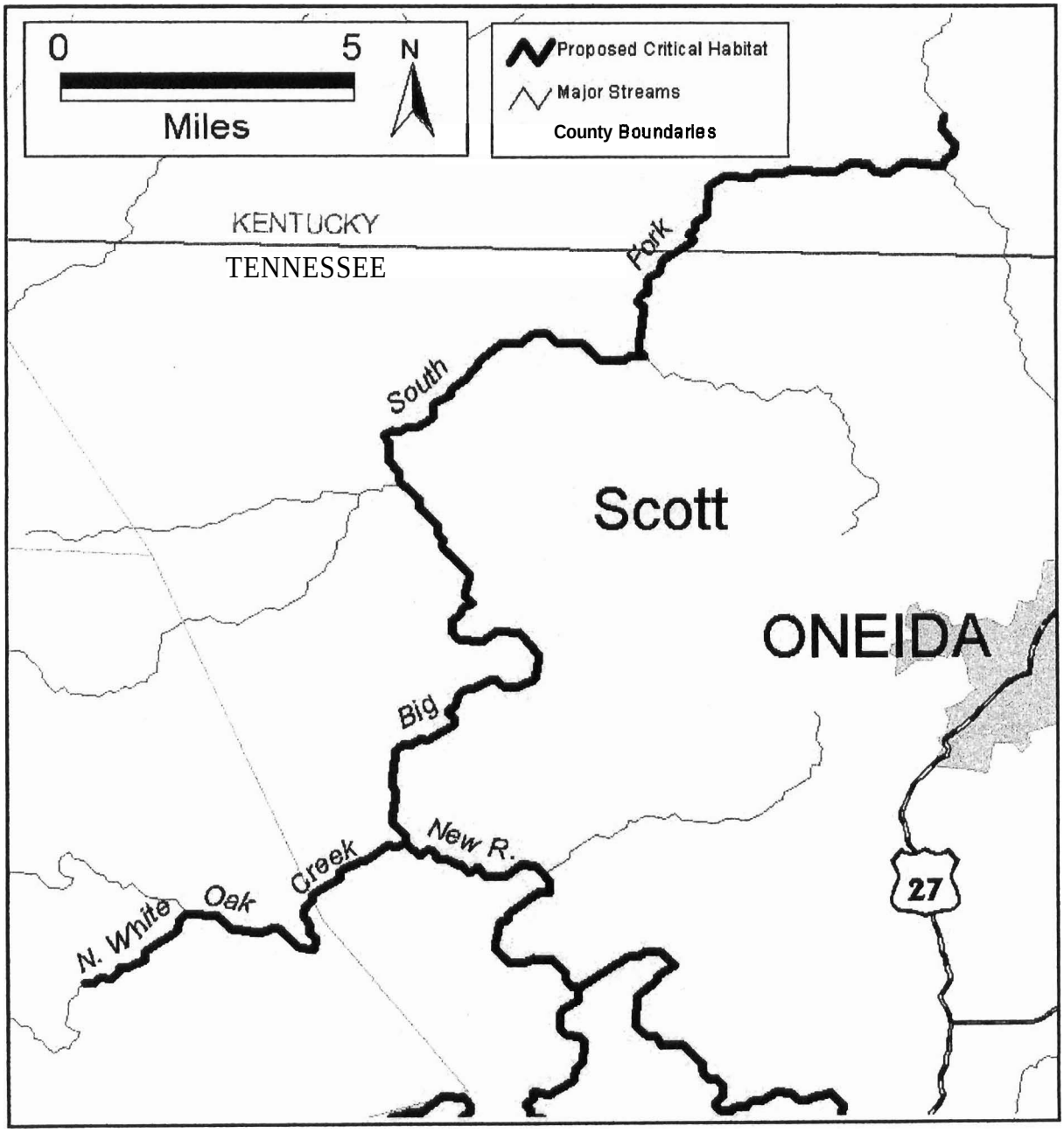
This map is provided for illustrative purposes of critical habitat only. For the precise legal definition of critical habitat, please refer to the narrative unit descriptions.

Unit 9A - Big South Fork: Critical Habitat for Cumberlandian combshell, Cumberland elktoe, and Oyster mussel



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

Unit 9B - Big South Fork: Critical Habitat for Cumberlandian combshell, Cumberland elktoe, and Oyster mussel



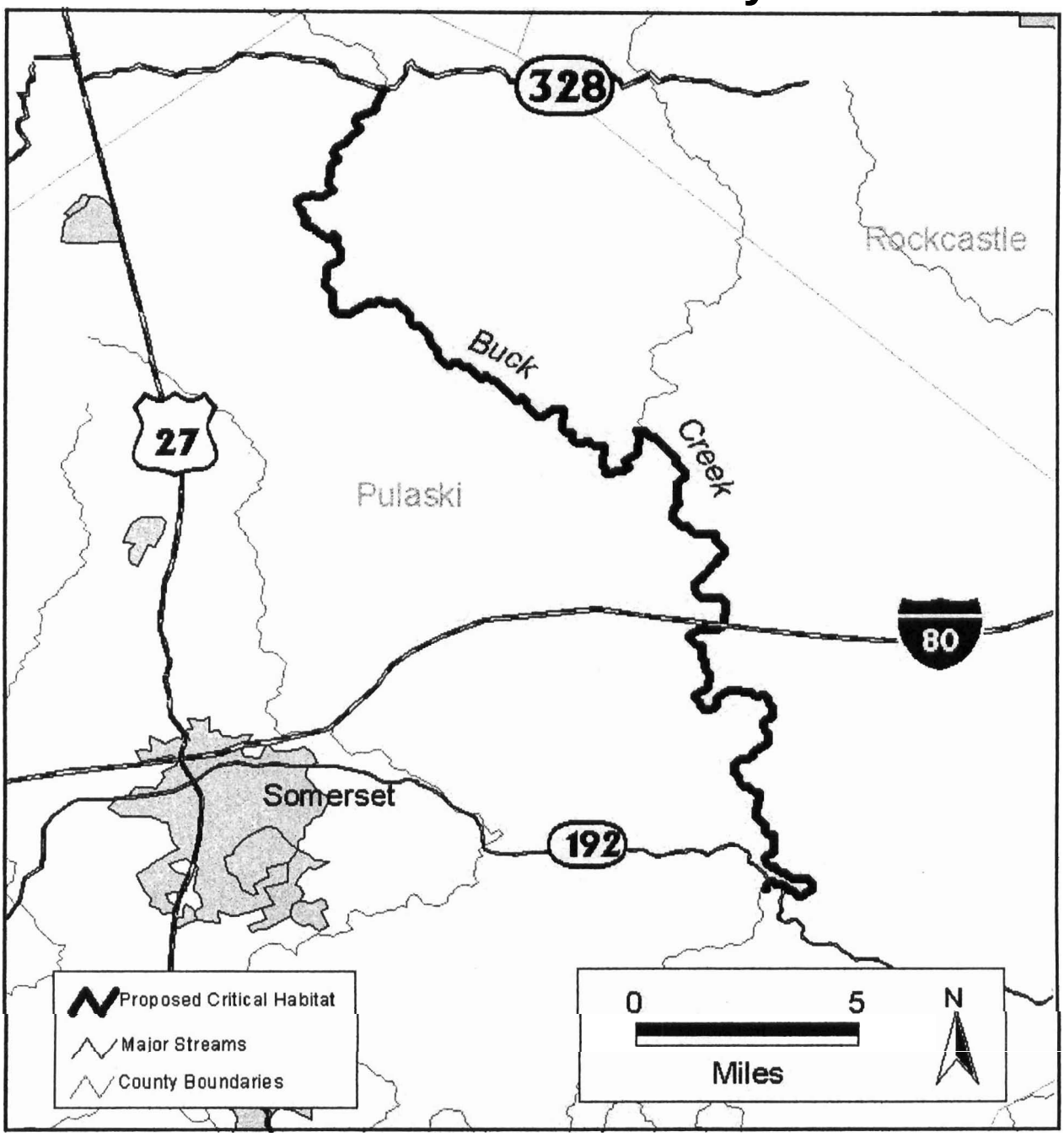
This map is provided for illustrative purposes of critical habitat only. For the precise legal definition of critical habitat, please refer to the narrative unit descriptions.

(xii) *Unit 10.* Buck Creek, Pulaski County, Kentucky. This is a critical habitat unit for the Cumberlandian combshell and oyster mussel.

(A) Unit 10 includes the Buck Creek mainstem from the State Road 192 Bridge (−84.43 longitude, 37.06 latitude) upstream to the State Road 328 Bridge (−84.56 longitude, 37.32 latitude) in Pulaski County, Kentucky.

(B) Map of Unit 10 follows:

Unit 10 - Buck Creek: Critical Habitat for Cumberlandian combshell and Oyster mussel



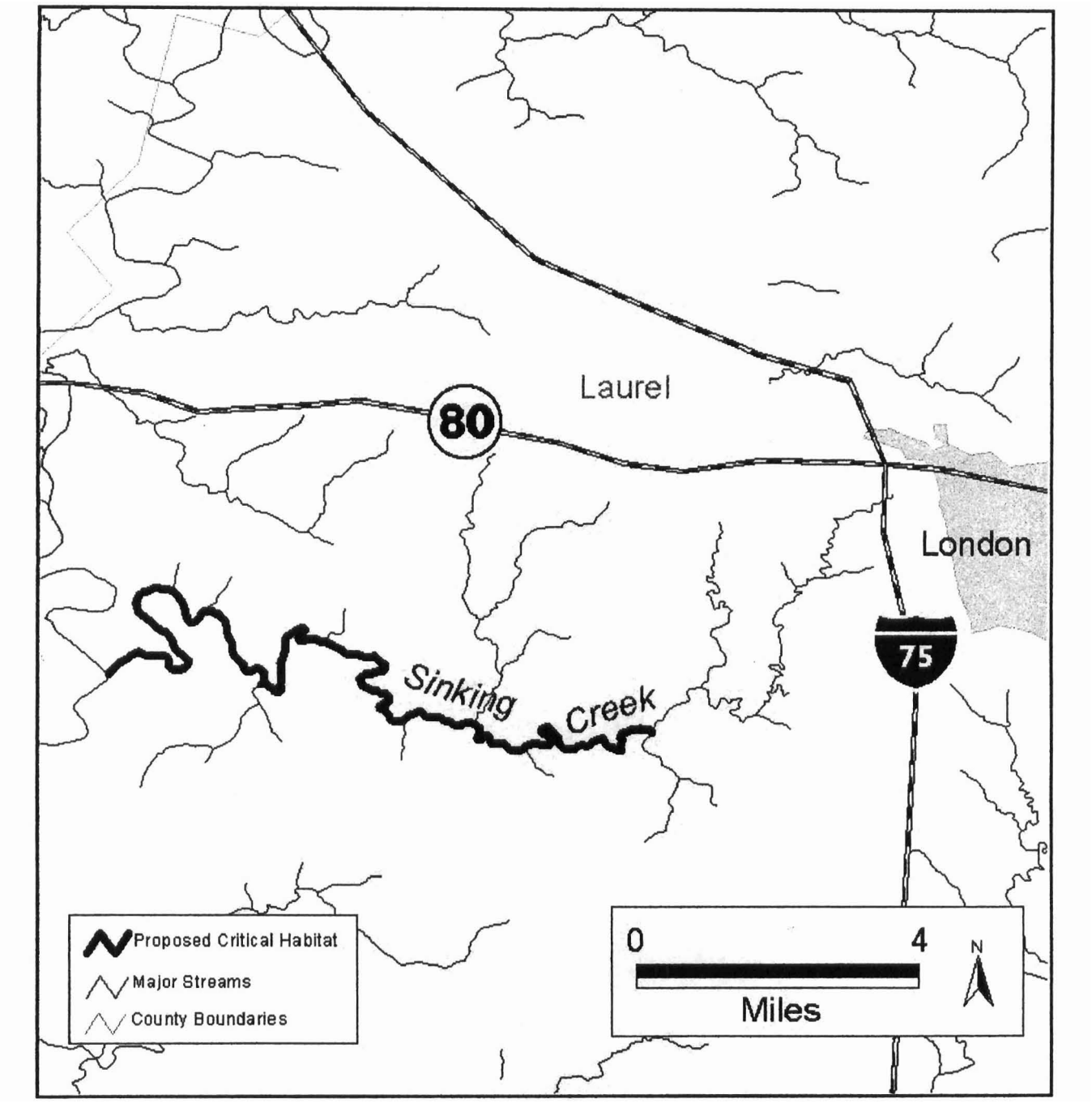
This map is provided for illustrative purposes of critical habitat only. For the precise legal definition of critical habitat, please refer to the narrative unit descriptions.

(xiii) *Unit 11.* Sinking Creek, Laurel County, Kentucky. This is a critical habitat unit for the Cumberland elktoe.

(A) Unit 11 includes the mainstem of Sinking Creek from its confluence with the Rockcastle River (−84.28 longitude, 37.10 latitude) upstream to its confluence with Laurel Branch (−84.17 longitude, 37.09 latitude) in Laurel County, Kentucky.

(B) Map of Unit 11 follows:

Unit [redacted] - Sinking Creek: Critical Habitat for Cumberland elktoe



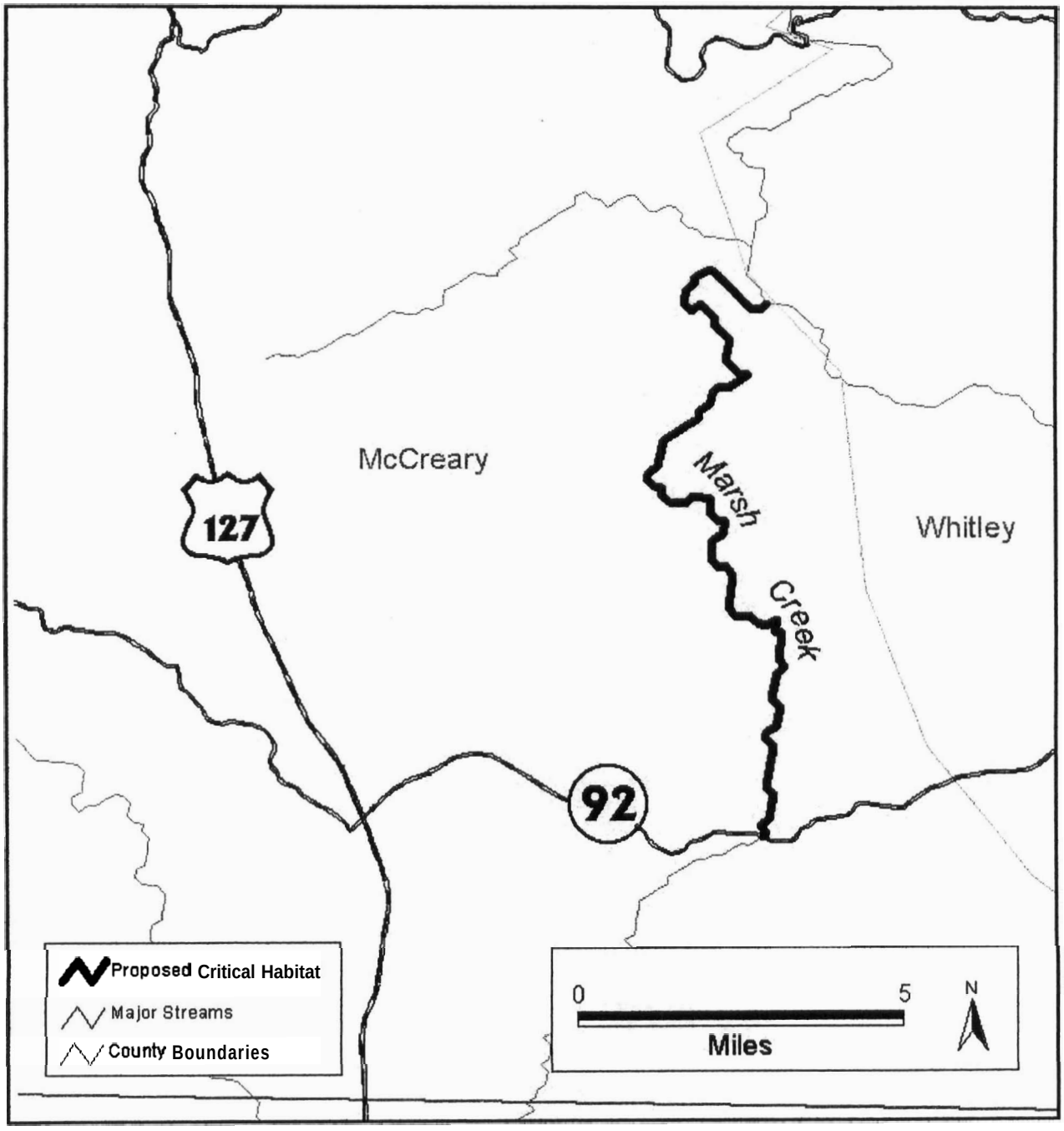
This map is provided for illustrative purposes of critical habitat only. For the precise legal definition of critical habitat, please refer to the narrative unit descriptions.

(xiv) *Unit 12*. Marsh Creek. McCreary County, Kentucky. This is a critical habitat unit for the Cumberland elktoe.

(A) Unit 12 includes the Marsh Creek mainstem from its confluence with the Cumberland River (–84.35 longitude, 36.78 latitude) upstream to State Road 92 bridge (—84.35longitude, 36.66 latitude) in McCreary County, Kentucky.

(B) Map of Unit **12** follows:

Unit 12 - Marsh Creek: Critical Habitat for Cumberland elktoe



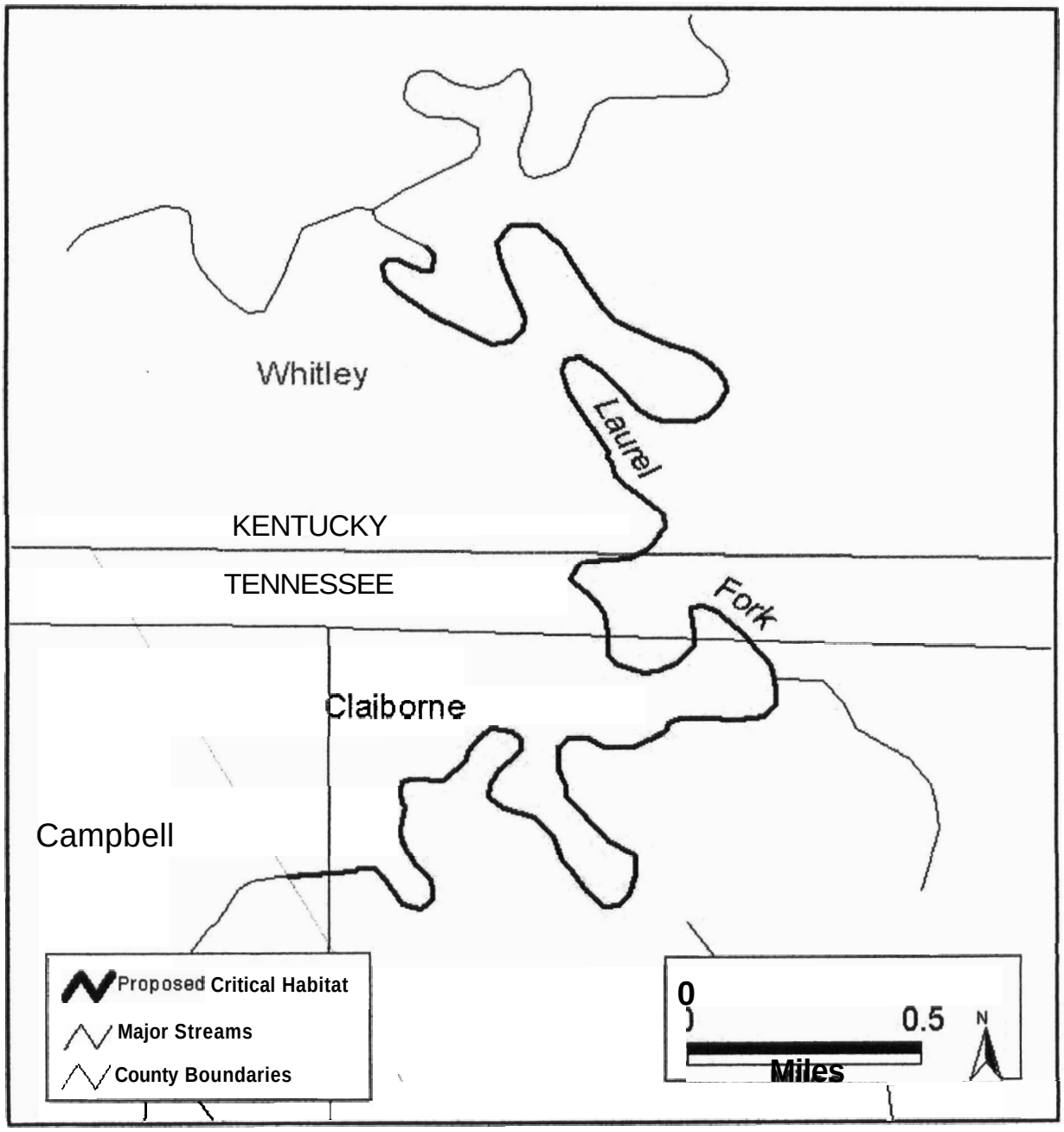
This map is provided for illustrative purposes of critical habitat only. For the precise legal definition of critical habitat, please refer to the narrative unit descriptions.

(xv) *Unit* 13. Laurel Fork, Claiborne County, Tennessee, and Whitley County, Kentucky. This is a critical habitat unit for the Cumberland elktoe.

(A) Unit 13 includes the mainstem of the Laurel Fork of the Cumberland River from the boundary between Claiborne and Campbell Counties (**–84.00** longitude, **36.58** latitude) upstream to rkm **11** (rmi **6.85)** in Whitley County, Kentucky. The upstream terminus is 2 river miles upstream of the Kentucky1 Tennessee State line (**– 84.00** longitude, **36.60** latitude).

(B) Map of Unit 13 follows:

Unit 13 - Laurel Fork: Critical Habitat for Cumberlandian elktoe



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

* * * * *

Dated: May 19, 2003.

Craig Manson,

Assistant Secretary for Fish and Wildlife and Parks.

[FR Doc. 03-12944 Filed 62-03; 8:45 am]

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Part II

Department of the Interior

Fish and Wildlife Service

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50 CFR Part 17

Endangered and Threatened Wildlife and Plants; Proposed Designation of Critical Habitat for Five Endangered Mussels in the Tennessee and Cumberland River Basins; Proposed Rule

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DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

RIN 1018-AI76

Endangered and Threatened Wildlife and Plants; Proposed Designation of Critical Habitat for Five Endangered Mussels in the

Tennessee and Cumberland River Basins

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 five mussels in the Tennessee and Cumberland River Basins: the Cumberland elktoe (Alasmidonta atropurpurea), oyster mussel (Epioblasma capsaeformis), Cumberlandian combshell (Epioblasma brevidens), purple bean (Villosa perpurpurea), and rough rabbitsfoot (Quadrula cylindrica strigillata), all of which are species listed as endangered under the Endangered Species Act of 1973, as amended (Act or ESA). We propose to designate 13 geographic areas (units) that include rivers and streams in the Tennessee and/or Cumberland River Basins as critical habitat for these five mussel species. These 13 units encompass approximately 892 river kilometers (rkm) (544 river miles (rmi)). Proposed critical habitat includes portions of Bear Creek (Mississippi, Alabama), the Duck River (Tennessee), Obed River (Tennessee), Powell River (Tennessee, Virginia), Clinch River and its tributaries (Copper Creek and Indian Creek) (Tennessee, Virginia), Nolichucky River (Tennessee), and Beech Creek (Tennessee) in the Tennessee River System and portions of Rock Creek (Kentucky), the Big South Fork and its tributaries (Bone Camp Creek, White Oak Creek, North White Oak Creek, New River, Crooked Creek, Clear Fork, and North Prong Clear Fork) (Kentucky, Tennessee), Buck Creek (Kentucky), Marsh Creek (Kentucky), Sinking Creek (Kentucky), and Laurel Fork (Kentucky) in the Cumberland River System.

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 will conduct an analysis of the economic impacts of designating these areas, 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. 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.

DATES: We will consider comments received by September 2, 2003. We must receive requests for public hearings, in writing, at the address shown in the ADDRESSES section by July 18, 2003.

ADDRESSES: If you wish to submit comments and information:

1. You may submit written comments and information to the Field Supervisor, U.S. Fish and Wildlife Service, 446 Neal Street, Cookeville, TN 38501.

2. You may hand-deliver written comments and information to our Tennessee Field Office, at the above address, or fax your comments to (931) 528-7075.

3. You may send comments by electronic mail (e-mail) to robert_

tawes@fws.gov. For directions on how to submit electronic filing of comments, see the ``Public Comments Solicited'' section.

All comments and materials received, as well as supporting documentation used in 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: Rob Tawes, at the above address (telephone (931) 528-6481, extension 213; facsimile (931) 528-7075).

SUPPLEMENTARY INFORMATION:

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 resulting from designation.

(2) Specific information on the amount and distribution of habitat for these five mussel and what habitat is essential to the conservation and why.

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

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

(5) Any foreseeable economic or other impacts resulting from the proposed designation, in particular, any impacts on small entities.

(6) Economic and other values associated with designating critical habitat for the mussels, such as those derived from nonconsumptive uses (e.g., hiking, camping, enhanced watershed protection, 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-AI76'' and your name and return address in your e-mail message. 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, 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 for us to withhold your name and/or address, you must state this request 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.

Disclaimer

Designation of critical habitat provides little additional protection to species. In 30 years of implementing the Act, the Service

has found that the designation of statutory critical habitat provides little additional protection to most listed species, while consuming

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significant amounts of scarce conservation resources. The present system for designating critical habitat has evolved since its original statutory prescription into a process that provides little real conservation benefit, is driven by litigation rather than biology, forces decisions to be made before complete scientific information is available, consumes enormous agency resources that would otherwise be applied to actions of much greater conservation benefit, and imposes huge social and economic costs. The Service believes that rational public policy demands serious attention to this issue in order to allow our limited resources to be applied to those actions that provide the greatest benefit to the species most in need of protection.

Role of Critical Habitat in Actual Practice of Administering and Implementing the Act

While attention to and protection of habitat is paramount to successful conservation actions, we have consistently found that, in most circumstances, the designation of critical habitat is of little additional value for most listed species, yet it consumes large amounts of conservation resources. [Sidle (1987. Env. Manage.11(4):429-437) stated, ``Because the ESA can protect species with and without critical habitat designation, critical habitat designation may be redundant to the other consultation requirements of section 7.''] Currently, only 306 species or 25 percent of the 1,211 listed species in the U.S. under the jurisdiction of the Service have designated critical habitat. We address the habitat needs of all 1,211 listed species through conservation mechanisms such as listing, section 7 consultations, the section 4 recovery planning process, the section 9 protective prohibitions of unauthorized take, section 6 funding to the States, and the section 10 incidental take permit process. The Service believes that it is these measures that may make the difference between extinction and survival for many species.

Procedural and Resource Difficulties in Designating Critical Habitat

With a budget consistently inadequate to fund all of the petition review, listing, and critical habitat designation duties required of us by statute, we have in the past prioritized our efforts and focused our limited resources on adding species in need of protection to the lists of threatened or endangered species. We have been inundated with lawsuits for our failure to designate critical habitat, and we face a growing number of lawsuits challenging critical habitat determinations once they are made. These lawsuits have subjected the Service to an ever-increasing series of court orders and court-approved settlement agreements, compliance with which now consumes nearly the entire listing program budget. This leaves the Service with little ability to prioritize its activities to direct scarce listing resources to the listing program actions with the most biologically urgent species conservation needs.

The consequence of the critical habitat litigation activity is that limited listing funds are used to defend active lawsuits, to respond to Notices of Intent (NOIs) to sue relative to critical habitat, and to comply with the growing number of adverse court orders. As a result, listing petition responses, the Service's own proposals to list critically imperiled species, and final listing determinations on

existing proposals are significantly delayed. Litigation over critical habitat issues for species already listed and receiving the Act's full protection has precluded or delayed many listing actions nationwide.

The accelerated schedules of court ordered designations have left the Service with almost no ability to provide for adequate public participation or ensure a defect-free rulemaking process before making decisions on listing and critical habitat proposals due to the risks associated with noncompliance with judicially-imposed deadlines. This in turn fosters a second round of litigation in which those who fear adverse impacts from critical habitat designations challenge those designations. The cycle of litigation appears endless, is very expensive, and in the final analysis provides relatively little additional protection to listed species.

The costs resulting from the designation include legal costs, the cost of preparation and publication of the designation, the analysis of the economic effects and the cost of requesting and responding to public comment, and in some cases the costs of compliance with National Environmental Policy Act (NEPA), all are part of the cost of critical habitat designation. None of these costs result in any benefit to the species that is not already afforded by the protections of the Act enumerated earlier, and they directly reduce the funds available for direct and tangible conservation actions.

Background

We previously provided information on these species in our Final rule (January 10, 1997; 62 FR 1647). The following presents new information.

The Cumberland elktoe, Cumberlandian combshell, oyster mussel, purple bean, and rough rabbitsfoot are all bivalve mussels (possessing a soft body enclosed by two shells) in the family Unionidae. Unionid mussels, in general, live embedded in the bottom (mud, sand, gravel, cobble/boulder 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. Mussels are known to consume detritus (organic decomposed debris), diatoms, phytoplankton, zooplankton, and other microorganisms (i.e. bacteria and algae) (Coker et al. 1921; Churchill and Lewis 1924; Fuller 1974).

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 a parasitic stage on the fins, gills, or skin of a fish. Late stage mussel glochidia are released into the water column and they must find and attach to a suitable host fish in order to develop into a juvenile mussel. Glochidia may be released separately or in masses termed conglutinates. 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. Consequently, unionid mussels are specialized to only parasitize one or a few suitable host fish that occupy similar habitats as the mussels.

These 5 mussels are historically native to portions of the ``Cumberlandian'' Region of the Tennessee and Cumberland River Systems. The Cumberlandian Region, considered to be the center of freshwater mussel diversity in North America, historically contained over 100 species, 45 of which were found nowhere else (Starnes and Bogan 1988;

Parmalee and Bogan 1998; Cicerello and Laudermilk 2001). The Cumberlandian Region encompasses the Cumberland River and its tributaries downstream to the vicinity of Clarksville, Montgomery County, Tennessee; the Tennessee River and its tributaries downstream to the vicinity of Muscle Shoals, Colbert and Lauderdale Counties, Alabama; the Duck River (Tennessee River system)

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downstream to just below Columbia, Maury County, Tennessee (Ortmann 1924); and the Buffalo River (a lower Duck River tributary) (van der Schalie 1973). Biological factors relevant to these freshwater mussels' habitat needs are discussed in the ``Methods and Analysis used to Identify Proposed Critical Habitat'' section of this proposed rule. We present information below on taxonomy, life history, and distribution specific to these 5 Cumberlandian mussels. Additional information can be found in our final listing determination for these mussels (62 FR 1647) and agency draft recovery plan (April 22, 2003, 68 FR 19844) (Service 2003).

Taxonomy, Life History, and Distribution

Cumberland Elktoe (Alasmidonta atropurpurea (Rafinesque 1831))

Adult Cumblerand elktoe may reach lengths of up to 10.0 centimeters (cm) (3.9 inches (in)) (Parmalee and Bogan 1998). Gravid females (females with larvae) have been observed between October and May, but fish infected with glochidia of the Cumberland elktoe have not been encountered until March (Gordon and Layzer 1993). While glochidial infestation from this species has been recorded on 5 native fish species, glochidia successfully transformed or developed only on the northern hogsucker (Hypentelium nigricans) under laboratory conditions (Gordon and Layzer 1993). This species appears to prefer habitats in medium-sized streams that contain sand and mud substrata interspersed with cobbles and large boulders (Call and Parmalee 1981; Parmalee and Bogan 1998).

The Cumberland elktoe is endemic to the upper Cumberland River system in southeast Kentucky and north-central Tennessee. It appears to have historically occurred only in the main stem of the Cumberland River and primarily its southern tributaries upstream from the hypothesized original location of Cumberland Falls near Burnside, Pulaski County, Kentucky (Cicerello and Laudermilk 2001). This species has apparently been extirpated from the main stem of the Cumberland River as well as Laurel River and its tributary, Lynn Camp Creek (Service 2003). Based on recent records, the Cumberland elktoe continues to persist in 12 Cumberland River tributaries: Laurel Fork, Claiborne County, Tennessee and Whitley County, Kentucky; Marsh Creek, McCreary County, Kentucky; Sinking Creek, Laurel County, Kentucky; Big South Fork, Scott County, Tennessee, and McCreary County, Kentucky; Rock Creek, McCreary County, Kentucky; North Fork White Oak Creek, Morgan and Fentress County, Tennessee; Clear Fork, Fentress, Morgan, and Scott Counties, Tennessee; North Prong Clear Fork and Crooked Creek, Fentress County, Tennessee; White Oak Creek, Scott County, Tennessee; Bone Camp Creek, Morgan County, Tennessee; and the New River, Scott County, Tennessee (Call and Parmalee 1981; Bakaletz 1991; Gordon 1991; Cicerello 1996; Parmalee and Bogan 1998; Cicerello and Laudermilk 2001; Ronald Cicerello, Kentucky State Nature Preserves Commission, pers. comm. 2002, 2003; Service 2003).

Oyster Mussel (Epioblasma capsaeformis (Lea 1834))

According to Parmalee and Bogan (1998), adult oyster mussels can reach lengths of up to 7.0 cm (2.8 in). Ortmann (1924) was the first to note color differences in female oyster mussel mantle pads (shell lining). The mantle color appears to be bluish or greenish white in the Clinch River, grayish to blackish in the Duck River, and nearly white in the Big South Fork population (Ortmann 1924; Service 2003). In addition, the Duck River form achieves nearly twice the size of specimens from other populations. Two small projections (microattractants) at the junction of the mantle pads serve to attract host fish. Subtle differences in the morphology of these projections or structures also exist in these two populations (J.W. Jones, Virginia Tech, pers.comm. 2002).

Spawning probably occurs in the oyster mussel in late spring or early summer (Gordon and Layzer 1989). Glochidia of the oyster mussel have been identified on seven native host fish species, including the wounded darter (Etheostoma vulneratum), redline darter (E. rufilineatum), bluebreast darter (E. camurum), dusky darter (Percina sciera), banded sculpin (Cottus carolinae), black sculpin (C. baileyi), and mottled sculpin (C. bairdi) (Yeager and Saylor 1995; J.W. Jones and R.J. Neves, U.S. Geological Survey (USGS), unpublished (unpub.) data 1998). Oyster mussels typically occur in sand and gravel substrate in streams ranging from medium-sized creeks to large rivers (Gordon 1991; Parmalee and Bogan 1998). They apparently prefer shallow riffles and shoals and have been found associated with water willow (Justicia americana) beds (Ortmann 1924; Gordon 1991; Parmalee and Bogan 1998).

The oyster mussel was one of the most widely distributed Cumberlandian mussel species, with historical records existing from six States (Alabama, Georgia, Kentucky, North Carolina, Tennessee, and Virginia). It has apparently been eliminated from both main stems of the Cumberland and Tennessee Rivers and a large number of their tributaries (Fraley and Ahlstedt 2001; S.A. Ahlstedt, USGS, pers. comm. 2002; Service 2003). This mussel is now only extant in a handful of stream and river reaches in four States in the Tennessee and Cumberland River systems, including the Duck River, Maury and Marshall Counties, Tennessee; Powell River, Claiborne and Hancock Counties, Tennessee, and Lee County, Virginia; Clinch River, Hancock County, Tennessee, and Scott, Russell, and Tazewell Counties, Virginia; Nolichucky River, Hamblen and Cocke Counties, Tennessee; and Big South Fork of the Cumberland River, McCreary County, Kentucky, and Scott County, Tennessee (Wolcott and Neves 1990; Ahlstedt 1991; Bakaletz 1991; Gordon 1991; Ahlstedt and Tuberville 1997; S.A. Ahlstedt, pers. comm. 2002; Service 2003).

Cumberlandian Combshell (Epioblasma brevidens (Lea 1831))

Most mature Cumberlandian combshell are approximately 5 cm (2 in) in length, but may reach 8 cm (3.1 in) (Parmalee and Bogan, 1998). Spawning in this species most likely occurs in late winter (Gordon 1991). Glochidia of the Cumberlandian combshell have been identified on several native host fish species, including the wounded darter, redline darter, bluebreast darter, snubnose darter (Etheostoma simoterum), greenside darter (E. blennioides), logperch (Percina caprodes), banded sculpin, black sculpin, and mottled sculpin (Yeager and Saylor 1995; J.W. Jones and R.S. Neves, USGS, unpub. data 1998). This species is typically associated with riffle and shoal areas in medium to large-sized rivers (Gordon 1991; Parmalee and Bogan 1998). It is found in substrata ranging from coarse sand to cobble (Gordon 1991).

This species, like the oyster mussel, was once widely distributed, historically occurring in five States (Alabama, Kentucky, Mississippi,

Tennessee, and Virginia). It has likewise apparently been eliminated from the mainstems of the Tennessee and Cumberland Rivers and several of their tributaries (Service 2003). It is now restricted to five stream reaches. The Cumberlandian combshell persists in Bear Creek, Colbert County, Alabama, and Tishomingo County, Mississippi; Powell River, Claiborne and Hancock

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counties, Tennessee, and Lee County, Virginia; Clinch River, Hancock County, Tennessee, and Scott, Russell, and Tazewell Counties, Virginia; Big South Fork, Scott County, Tennessee and McCreary County, Kentucky; and Buck Creek, Pulaski County, Kentucky (Isom and Yokely 1968; Schuster et al. 1989; Ahlstedt 1991; Bakaletz 1991; Gordon 1991; Ahlstedt and Tuberville 1997; Hagman 2000; Ahlstedt, pers. comm. 2002; B. Jones, Mississippi Museum of Natural Science, pers. comm. 2002; Cicerello, pers.comm. 2003; Garner and McGregor, in press).

Purple Bean (Villosa perpurpurea (Lea 1861))

Adult purple beans are typically 2.5 to 7.5 cm (1.0 to 3.0 in) in length (R. Tawes, personal observation, 2003). Gravid females have been observed in January and February (Ahlstedt, 1991; Bob Butler, Service, pers. comm. 2003). Glochidia of the purple bean have been identified on the fantail darter (Etheostoma flabellare), greenside darter, and mottled sculpin (Watson and Neves 1996). This species inhabits small creeks to medium-sized rivers and can be found in a variety of substrates (Gordon 1991; Parmalee and Bogan 1998).

The purple bean is endemic to the upper Tennessee River drainage in Tennessee and Virginia. Its historical range included the Powell River, Lee County, Virginia; Clinch River system, Claiborne, Grainger, and Hancock Counties, Tennessee, and Russell, Scott, Tazewell, and Wise Counties, Virginia; Emory and Obed Rivers, Morgan and Cumberland counties, Tennessee; and Holston River System, Hawkins and Sullivan Counties, Tennessee, and Scott and Washington Counties, Virginia. It has apparently been extirpated from the Powell River, Emory River, North Fork Beech Creek (Holston River System) and North Fork Holston River (Service 2003). The purple bean persists in portions of the Clinch River mainstem, Hancock County, Tennessee, and Scott, Russell, and Tazewell Counties, Virginia; Copper Creek (a Clinch River tributary), in Scott County, Virginia; Indian Creek (a Clinch River tributary), in Tazewell County, Virginia; in the Obed River, Morgan and Cumberland Counties, Tennessee; and in Beech Creek, a tributary of the Holston River, Hawkins County, Tennessee (Ahlstedt 1991; Gordon 1991; Winston and Neves 1997; Watson and Neves 1998; Ahlstedt and Tuberville 1997; S.A. Ahlstedt, pers. comm. 2000, 2002, 2003; Fraley and Ahlstedt 2001).

Rough Rabbitsfoot (Quadrula cylindrica strigillata (Wright, 1898))

The rough rabbitsfoot is the largest of the five mussels, with adult specimens sometimes reaching 12 cm (5 in) in length (Parmalee and Bogan, 1998). Spawning in this species apparently occurs from May through June (Yeager and Neves 1986). Glochidia of rough rabbitsfoot have been identified on the whitetail shiner (Cyprinella galactura), spotfin shiner (Cyprinella spiloptera), and bigeye chub (Hybopsis amblops) (Yeager and Neves 1986). This species prefers clean sand and gravel substrate in streams ranging from medium-sized creeks to medium-sized rivers (Parmalee and Bogan 1998).

Like the purple bean, the rough rabbitsfoot is endemic to the upper

Tennessee River system. The rough rabbitsfoot historically occupied the Powell River, Hancock and Claiborne Counties, Tennessee, and Lee County, Virginia; Clinch River system, Hancock and Claiborne Counties, Tennessee, and Russell, Scott, and Tazewell Counties, Virginia; and Holston River System, Hawkins and Sullivan Counties, Tennessee, and Scott and Washington Counties, Virginia. It is apparently extirpated from the entire Holston River system (Service, 2003). It currently persists in portions of the Powell River, Claiborne and Hancock Counties, Tennessee and Lee County, Virginia; Clinch River, Hancock County, Tennessee and Scott, Russell, and Tazewell Counties, Virginia; and in Indian Creek, Tazewell County, Virginia (Ahlstedt 1981; Gordon 1991; Ahlstedt and Tuberville 1997; Winston and Neves 1997; Watson and Neves 1998; S.A. Ahlstedt, pers. comm. 2000, 2002, 2003; Fraley and Ahlstedt 2001).

The summary of these five mussels presented above represents our current understanding of their historical and current range and distribution. Research is ongoing regarding identification of some species. For example, varying mantle coloration, microattractant configuration, size differential, and spawning cycles may indicate that the oyster mussel is actually a species complex (more than one species represented). Researchers from Virginia Tech are in the process of formally describing the Duck River variety (J.W. Jones, Virginia Tech, in press), and some malacologists, molluscs biologists, believe that the Big South Fork variety is actually a distinct, undescribed species, or possibly a variant of the tan riffleshell (Epioblasma florentina walkeri), a closely related species (S.A. Ahlstedt, USGS, pers. comm. 2002). A recent genetic investigation on the genus Epioblasma using mitochondrial DNA markers suggested that the tan riffleshell and the oyster mussel may be the same species (Buhay et al. 2002). Because these observations have not yet been published or peer reviewed and/or are not conclusive, we believe for the purposes of this proposed rule that the Duck River and Big South Fork populations are true E. capsaeformis. 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

These five mussels, like many other Cumberlandian Region mussel taxa, have undergone significant reductions in total range and population density (Layzer et al. 1993; Williams et al. 1993; Neves et al. 1997; Fraley and Ahlstedt 2000; Cicerello and Laudermilk 2001; Service 2003), primarily resulting from human-induced changes in stream and river channels, including channel modifications (e.g., dams, dredging, mining) and historic or episodic water pollution events (Schuster et al. 1989; Gordon 1991; Neves et al. 1997; Parmalee and Bogan 1998; Cicerello and Laudermilk 2001). The entire length of the main stems of the Tennessee and Cumberland Rivers and many of their largest tributaries are now impounded or greatly modified by the discharge of tailwaters (Service 2003). For example, more than 3,700 rkm (2,300 rmi) (about 20 percent) of the Tennessee River and its tributaries were impounded by the Tennessee Valley Authority by 1971 (Service 2003). Dams permanently alter the free-flowing aquatic habitat required by many mussels and their host fish. None of the five mussels 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. Mussel populations in free-flowing river sections below dams can be adversely affected or

extirpated from reduced dissolved oxygen levels, unnatural flow regimes, and colder temperatures, or greatly modified by the dams or their tailwater releases (Neves et al. 1997). 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 de-snagging (woody debris

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removal), 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 various point-sources such as mines, industrial plants, and municipal sewage treatment facilities also have contributed to the demise or decline of the five species in certain portions of their historical 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 could result in decreased dissolved oxygen concentration, increased acidity and conductivity, and other changes in water chemistry, which may impact mussels or their host fish.

An additional major impact on individual populations of the five mussels that has resulted from historic activities (especially dam construction) was separation and isolation of populations by impoundments or large stretches of unsuitable habitat, rendering natural reproduction between those populations (and associated genetic interchange) problematic (Service 2003). Once existing in hundreds of river kilometers, these five mussels now survive in only a few relatively small, isolated populations of questionable long-term viability which cover portions of Virginia, Kentucky, Alabama, Tennessee, and Mississippi (Service 2003). Small populations are more vulnerable to natural random events such as droughts, as well as to changes in human activities and land-use practices that impact aquatic habitats (Neves et al. 1997). Current threats to surviving populations of these five mussels include continued habitat loss and fragmentation, cumulative effects of land use activities on aquatic environments, population isolation and associated deleterious genetic effects such as inbreeding depression, and competition with invasive exotic mussel species (Foose et al. 1995; Neves et al. 1997). Non-point source pollution, such as sediment and agrochemical run-off, which are known to adversely affect aquatic invertebrates (Waters 1995; Folkerts 1997) also poses a continuing threat to the long-term survival of these remaining mussel populations (Wolcott and Neves 1990; Neves et al. 1997; Service 2003). More detailed information on the threats to these species can be found in the January 10, 1997, final listing determination (62 FR 1647) and the agency draft recovery plan for these five species (Service 2003).

Previous Federal Actions

We discussed our previous Federal actions in the Final listing rule for these 5 mussel species (62 FR 1649). The following discuss our Federal actions since the Final listing rule.

On January 10, 1997, we published a final rule listing the 5 mussels as endangered. At that time, we determined that critical habitat was not prudent because it would result in no known benefit to the five species and that designation could pose a further threat to the five mussels by publishing their site-specific localities.

In June 1998, a technical draft recovery plan for the five mussels was written and underwent a technical review dealing primarily with the biological accuracy and sufficiency of the plan. We released an agency draft recovery plan on April 22, 2003, and disseminated to State and Federal agencies, universities, public officials, nongovernmental organizations, and knowledgeable individuals for review and comment on all aspects of the plan. We published in the Federal Register a Notice of Draft Recovery Plan Availability (68 FR 19844). The comment period will close on June 23, 2003.

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-prudent critical habitat determination for the Cumberlandian combshell, Cumberland elktoe, purple bean, rough rabbitsfoot, and oyster mussel (United States District Court, Eastern District of Tennessee (Southern Appalachian Biodiveristy Project v. U.S. Fish and Wildlife Service et al., No. 2:00-CV-361). On November 8, 2001, the District Court issued an order directing us to re-evaluate our prudency determination for these five mussels and submit new proposed prudency determinations for the Cumberland elktoe to the Federal Register no later than May 19, 2003, and for the remaining four mussels to the Federal Register no later than June 16, 2003. We were also directed to submit by those same dates new proposed critical habitat designations, if prudent. Additionally, for these mussels in which critical habitat was found to be prudent, we were directed to finalize our designation not less than 12 months following the prudency determination.

This proposal is the product of our re-evaluation of our 1997 determination that critical habitat for these five mussels was not prudent. It reflects our interpretation of recent judicial opinions on critical habitat designation and the standards placed on us for making a prudency determination. If additional information becomes available on the species' biology or distribution, or threats to the species, we may reevaluate this proposal to propose additional critical habitat, propose boundary refinements that substantially change existing proposed critical habitat, or withdraw our proposal to designate critical habitat.

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.

The designation of critical habitat does not affect land ownership or establish a refuge, wilderness, reserve, preserve, or other conservation area. It does not allow government or public access to

private lands. Federal agencies must consult with the Service on activities they undertake, fund, or permit that may affect critical habitat. However, the Act prohibits unauthorized take of listed species and requires consultation for activities that may affect them, including habitat alterations, regardless of whether critical habitat has been designated. The Service has found that the designation of critical habitat provides little additional protection to most listed species.

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

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critical habitat designations identify, to the extent known and 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. When we designate critical habitat, we may not have the information necessary to identify all 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 which areas might be found to be essential if better information became available, or which 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 we will include the area 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 currently 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. There are several thousands of kilometers of perennial streams in the Cumberlandian Region. Many of these flow through private property and may not have been adequately surveyed for mussels. 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.

Prudency Determination

Section 4(a)(3) of the Act and its implementing regulations (50 CFR 424.12) require that, to the maximum extent prudent and determinable, we designate critical habitat at the time a species is listed as endangered or threatened. Our regulations at 50 CFR 424.12(a)(1) state that the designation of critical habitat is not prudent when one or both of the following situations exist: (1) The species is threatened by taking or other activity and the identification of critical habitat can be expected to increase the degree of threat to the species or (2) such designation of critical habitat would not be beneficial to the species. In our January 10, 1997, final rule (62 FR 1647), we determined that both situations applied to these five mussels, and consequently indicated that the designation of critical habitat was not prudent.

However, in the past few years, several of our determinations that the designation of critical habitat would not be prudent have been overturned by court decisions. For example, in Conservation Council for Hawaii v. Babbitt, the United States District Court for the District of Hawaii ruled that the Service could not rely on the ``increased threat'' rationale for a ``not prudent'' determination without specific evidence of the threat to the species at issue (2 F. Supp. 2d 1280 [D. Hawaii 1998]). Additionally, in Natural Resources Defense Council v. U.S. Department of the Interior, the United States Court of Appeals for the Ninth Circuit ruled that the Service must balance, in order to invoke the ``increased threat rationale,'' the threat against the benefit to the species of designating critical habitat 113 F. 3d 1121, 1125 (9th Cir. 1997).

We continue to be concerned that the five mussels are vulnerable to unrestricted collection, vandalism, or disturbance of their habitat and that these threats might be increased by the designation of critical

habitat, publication of critical habitat maps, and further dissemination of location and habitat information. The low numbers and restricted range of these mussels make it unlikely that their populations could withstand even moderate collecting pressure, or vandalism. However, at this time we do not have specific evidence for the taking, collection, trade, vandalism, or other unauthorized human disturbance specific to these five mussels.

The courts also have ruled that, in the absence of a finding that the designation of critical habitat would increase threats to a species, the existence of another type of protection, even if it offers potentially greater protection to the species, does not justify a ``not prudent'' finding (Conservation Council for Hawaii v. Babbitt 2 F. Supp. 2d 1280). We are already working with Federal and State agencies, private individuals, and organizations in carrying out conservation activities for these five mussels and in conducting surveys for

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additional occurrences of the species and to assess habitat conditions. These entities are fully aware of the distribution, status, and habitat requirements for these mussels, as currently known. However, the designation may provide additional information to individuals, local and State governments, and other entities engaged in long-range planning, since areas essential to the conservation of the species are more clearly defined and, to the extent currently feasible, the primary constituent elements of the habitat necessary to the survival of the species are specifically identified. Accordingly, we withdraw our previous determination that the designation of critical habitat will not benefit these five mussel species. Therefore, we determine that the designation of critical habitat is prudent for the Cumberland elktoe, oyster mussel, Cumberlandian combshell, purple bean, and rough rabbitsfoot and propose to designate critical habitat for these mussels. At this time, we have sufficient information necessary to identify specific areas as essential to the conservation of these five mussel species and are therefore proposing critical habitat (see ``Methods and Analysis used to Identify Proposed Critical Habitat'' section below for a discussion of information used in our reevaluation).

Methods and Analysis Used To Identify Proposed Critical Habitat for Five Mussel Species

As required by section 4(b)(2) of the Act and its implementing regulations (50 CFR 424.12), we used the best scientific information available to determine critical habitat areas that contain the physical and biological features that are essential for the conservation of these 5 mussels. We reviewed the available information pertaining to the historic and current distributions, life histories, host fishes, 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; recent biological surveys and reports and communications with other qualified biologists or experts; Statewide Geographic Information System (GIS) species occurrence coverages provided by the Kentucky State Nature Preserves Commission, Tennessee Department of Environment and Conservation, and Tennessee Valley Authority; peer-reviewed scientific publications; the final listing rule for the five mussels; and our draft agency recovery plan for these mussels. We considered all collection records within the last 15 years from streams currently and historically known to be occupied by one or more of the species (see ``Taxonomy, Life History, and

Distribution'' section above).

As discussed in part under the ``Summary of Decline'' section of this rule and the agency draft recovery plan (Service 2003), the five mussels are highly restricted in distribution, generally occur in small populations, and show little evidence of recovering from historic habitat loss without significant human intervention. In fact, the draft recovery plan states that recovery for the five mussels is not likely in the near future because of the extent of their decline, the relative isolation of remaining populations, and varied threats to their continued existence. Therefore, the recovery plan emphasizes protection of surviving populations of these five mussels and their stream and river habitats, enhancement and restoration of habitats, and population management, including augmentation and reintroduction of the mussels.

Much of what is known about the specific physical and biological habitat requirements of these five mussels is summarized above in the ``Background'' section of this rule and in the agency draft recovery plan. 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, in accordance with sections 3(5)(A)(i) and 4(b)(1)(A) of the Act and regulations at 50 CFR 424.12. 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; and habitats that are protected from disturbance or are representative of the historical geographical and ecological distribution of a species.

On the basis of the best available information, we include the following as primary constituent elements essential for the conservation of the five mussels:

1. Permanent, flowing stream reaches with 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 the five mussels and their host fish;

2. Geomorphically stable stream and river channels and banks (structurally stable stream cross section);

3. Stable substrates, consisting of mud, sand, gravel, and/or cobble/boulder, with low amounts of fine sediments or attached filamentous algae;

4. Water quality (including temperature, turbidity, oxygen content, and other characteristics) necessary for the normal behavior, growth, and survival of all life stages of the five mussels and their host fish; and

f. Fish hosts with adequate living, foraging, and spawning areas for them.

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.

We considered several factors in the selection and proposal of specific areas for critical habitat for these five mussels. We assessed the recovery strategy outlined in the agency draft recovery plan for these species, which emphasizes: (1) Protection and stabilization of surviving populations (2) protection and management of their habitat (3) augmentation of existing small populations (4) reestablishment/

reintroduction of new populations within their historic ranges, and (5) research on species biology and ecology. Small, isolated populations are subject to the loss of unique genetic material (genetic drift) (Soule 1980; Lacy et al. 1995) and the gradual loss of reproductive success or fecundity due to limited genetic diversity (Foose et al. 1995). They are likewise more vulnerable to extirpation from random catastrophic events and to changes in human activities and land-use practices (Soule 1980; Lacy et al. 1995). The ultimate goal of the agency draft recovery plan is to restore enough viable (self-sufficient) populations of these five mussels such that each species no longer needs protection under the Act.

In the agency draft recovery plan, we selected the number of distinct viable stream populations required for delisting of each of the five mussels on the basis primarily of the historic distribution of each species (Table 1). For example, the rough rabbitsfoot is narrowly endemic to the upper Tennessee River basin. It historically occupied only three river reaches and, therefore, its conservation can be

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achieved with fewer populations. We have concluded that identification of critical habitat that would provide for the number of populations outlined in Table 1 for each species is essential to their conservation.

Table 1.--Number of Distinct Viable Stream Populations of Five Cumberlandian Mussels Required Before Delisting Can Occur as Outlined in Draft Agency Recovery Plan (Service 2003)

Species	Number of populations required for delisting
Cumberland elktoe	10
Oyster mussel	11
Cumberlandian combshell	10
Purple bean	4
Rough rabbitsfoot	3

Our approach to delineating specific critical habitat units, based on the recovery strategy outlined above, focused first on considering the historic ranges of the five mussels. We evaluated streams and rivers within the historic ranges of these five mussels for which there was evidence that these species had occurred there at some point (i.e., collection records). Within the historic range of these species, we found that a large proportion of the streams and rivers in the Tennessee and Cumberland River Basins that historically supported these mussels has been modified by existing dams and their impounded waters. Extensive portions of the Tennessee and Cumberland River drainages, including the mainstem of the Cumberland River, segments of the Holston River, the Powell River, the Tennessee River mainstem, and numerous tributaries of these rivers, 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 discussion above). We also did not consider several streams with single site occurrence records of a single species as essential to the conservation of these species because these areas exhibited limited habitat availability,

isolation, degraded habitat, and/or low management value or potential (e.g., Cedar Creek in Colbert County, Alabama; Little Pigeon River in Sevier County, Tennessee). Similarly, we did not consider as essential areas from which there have been no collection records of these species for several decades (e.g., portions of the upper Holston River system in Tennessee and Virginia, Buffalo River, Little South Fork of the Cumberland River, Laurel River).

We then identified 13 stream or river reaches (units) within the historic range of these species for which our data (i.e., collection records over the last 15 years and view of experts) indicate that one or more of the 5 mussel species are present along with the primary constituent elements (see Table 2; Index map). These units total approximately 892 rkm (544 rmi), in Alabama, Kentucky, Mississippi, Tennessee, and Virginia. We believe that these areas support darters, minnows, sculpins, and other fishes that have been identified as hosts or potential hosts for one or more of the mussels, as evidenced by known fish distributions (Etnier and Starnes 1998), the persistence of the mussels over extended periods of time, or field evidence of recruitment (Ahlstedt pers. comm. 2002, B. Butler, pers.comm. 2002). We consider all of these 13 reaches essential for the conservation of these 5 mussels. As discussed in the agency draft recovery plan, long-term conservation of these five mussels is unlikely in their currently reduced and fragmented state. Therefore, it is essential to include in this designation these 13 reaches within the historic range of all 5 mussels that still contain mussels and the primary constituent elements of habitat.

We then considered whether these essential areas were adequate for the conservation of these five mussels. As indicated in the agency draft recovery plan, threats to the five species are compounded by their limited distribution and isolation and it is unlikely that currently occupied habitat is adequate for the conservation of all five species. Conservation of these species requires expanding their ranges into currently unoccupied portions of their historic habitat because small, isolated, fragmented aquatic populations, as discussed previously, 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.

Each of the 13 habitat units is currently occupied by 1 or more of the 5 listed mussels. Because portions of the historic range of each of the 5 mussels are shared with three or more of the other mussel species, there is considerable overlap between species' current and historic distribution within the 13 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 oyster mussel historically inhabited seven units and currently inhabits five. Successful reintroduction of the species into units that they historically occupied (and that are currently occupied by one or more of the five mussels) would expand the number of populations, thereby reducing the threat of extinction.

We believe that the habitat proposed for designation in these 13 units is essential to the conservation of all 5 mussels and that the 13 units encompass sufficient habitat necessary for the recovery of 3 of these 5 species (the Cumberland elktoe, purple bean, and rough rabbitsfoot.) However, we do not believe that the 13 units provide sufficient essential habitat for the conservation of the oyster mussel and Cumberlandian combshell, based on the number of viable populations required for conservation and recovery of these two species (Table 1). For example, these 13 proposed units include occupied habitat for 5

existing oyster mussel populations and include unoccupied habitat in three other areas that could support oyster mussel populations. Our agency draft recovery plan, however, requires 11 viable populations of the oyster mussel before it may be delisted. The essential area as defined by our 13 units is not adequate to ensure the conservation of the oyster mussel and Cumberlandian combshell. Therefore, we then considered free-flowing river reaches that historically contained the Cumberlandian combshell and oyster mussel but that have had no collection records for the past 15 years, and that, resulting from water quality and quantity improvements, likely contain suitable habitat for these mussels. Through our analysis, we identified 4 such reaches that are separated by dams and impoundments from free-flowing habitats that contain extant populations of oyster mussels and Cumberlandian combshells. These areas are the lower French Broad River below Douglas Dam to its confluence with the Holston River, Sevier and Knox Counties, Tennessee; the free-flowing reach of the Holston River below Cherokee Dam to its confluence with the French Broad River, Jefferson, Grainger, and Knox Counties, Tennessee; the Tennessee River mainstem below Wilson Dam in Colbert and Lauderdale Counties, Alabama; and a stretch of the Rockcastle River in Laurel, Rockcastle, and Pulaski Counties, Kentucky. Natural recolonization of these areas by these two species is unlikely; however, these

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species can be reintroduced into these areas to create the additional viable populations necessary to conserve and recover the species. We have therefore concluded that these four reaches are also essential to the conservation of the oyster mussel and Cumberlandian combshell.

Although we have concluded that they are essential, we are not proposing to designate critical habitat in each of these 4 reaches, due to their current or potential status as nonessential experimental population areas. Section 10(j) of the Act states critical habitat shall not be designated for any experimental population determined to be not essential to the continued existence of the species. On June 14, 2001, we published a final rule to designate nonessential experimental population status under section 10(j) of the Act for the reintroduction of 17 Federally listed species (including the oyster mussel and Cumberlandian combshell) to the free-flowing reach below Wilson Dam, in the Tennessee River (66 FR 32250). Therefore, we are not proposing critical habitat for the oyster mussel and Cumberlandian combshell in the Tennessee River mainstem below Wilson Dam in Colbert and Lauderdale Counties, Alabama.

In addition, we are actively considering the remaining three reaches (the lower French Broad, lower Holston, and Rockcastle Rivers) for designation as nonessential experimental populations in order to facilitate the reintroduction of the oyster mussel and Cumberlandian combshell, as well as numerous other listed mussels, fishes, and snails. Therefore, while we recognize their likely importance to our recovery strategy for these species, we are not proposing these three river reaches as critical habitat. A further discussion of these areas can be found below (see Exclusions under 4(b)(2) section).

In summary, the habitat contained within the 13 proposed units described below and the habitat within the 4 historic reaches designated or under consideration for nonessential experimental population status constitute our best determination of areas essential for the conservation, and eventual recovery, of these 5 Cumberlandian mussels. We are proposing as critical habitat only 13 habitat units encompassing approximately 849 rkm (528 rmi) of stream and river channels in Alabama, Mississippi, Tennessee, Kentucky, and Virginia.

Each of these units is occupied by one or more of the 5 mussels. Although these 13 areas represent only a small proportion of each species' historic range, these habitat units include a significant proportion of the Cumberlandian Region'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 (e.g., 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. 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 the five mussel species. Therefore, we have determined that the proposed units require special management or protection.

Proposed Critical Habitat Designation

The areas that we are proposing for designation as critical habitat for the five mussels provide one or more of the primary constituent elements described above. Table 2 summarizes the location and extent of proposed critical habitat, and whether or not that critical habitat is currently occupied or unoccupied. These 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-stream and downstream boundaries are described in general detail below; more precise estimates are provided in the Regulation Promulgation section of this rule.

Table 2*.--Approximate River Distances, by Drainage Area, for Occupied and Unoccupi
for the Five Endangered Mussel Species

Species	Approximate river distances currently occupied by the speci	
	River kilometers	River mil
Cumberland elktoe	204	1
Oyster mussel	511	3

Cumberlandian combshell	527	3
Purple bean	330	2
Rough rabbitsfoot	390	244
Total	1962	1240

* Table 2 refers to the location and extent of proposed critical habitat for each sp
refer to Sec. 17.95

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Species, Stream (Unit), and State	Currently occupied	
Cumberland elktoe:		
Rock Creek (Unit 8), KY	11	
Big South Fork (Unit 9), TN, KY	43	
North Fork White Oak Creek (Unit 9), TN	11	
New River (Unit 9), TN	14.5	
Clear Fork (Unit 9), TN	40	
White Oak Creek (Unit 9), TN	10	
Bone Camp Creek (Unit 9), TN	6	
Crooked Creek (Unit 9), TN	14.5	
North Prong Clear Fork (Unit 9), TN	14.5	
Sinking Creek (Unit 11), KY	13	
Marsh Creek (Unit 12), KY	19	
Laurel Fork (Unit 13), TN, KY	8	
Total	204	1
Oyster mussel:		
Duck River (Unit 1), TN	74	
Bear Creek (Unit 2), AL, MS	.....	.....
Powell River (Unit 4), TN, VA	154	
Clinch River (Unit 5), TN, VA	242	1
Copper Creek (Unit 5), VA	.....	.....
Nolichucky River (Unit 6), TN	8	
Big South Fork (Unit 9), TN, KY	43	
Buck Creek (Unit 10), KY	.....	.....
Total	511	3
Cumberlandian combshell:		
Duck River (Unit 1), TN	.....	.....
Bear Creek (Unit 2), AL, MS	40	
Powell River (Unit 4), TN, VA	154	
Clinch River (Unit 5), TN, VA	242	1
Nolichucky River (Unit 6), TN	.....	.....
Big South Fork (Unit 9), TN, KY	43	
Buck Creek (Unit 10), KY	58	
Total	527	3
Purple bean:		
Obed River (Unit 3), TN	40	
Powell River (Unit 4), TN, VA	.....	.....
Clinch River (Unit 5), TN, VA	242	1

Copper Creek (Unit 5), VA	21	
Indian Creek (Unit 5), VA	4	2
Beech Creek (Unit 7), TN	23	
Total	330	2
Rough rabbitsfoot:		
Powell River (Unit 4), TN, VA	154	
Clinch River (Unit 5), TN, VA	242	1
Copper Creek (Unit 5), VA	.....	.....
Indian Creek (Unit 5), VA	4	2
Total	390	244

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 units for designation as critical habitat for these five mussels.

Unit 1. Duck River, Maury and Marshall Counties, Tennessee

Unit 1 encompasses 74 rkm (46 rmi) of the mainstem of the Duck River channel from rkm 214 (rmi 133) (0.3 rkm (0.2 rmi) upstream of the First Street Bridge) in the City of Columbia, Maury County, Tennessee, upstream to Lillards Mill Dam at rkm 288 (rmi 179), Marshall County, Tennessee. This reach of the Duck River contains a robust, viable population of the oyster mussel (Ahlstedt 1991; Gordon 1991; S.A. Ahlstedt USGS, pers. comm. 2002) and historically supported the Cumberlandian combshell (Hinkley and Marsh 1885; Ortmann 1925; Isom and

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Yokley 1968; van der Schalie 1973; Gordon 1991).

Unit 2. Bear Creek, Colbert County, Alabama, and Tishomingo County, Mississippi

Unit 2 encompasses 40 rkm (25 rmi) of the mainstem of Bear Creek from the backwaters of Pickwick Lake at rkm 37 (rmi 23), Colbert County, Alabama, upstream through Tishomingo County, Mississippi, ending at the Mississippi/Alabama State line. Recent mussel surveys in the Mississippi section of Bear Creek confirmed that the Cumberlandian combshell is still extant there (R.M. Jones, MMNS, pers. comm. 2002), and continues to be present in the Colbert County, Alabama portion of the unit (Isom and Yokley 1968; Garner and McGregor, in press). Bear Creek is in the historical range of the oyster mussel (Ortmann 1925).

Unit 3. Obed River, Cumberland and Morgan Counties, Tennessee

Unit 3 encompasses 40 rkm (25 rmi) and begins at the confluence of the Obed with the Emory River, Morgan County, Tennessee, and continues upstream to Adams Bridge, Cumberland County, Tennessee. This unit

currently contains a population of the purple bean (Gordon 1991; S.A. Ahlstedt, USGS, pers. comm. 2002) and is also within designated critical habitat for the Federally listed spotfin chub (Erimonax monacha) (see ``Existing Critical Habitat'' and Table 3). Unit 3 is located within the Obed National Wild and Scenic River, a unit of the National Park Service, and the Catoosa Wildlife Management Area, which is owned by the Tennessee Wildlife Resources Agency.

Unit 4. Powell River, Claiborne and Hancock Counties, Tennessee, and Lee County, Virginia

Unit 4 encompasses 154 rkm (94 rmi) and includes the Powell River from the U.S. 25E Bridge in Claiborne County, Tennessee, upstream to river mile 159 (upstream of Rock Island in the vicinity of Pughs) Lee County, Virginia. This reach is currently occupied by the Cumberlandian combshell (Ahlstedt 1991; Gordon 1991), rough rabbitsfoot (Service 2003), and oyster mussel (Wolcott and Neves 1990), and was historically occupied by the purple bean (Ortmann 1918). It is also existing critical habitat for the Federally listed slender chub (Erimystax cahni) and yellowfin madtom (Noturus flavipinnis)(see ``Existing Critical Habitat'' and Table 3).

Unit 5. Clinch River and tributaries, Hancock County, Tennessee, and Scott, Russell, and Tazewell Counties, Virginia

Unit 5 totals 272 rkm (171 rmi), including 242 rkm (148 rmi) of the Clinch River from rkm 255 (rmi 159) immediately below Grissom Island, Hancock County, Tennessee, upstream to its confluence with Indian Creek in Cedar Bluff, Tazewell County, Virginia; 4 rkm (2.5 rmi) of Indian Creek from its confluence with the Clinch River upstream to the fourth Norfolk Southern Railroad crossing at Van Dyke, Tazewell County, Virginia; and 21 rkm (13 rmi) of Copper Creek from its confluence with the Clinch River upstream to Virginia State Route 72, Scott County, Virginia. The Clinch mainstem currently contains the oyster mussel, rough rabbitsfoot, Cumberlandian combshell, and purple bean (Gordon 1991; Ahlstedt and Tuberville 1997; S.A. Ahlstedt, USGS, pers. comm. 2002). Indian Creek currently supports populations of the purple bean and rough rabbitsfoot (Winston and Neves 1997; Watson and Neves 1998). Copper Creek is currently occupied by a low density population of the purple bean, and contains historic records of both the oyster mussel and rough rabbitsfoot (Ahlstedt 1981; Fraley and Ahlstedt 2001; Ahlstedt, pers. comm. 2003). Copper Creek is critical habitat for the yellowfin madtom and a portion of the proposed Clinch River mainstem section is critical habitat for both the slender chub and the yellowfin madtom (see ``Existing Critical Habitat'' and Table 3).

Unit 6. Nolichucky River, Hamblen and Cocke Counties, Tennessee

Unit 6 includes 8 rkm (5 rmi) of the mainstem of the Nolichucky River and extends from rkm 14 (rmi 9) (approximately 0.6 rkm (0.4 rmi) upstream of Enka Dam) to Susong Bridge in Hamblen, Cocke Counties, Tennessee. The Nolichucky River currently supports a small population of the oyster mussel (S.A. Ahlstedt, USGS, pers. comm. 2002) and was historically occupied by the Cumberlandian combshell (Gordon 1991).

Unit 7. Beech Creek, Hawkins County, Tennessee

Unit 7 encompasses 23 rkm (14 rmi) and extends from rkm 4 (rmi 2) of Beech Creek (in the vicinity of Slide, Tennessee) upstream to the dismantled railroad bridge at rkm 27 (rmi 16). It supports the best

remaining population of purple bean and the only remaining population of this species in the Holston River drainage (Ahlstedt 1991; S.A. Ahlstedt, USGS, pers. comm. 2002).

Unit 8. Rock Creek, McCreary County, Kentucky

Unit 8 includes 11 rkm (7 rmi) of the mainstem of Rock Creek and begins at the Rock Creek/White Oak Creek confluence and extends upstream to Dolan Branch at rkm 18 (rmi 11) in McCreary County, Kentucky. This unit, which is bounded by the Daniel Boone National Forest and some private inholdings, is currently occupied by the Cumberland elktoe (Cicerello 1996).

Unit 9. Big South Fork and Tributaries, Fentress, Morgan, and Scott Counties, Tennessee, and McCreary County, Kentucky

Unit 9 encompasses 153 rkm (95 rmi) and consists of 43 rkm (27 rmi) of the Big South Fork of the Cumberland River mainstem from its confluence with Laurel Crossing Branch (downstream of Big Shoals), McCreary County, Kentucky, upstream to its confluence with the New River and Clear Fork, Scott County, Tennessee; 11 rkm (7 rmi) of North Fork White Oak Creek from its confluence with the Big South Fork upstream to Panther Branch, Fentress County, Tennessee; 14.5 rkm (9 rmi) of the New River from its confluence with Clear Fork upstream to U.S. Highway 27, Scott County, Tennessee; 40 rkm (25 rmi) of Clear Fork from its confluence with the New River upstream to its confluence with North Prong Clear Fork, Morgan, Fentress Counties, Tennessee; 10 rkm (6 rmi) of White Oak Creek from its confluence with Clear Fork upstream to its confluence with Bone Camp Creek, Morgan County, Tennessee; 6 rkm (4 rmi) of Bone Camp Creek from its confluence with White Oak Creek upstream to Massengale Branch, Morgan County, Tennessee; 14.5 rkm (9 rmi) of Crooked Creek from its confluence with Clear Fork upstream to Buttermilk Branch, Fentress County, Tennessee; and 14.5 rkm (9 rmi) of North Prong Clear Fork from its confluence with Clear Fork upstream to Shoal Creek, Fentress County, Tennessee. The mainstem of the Big South Fork currently supports the Cumberland elktoe and the best remaining Cumberlandian combshell population in the Cumberland system (Bakaletz 1991; Gordon 1991; R.R. Cicerello, Kentucky State Nature Preserves Commission (KSNPC), pers. comm. 2003). The mainstem of the Big South Fork also currently contains the oyster mussel (S.A. Ahlstedt, USGS, pers. comm. 2002; Service 2003). The remainder of the unit contains habitat currently occupied by the Cumberland elktoe (Call and Parmalee 1981; Bakaletz 1991; Gordon 1991). The largest population of

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Cumberland elktoe in Tennessee is in the headwaters of the Clear Fork system (Call and Parmalee 1981; Bakaletz 1991). The Big South Fork and its many tributaries may actually serve as habitat for one large interbreeding population of the Cumberland elktoe (Service 2003).

Unit 10. Buck Creek, Pulaski County, Kentucky

Unit 10 encompasses 58 rkm (36 rmi) and includes Buck Creek from the State Route 192 Bridge upstream to the State Route 328 Bridge in Pulaski County, Kentucky. Buck Creek is currently occupied by the Cumberlandian combshell (Gordon 1991; Hagman 2000; R.R. Cicerello, KSNPC, pers. comm. 2003) and historically supported the oyster mussel (Schuster et al. 1989; Gordon 1991).

Unit 11. Sinking Creek, Laurel County, Kentucky

Unit 11 encompasses 13 rkm (8 rmi) and extends from the Sinking Creek/Rockcastle River confluence upstream to Sinking Creek's confluence with Laurel Branch in Laurel County, Kentucky. This unit contains a strong population of Cumberland elktoe (R.R. Cicerello, KSNPC, pers. comm. 2002). This unit is primarily within land owned by the Daniel Boone National Forest, but also includes private lands.

Unit 12. Marsh Creek, McCreary County, Kentucky

Unit 12 includes 24 rkm (15 rmi) and consists of Marsh Creek from its confluence with the Cumberland River upstream to the State Road 92 bridge. This unit, which is bounded by lands owned by the Daniel Boone National Forest and private landowners, currently contains the State of Kentucky's best population of Cumberland elktoe (R.R. Cicerello, KSNPC, pers. comm. 2003) and the best remaining mussel fauna in the Cumberland River above Cumberland Falls (Cicerello and Laudermilk 2001).

Unit 13. Laurel Fork, Claiborne County, Tennessee, and Whitley County, Kentucky

Unit 13 includes 8 rkm (5 rmi) of Laurel Fork of the Cumberland River from the Campbell/Claiborne County line upstream through Claiborne County, Tennessee to 11 rkm (6.85 rmi) in Whitley County, Kentucky. The upstream terminus is 2 river miles upstream of the Kentucky/Tennessee State line. A ``sporadic'' population of Cumberland elktoe currently persists in this area (Cicerello and Laudermilk 2001).

Existing Critical Habitat

Approximately 206.5 miles (38 percent) of the proposed critical habitat for the five mussels (within three units) are already designated critical habitat for the yellowfin madtom, slender chub, or spotfin chub (Table 3). The spotfin chub, slender chub, and yellowfin madtom are listed as threatened species under the Act. Our consultation history on these existing critical habitat units is provided in the ``Effects of Critical Habitat Designation Section.''

Table 3.--Within Proposed Critical Habitat Designation for the Five Mussels, Rea Currently Designated Critical Habitat for Other Federally Listed

Unit (unit)	Species	Reference
Obed River (3).....	spotfin chub.....	(42 FR 45527)..
Powell River (4).....	yellowfin madtom, slender chub.	(42 FR 45527)..
Clinch River (5) (and Copper Creek)....	yellowfin madtom, slender chub.	(42 FR 45527)..
Total.....	.....	.....

Land Ownership

Streambeds of non-navigable waters and most navigable waters are owned by the riparian landowner. Waters of navigable streams are considered public waters by the States of Mississippi, Alabama,

Tennessee, Kentucky, and Virginia. Table 4 summarizes primary riparian land ownership in each of the proposed units. Approximately 79 percent, 671 rkm (418 rmi), of stream channels proposed as critical habitat are bordered by private lands.

Public land adjacent to proposed critical habitat units consists of approximately 170 km (107 mi) of riparian lands, including the Obed Wild and Scenic River and the Catoosa Wildlife Management Area in the Obed River Unit (40 km (25 mi)); Daniel Boone National Forest in the Rock Creek, Sinking Creek, and Marsh Creek Units (30 km (19 mi)); and the Big South Fork National River and Recreation Area in the Big South Fork Unit (109 km (68 mi)).

Table 4.--Adjacent Riparian Land Ownership in Proposed Critical Habitat Units (rkm/rmi) in the Tennessee and Cumberland River Basins

Critical habitat units	Private	State	Federal
1. Duck River	74/46	.....	.....
2. Bear Creek	40/25	.....	.....
3. Obed River	.....	32/20	8/5
4. Powell River	154/94	.....	.....
5. Clinch River and tributaries	272/171	.....	.....
6. Nolichucky River	8/5	.....	.....
7. Beech Creek	23/14	.....	.....
8. Rock Creek	11/7	.....	.....
9. Big South Fork and tributaries	44/27	.....	109/68
10. Buck Creek	58/36	.....	.....
11. Sinking Creek	8/5	.....	5/3
12. Marsh Creek	10/6	.....	14/9

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13. Laurel Fork	8/5	.....	.....
Totals	689/434	32/20	170/107

Effects of Critical Habitat Designation

ESA Section 7 Consultation

The regulatory effects of a critical habitat designation under the Act are triggered through the provisions of section 7, which apply 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 of the Act requires Federal agencies, including the Service, to ensure that actions they fund, authorize, or carry out are not likely to destroy or adversely modify critical habitat. In our regulations at 50 CFR 402.02, we define destruction or adverse modification as ``a direct or indirect alteration that appreciably diminishes the value of critical habitat for both the survival and recovery of a listed species. Such alterations include, but are not limited to: alterations adversely modifying any of those physical or biological features that were the basis for determining the habitat to

be critical.'' 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., F.3d 434), the Court found our definition of destruction or adverse modification 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. During a conference on the effects of a Federal action on proposed critical habitat, we make nonbinding 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. Also, if we conduct a formal consultation during conference, 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 would 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 five 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. An action occurring only within a unit or group of units may appreciably reduce the value of the critical habitat for the recovery of the species and therefore result in a determination of adverse modification.

When we issue a biological opinion that concludes that an 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 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 Critical Habitat for the Five Mussels

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 five 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, water withdrawal, 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

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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 long-term survival and recovery of the species. Such activities could include, but are not limited to, excessive sedimentation from livestock grazing, road construction, channel alteration, 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 long-term 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 long-term survival and recovery of the species. Such activities could include but are not limited to channelization, impoundment, road and bridge construction, mining, dredging, and destruction of riparian vegetation.

Previous Section 7 Consultations

We have consulted on over 100 Federal actions (or activities that required Federal permits) involving these 5 species since they received

protection under the Act. Nine of these were formal consultations. Federal actions that we have reviewed include Federal land management plans, road and bridge construction and maintenance, water quality standards, recreational facility development, dam construction and operation, surface mining proposals, and issuance of permits under section 404 of the Clean Water Act. Federal agencies involved with these activities included the U.S. Army Corps of Engineers; Tennessee Valley Authority; U.S. Forest Service; Environmental Protection Agency; Office of Surface Mining, Reclamation and Enforcement; National Park Service; Federal Highway Administration; and the Service. The nine formal consultations that have been conducted all involved Federal projects, including five bridge replacements in Tennessee, Kentucky, and Virginia; two Federal land management plans; and the review of two scientific collecting permits for one or more of the five mussel species. None of these formal consultations resulted in a finding that the proposed action would jeopardize the continued existence of any of the five species or destroy or adversely modify existing critical habitat previously designated in the area.

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 five 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 7.3) 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, minimization of work in the wetted channel, restriction of riparian clearing, monitoring of channel morphology and mussel populations, sign installation, protection of buffer zones, avoidance of pollution, cooperative planning efforts, minimization of ground disturbance, use of sediment barriers, use of best management practices to minimize erosion, mussel relocation from bridge pier footprints, and funding research useful for mussel conservation. In reviewing past formal consultations, we anticipate the need to reinitiate only one consultation on Federal actions as a result of this proposed designation. The Daniel Boone National Forest in Kentucky is in the process of finalizing their Forest Plan. The Forest Service may be required to revise this plan to account for proposed critical habitat designations in Rock Creek, Sinking Creek, and Marsh Creek.

As mentioned in the ``Existing Critical Habitat'' section, 36 percent of the areas proposed critical habitat is currently designated critical habitat for the spotfin chub, yellowfin madtom, or slender chub. We have conducted 56 informal consultations involving existing critical habitat for these fish in the areas proposed as critical habitat for the five mussels in the Obed River, Powell River, and Clinch River in Tennessee. All of these consultations involved both the potential adverse effects to the species and the potential adverse modification or destruction of critical habitat. These consultations, which were similar to consultations carried out for the five mussel

species, primarily included utility lines, bridge replacements and reconstructions, gravel dredging, and an oil spill on Clear Creek (a tributary of the Obed River and designated critical habitat for the spotfin chub). We have consulted on seven projects that involved existing critical habitat for the yellowfin madtom and/or slender chub in Virginia. Three of these consultations were formal, involving projects like bridge crossing on the Clinch and Powell Rivers. None of these formal consultations resulted in a finding that the proposed activity would destroy or adversely modify existing critical habitat previously designated in the area.

The designation of critical habitat for these five mussels will have no impact on private landowner activities that do not involve 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: Alabama--Daphne, FWS Ecological Services Office (251/441-5181); Kentucky--Frankfort, FWS Ecological Services Office (502/695-0468); Mississippi--Jackson, FWS Ecological Services Office (601/965-4900); Tennessee--Cookeville, FWS Ecological Services Office (931/528-6481); Virginia--Abingdon, FWS Ecological Services Office (276/623-1233).

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 data available, and after taking into consideration the economic and any other relevant impact of specifying any particular area as critical habitat. We may exclude areas from critical habitat if the benefits of

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exclusion outweigh the benefits of designation, provided the exclusion will not result in the extinction of the species. Our preliminary analysis (discussed below) of the following three river reaches: the free-flowing reach of the French Broad River below Douglas Dam to its confluence with the Holston River, Sevier and Knox Counties, Tennessee; the free-flowing reach of the Holston River below Cherokee Dam to its confluence with the French Broad River, Jefferson, Grainger, and Knox Counties, Tennessee; and the free flowing reach of the Rockcastle River from the backwaters of Cumberland Lake upstream to Kentucky Route 1956 Bridge, in Laurel, Rockcastle, and Pulaski Counties, Kentucky, finds that the benefits of excluding these areas from the designation of critical habitat for the oyster mussel and Cumberlandian combshell outweighs the benefits of including them. Therefore, on the basis of our analysis below, we are proposing to exclude these three river reaches from critical habitat.

Benefits of Inclusion

The principal benefit of designating these portions of the lower French Broad, lower Holston, and Rockcastle Rivers as critical habitat would result from the requirement under section 7(a)(2) of the Act that Federal agencies consult with us to ensure that any actions that they fund, authorize, or carry out do not destroy or adversely modify critical habitat. No consultations have occurred for the oyster mussel and Cumberlandian combshell in these areas since they are not occupied by these two species. However, consultations are already occurring for other federally listed species, like the endangered pink mucket

(Lampsilis abrupta) mussel (found in the Holston River), the threatened snail darter (Percina tanasi) (found in both the French Broad and Holston Rivers), and the Cumberland bean (Villosa trabalis) mussel (found in the Rockcastle River) in these areas. Even though these species do not have designated critical habitat, consultations evaluating impacts to the species would still take into consideration habitat and habitat impacts which may constitute take of the species. Projects that would adversely affect critical habitat for the Cumberlandian combshell and oyster mussel (if it were designated) would likely also trigger consultation with us under section 7 of the Act because of their potential to adversely affect the listed species already present. Thus, we find that the additional benefit through section 7 consultation due to designation of critical habitat for the oyster mussel and Cumberland combshell would be minimal.

Since 1997, we have been involved in 25 consultations regarding the snail darter and pink mucket in the lower French Broad and Holston Rivers. Approximately 10 of these consultations have involved the Tennessee Valley Authority (TVA). TVA manages the dams upstream of the area on the lower French Broad and Holston Rivers, and issues permits for docks and recreational structures along these two river reaches. The TVA has improved water quality in the two subject reaches by instituting minimum flows for the protection of aquatic life and by increasing the dissolved oxygen content of the water. In a letter to us dated December 9, 1998, TVA expressed its support for mussel recovery efforts in the Tennessee Valley streams and tailwaters. TVA would likely be involved in consultations regarding critical habitat (if it were designated) on the Holston and French Broad Rivers. Because TVA is already working with us to improve water quality in the two subject reaches and below other dams in Tennessee, designation may reduce the success of these continued cooperative efforts.

Similarly, the segment of the Rockcastle River is listed as a State Scenic River and designated as an ``Outstanding State Resource Water'' (OSRW) by the State of Kentucky because of the presence of federally protected species. OSRWs are given more consideration during the State environmental review process, and their designation provides some additional protections for streams from proposed development activities, all of which affords them increased recognition and additional protections under the State's environmental review process. Since 1994, we have had only 12 informal consultations on this stretch of the Rockcastle River, all involving the Cumberland bean. These consultations included a forest management plan for the Daniel Boone National Forest. Oyster mussels and Cumberlandian combshells placed into the Rockcastle River through NEP designations would be treated as species proposed for listing by the Forest Service, and therefore would still be considered during Federal management actions under section 7 of the Act. Because this stretch has very little consultation history and possesses current protections from existing State designations and the presence of the Cumberland bean, the benefit that would be gained for the oyster mussel and Cumberlandian combshell through section 7 protections provided by a critical habitat designation is relatively minor.

The identification of habitat essential to the conservation of the species can provide some informational benefits to the public, State and local governments, scientific organizations, and Federal agencies, and may facilitate conservation efforts. However, we believe that there would be little additional informational benefit from including the lower Holston, lower French Broad River, and Rockcastle Rivers as critical habitat, because this proposal identifies all areas that are essential to the conservation of the species, regardless of whether all of these areas are designated as critical habitat. Consequently, we

believe that informational benefits will be provided to the lower Holston, French Broad, and Rockcastle Rivers, even though these areas are not proposed as critical habitat.

Benefits of Exclusion

Congress made significant changes to the Act, with the addition of section 10(j) in 1982, which provides for the designation of specific reintroduced populations of listed species as ``experimental populations.'' This section was designed to provide us with innovative means to introduce a listed species into unoccupied habitat within its historic range when doing so would foster the conservation and recovery of the species. Experimental populations provide us with a flexible, proactive means to meet recovery criteria while not alienating stakeholders, such as municipalities and landowners, whose cooperation is essential for eventual success of the reintroduced population.

Section 10(j) increases our flexibility in managing an experimental population by allowing us to treat the population as threatened, regardless of the species' status elsewhere in its range. Threatened status gives us more discretion in developing and implementing management programs and special regulations for a population and allows us to develop any regulations we consider necessary to provide for the conservation of a threatened species. This flexibility allows us to manage the experimental population in a manner that will ensure that current and future land, water, or air uses and activities will not be unnecessarily restricted and the population can be managed for recovery purposes.

When we designate a population as experimental, section 10(j) of the Act requires that we determine whether that population is either essential or nonessential to the continued existence

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of the species, on the basis of the best available information. Nonessential experimental populations located outside the National Wildlife Refuge System or National Park System lands are treated, for the purposes of section 7 of the Act, as if they are proposed for listing, while on National Wildlife Refuges or National Parks the species is treated as threatened. Section 7(a)(2) of the Act, which requires Federal agencies to ensure that their activities are not likely to jeopardize the continued existence of a listed species, would not apply except on National Wildlife Refuge System and National Park System lands only. Experimental populations determined to be ``essential'' to the survival of the species would remain subject to the consultation provisions of section 7(a)(2) of the Act.

The flexibility gained by establishment of an experimental population through section 10(j) would be of little value if a designation of critical habitat overlaps it. This is because Federal agencies would still be required to consult with us on any actions that may adversely affect critical habitat. In effect, the flexibility gained from section 10(j) would be rendered useless by the designation of critical habitat. In fact, section 10(j)(2)(C)(ii) of the Act states that critical habitat shall not be designated under the Act for any experimental population determined to be not essential to the continued existence of a species.

As mentioned above, the recovery strategy for the oyster mussel and Cumberlandian combshell outlined in the agency draft recovery plan requires the reestablishment/reintroduction of these two mussels into areas of their historic ranges. Because of their currently reduced and fragmented state, the mussels face enhanced threats and would never be

able to repopulate these reaches naturally. We strongly believe that, in order to achieve recovery for these mussels, in accordance with the Service's Recovery Plan we would need the flexibility provided for in section 10(j) of the Act to help ensure the success of reestablishing these mussels in the specified areas of the lower French Broad, Rockcastle, and Holston Rivers which have been identified as having medium to high recovery potential. Use of section 10(j) is meant to encourage local cooperation through management flexibility. Nonessential experimental populations in certain areas are often our only mechanism to achieve recovery. We believe it is crucial for recovery of these two mussels that we have the support of the public in these three river reaches when we move forward in the reintroduction efforts required in our agency draft recovery plan. However, critical habitat is often viewed negatively by the public since it is not well understood and there are many misconceptions about how it affects private landowners (Patlis 2001).

The specified areas in the lower Holston and French Broad Rivers represent years of planning and coordination between the Service, the State of Tennessee, TVA, and others to recover aquatic species and their habitat. We have cooperation and support from the State of Tennessee, TVA, and others in considering these areas an NEP. We continue to have extensive cooperation and support from these stakeholders in working towards aquatic species recovery in general in the Tennessee and Cumberland River Basins. Due to work done in large part by these agencies as well as by landowners, municipalities, and other stakeholders, we have collectively improved the water and habitat quality in these areas to the point where there are suitable reintroduction sites in certain areas for a host of listed species, including 1 federally listed, endangered, aquatic snail, 5 federally listed fishes (2 endangered and 3 threatened), and 14 additional federally listed, endangered, freshwater mussels. Designating these 2 reaches as critical habitat could jeopardize the establishment and success of the reintroductions as well as this cooperative effort that we are considering for the Cumberlandian combshell and oyster mussel as well as these other species to achieve their recovery criteria.

Similarly, the Rockcastle River contains a robust mussel community (Thompson 1985; Cicerello 1992) second only to the Big South Fork as the best remaining representation of preimpoundment (before the water was dammed) mussel fauna in the Cumberland River System (R.R. Cicerello, KSNPC, pers. comm. 2003). However, the oyster mussel and Cumberlandian combshell no longer occur in this river. We have worked for years with the Daniel Boone National Forest to protect the water quality and unique mussel community found in the Rockcastle River. Designating unoccupied critical habitat in the Rockcastle River would be viewed as an unnecessary regulatory intrusion into a cooperative relationship between our agencies. It would also likely be viewed negatively by local stakeholders, whose very support we need to effect the recovery of these rare mussel taxa by reintroducing them into suitable historic habitat found there.

In summary, we believe that the benefits of excluding the lower French Broad, Rockcastle, and Holston Rivers areas outweigh the benefits of their inclusion as critical habitat. Including these areas may result in some benefit through additional consultations with Federal agencies whose activities may affect critical habitat. However, overall this benefit is minimal because of the presence of other listed species with similar habitat requirements which are, and will continue to be, considered in consultation. A proposed designation in these two river reaches would also provide little additional informational benefit to the public, State and governmental agencies, and others. On the other hand, an exclusion will greatly benefit the overall recovery

of the oyster mussel and Cumberlandian combshell (as well as 20 other federally listed species) by allowing us to use the flexibility and greater public acceptance of section 10(j) of the Act to reestablish the oyster mussel and Cumberlandian combshell in other portions of their historic range where they no longer occur. We also believe that the exclusion of the specified areas in the lower French Broad, lower Holston, and Rockcastle Rivers will not lead to the extinction of these two mussels based on their occurrences in other river and stream stretches, and the cooperative partnerships in place for establishing these NEPs. We seek comment on our preliminary determination to exclude these areas from critical habitat.

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 on this proposed rule 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

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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, Tennessee Field 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 document 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? (5) 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

notice easier to understand to: Office of Regulatory Affairs, Department of the Interior, Room 7229, 1849 C Street, NW., Washington, DC 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 not a significant rule and, therefore, was not 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 ESA 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 five mussels. We will make this analysis available for public comment before we finalize 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 that 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. To determine if potential economic impacts to these small entities are significant, we consider the types of activities that might trigger regulatory impacts under this rule, as well as the types of project modifications that may result.

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, the 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 American 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). 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 five mussels.

If this critical habitat designation is finalized, Federal agencies must also consult with us if their activities may affect designated critical habitat. However, we believe this will result in only minimal additional regulatory burden on Federal agencies or their applicants because consultation would already be required because of 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.

Since the five mussels were listed (1997), we have conducted nine formal consultations involving one or more of these species. These formal consultations, which all involved Federal projects, included five bridge replacements, two Federal land management plans, an intra-agency review of the Wilson Dam NEP and associated collecting permits, and an intra-agency review of collection

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permits needed by researchers involved in endangered mussel propagation. These nine consultations resulted in non-jeopardy biological opinions.

We also reviewed approximately 100 informal consultations that have been conducted since these 5 species were listed involving private businesses and industries, counties, cities, towns, or municipalities. At least 15 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, transmission lines, pipelines, mines, and road and utility development authorized by various Federal agencies, or review of National Pollution Discharge Elimination System permit applications to State water quality agencies by developers, municipalities, mines, businesses, and others. 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 100 activities in the Tennessee and Cumberland River Basins, 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 6 years since the five mussels were listed, there have been no formal consultations regarding actions by small entities. This does not meet the definition of ``substantial.'' In addition, we see 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 all 13 of the proposed critical habitat units are currently occupied by one or more listed mussels, 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 5 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 review of the draft economic analysis prepared pursuant to section 4(b)(2) of the Act and Executive Order 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 & 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. This rule is not a significant regulatory action under Executive Order 12866, and 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 (2 U.S.C. 1501 et seq.)

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 rule's effect on nonfederal governments.

Takings

In accordance with Executive Order 12630 (``Government Actions and Interference with Constitutionally Protected Private Property Rights''), we have analyzed the potential takings implications of proposing to designate approximately 544 rmi in 13 river and stream reaches in Alabama, Mississippi, Tennessee, Kentucky, and Virginia. This preliminary assessment concludes that this proposed rule does not pose significant takings implications. However, we have not yet completed the economic analysis for this proposed rule. Once the economic analysis is available, we will review and revise this preliminary assessment as warranted.

Federalism

In accordance with Executive Order 13132, this rule does not have significant Federalism effects. A Federalism assessment is not required. In keeping with Department of the Interior policies, the Service requested information from, and coordinated development of this critical habitat proposal with, appropriate State resource agencies in Mississippi, Alabama, Tennessee, Kentucky, and Virginia. The designation of critical habitat for these five species imposes no additional restrictions to those currently in place, and, therefore, has little additional impact on State and local governments and their activities. The designation may provide 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 conservation of the species are specifically identified. While this definition and this identification do not alter where and what federally sponsored activities may occur, they may assist these local governments in long-range planning, rather than leaving them to wait 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 that it meets 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 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 the five mussel species.

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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 Act permits are covered by an existing OMB approval and are assigned clearance No. 1018-0094, Forms 3-200-55 and 3-200-56, 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 these five mussels. Therefore, designation of critical habitat for the five 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 Cookeville Field Office (see ADDRESSES section).

Author

The primary author of this notice is Rob Tawes (931/528-6481, extension 213) (see ADDRESSES section).

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 Sec. 17.11(h), revise each of the entries here, listed in alphabetical order under ``CLAMS'' in the List of Endangered and Threatened Wildlife, so that they read as follows:

Sec. 17.11 Endangered and threatened wildlife.

* * * * *

(h) * * *

Species			pop
Common name	Scientific name	Historic range	e
		* * * * * * *	
CLAMS			
		* * * * * * *	
Bean, Purple.....	Villosa perpurpurea.	U.S.A. (TN, VA).....	NA...
		* * * * * * *	
Combshell, Cumberlandian.....	Epioblasma brevidens	U.S.A. (AL, KY, MS, TN, VA).	NA...
		* * * * * * *	
Elktoe, Cumberland.....	Alasmidonta atropurpurea.	U.S.A. (KY, TN).....	NA...
		* * * * * * *	
Mussel, oyster.....	Epioblasma capsaeformis.	U.S.A. (AL, GA, KY, MS, NC, TN, VA).	NA...
		* * * * * * *	
Rabbitsfoot, rough.....	Quadrula cylindrica strigillata.	U.S.A. (TN, VA).....	NA...
		* * * * * * *	

3. In Sec. 17.95, at the end of paragraph (f), add an entry for five Cumberland and Tennessee River Basin mussels species to read as follows:

Sec. 17.95 Critical habitat--fish and wildlife.

* * * * *

(f) Clams and snails.

* * * * *

Five Tennessee and Cumberland River Basin mussels species: Purple bean (Villosa perpurpurea), Cumberlandian combshell (Epioblasma brevidens), Cumberland elktoe (Alasmidonta atropurpurea), oyster mussel (Epioblasma capsaeformis), and rough rabbitsfoot (Quadrula cylindrica strigillata).

(1) Primary constituent elements.

(i) The primary constituent elements essential for the conservation of the

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purple bean (Villosa perpurpurea), Cumberlandian combshell (Epioblasma

brevidens), Cumberland elktoe (Alasmidonta atropurpurea), oyster mussel (Epioblasma capsaeformis), and rough rabbitsfoot (Quadrula cylindrica strigillata) 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:

(A) Permanent, flowing stream reaches with 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 the five mussels and their host fish;

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

(C) Stable substrates consisting of mud, sand, gravel, and/or cobble/boulder, with low amounts of fine sediments or attached filamentous algae;

(D) Water quality (including temperature, turbidity, oxygen content, and other characteristics) necessary for the normal behavior, growth, and survival of all life stages of the five mussels and their host fish; and

(E) Fish hosts with adequate living, foraging, and spawning areas.

(ii) [Reserved]

(2) Critical habitat unit descriptions and maps.

(i) Index map. The index map showing critical habitat units in the States of Mississippi, Alabama, Tennessee, Kentucky, and Virginia for the five Tennessee and Cumberland River Basin mussels follows:
[GRAPHIC] [TIFF OMITTED] TP03JN03.000

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

Table of Five Tennessee and Cumberland River Basin Mussels, Their Critical Habitat Those Critical Habitat Units

Species	Critical habitat units	
Purple bean, (Villosa perpurpurea).....	Units 3, 4, 5, 7.....	TN, VA.
Cumberlandian combshell, (Epioblasma brevidens).	Units 1, 2, 4, 5, 6, 9, 10..	AL, KY, MS,

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Cumberland elktoe, (Alasmidonta atropurpurea).	Units 8, 9, 11, 12, 13.....	KY, TN.
Oyster mussel, (Epioblasma capsaeformis).	Units 1, 2, 4, 5, 6, 9, 10..	AL, KY, MS,
Rough rabbitsfoot (Quadrula cylindrica strigillata).	Units 4, 5.....	TN, VA.

(iii) Unit 1. Duck River, Marshall and Maury Counties, Tennessee. This is a critical habitat unit for the oyster mussel and Cumberlandian combshell.

(A) Unit 1 includes the mainstem of the Duck River from rkm 214 (rmi 133) (0.3 rkm (0.2 rmi) upstream of the First Street Bridge) (-87.03 longitude, 35.63 latitude) in the City of Columbia, Maury County, Tennessee, upstream to Lillards Mill Dam at rkm 288 (rmi 179) (-86.78 longitude, 35.58 latitude), Marshall County, Tennessee.

(B) Map of Unit 1 follows:

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[GRAPHIC] [TIFF OMITTED] TP03JN03.001

(iv) Unit 2. Bear Creek, Colbert County, Alabama, and Tishomingo County, Mississippi. This is a critical habitat unit for the oyster mussel and Cumberlandian combshell.

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(A) Unit 2 consists of the mainstem of Bear Creek from the backwaters of Pickwick Lake at rkm 37 (rmi 23) (-88.09 longitude, 34.81 latitude), Colbert County, Alabama, upstream through Tishomingo County, Mississippi, ending at the Mississippi/Alabama state line.

(B) Map of Unit 2 follows:

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[GRAPHIC] [TIFF OMITTED] TP03JN03.002

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(v) Unit 3. Obed River, Cumberland and Morgan Counties, Tennessee. This is a critical habitat unit for the purple bean.

(A) Unit 3 includes the Obed River mainstem from its confluence with the Emory River (-84.69 longitude, 36.09 latitude), Morgan County, Tennessee, upstream to Adams Bridge, Cumberland County, Tennessee (-84.95 longitude, 36.07 latitude).

(B) Map of Unit 3 follows:

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[GRAPHIC] [TIFF OMITTED] TP03JN03.003

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(vi) Unit 4. Powell River, Claiborne and Hancock Counties, Tennessee, and Lee County, Virginia. This is a critical habitat unit for the purple bean, Cumberlandian combshell, oyster mussel, and rough rabbitsfoot.

(A) Unit 4 includes the mainstem of the Powell River from the U.S. 25E bridge in Claiborne County, Tennessee (-83.63 longitude, 36.53 latitude), upstream to river mile 159 (upstream of Rock Island in the vicinity of Pughs) Lee County, Virginia.

(B) Map of Unit 4 follows:

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[GRAPHIC] [TIFF OMITTED] TP03JN03.004

[[Page 33262]]

(vii) Unit 5. Clinch River, Hancock County, Tennessee, and Scott, Russell, and Tazewell Counties, Virginia; Copper Creek, Scott County,

Virginia; and Indian Creek, Tazewell County, Virginia. This is a critical habitat unit for the purple bean, Cumberlandian combshell, oyster mussel, and rough rabbitsfoot.

(A) Unit 5 includes the Clinch River mainstem from rkm 255 (rmi 159) (-83.36 longitude, 36.43 latitude) immediately below Grissom Island, Hancock County, Tennessee, upstream to its confluence with Indian Creek in Cedar Bluff, Tazewell County, Virginia (-81.80 longitude, 37.10 latitude); Copper Creek in Scott County, Virginia, from its confluence with the Clinch River (-82.74 longitude, 36.67 latitude) upstream to Virginia State Route 72 (-82.56 longitude, 36.68 latitude); and Indian Creek from its confluence with the Clinch River upstream to the fourth Norfolk Southern Railroad crossing at Van Dyke, Tazewell County, Virginia (-81.77 longitude, 37.14 latitude).

(B) Map of Unit 5 follows:

[[Page 33263]]

[GRAPHIC] [TIFF OMITTED] TP03JN03.005

(viii) Unit 6. Nolichucky River, Hamblen and Cocke Counties, Tennessee. This is a critical habitat unit for the Cumberlandian combshell and oyster mussel.

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(A) Unit 6 consists of the mainstem of the Nolichucky River from rkm 14 (rmi 9) (-83.18 longitude, 36.18 latitude) (approximately 0.6 rkm (0.4 rmi) upstream of Enka Dam) upstream to Susong Bridge (-83.20 longitude, 36.14 latitude) in Hamblen and Cocke Counties, Tennessee.

(B) Map of Unit 6 follows:

[[Page 33265]]

[GRAPHIC] [TIFF OMITTED] TP03JN03.006

[[Page 33266]]

(ix) Unit 7. Beech Creek, Hawkins County, Tennessee. This is a critical habitat unit for the purple bean.

(A) Unit 7 includes the Beech Creek mainstem from rkm 4 (rmi 2) (-82.92 longitude, 36.40 latitude) of Beech Creek (in the vicinity of Slide, Tennessee) upstream to the dismantled railroad bridge at rkm 27 (rmi 16) (-82.77 longitude, 36.40 latitude).

(B) Map of Unit 7 follows:

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[GRAPHIC] [TIFF OMITTED] TP03JN03.007

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(x) Unit 8. Rock Creek, McCreary County, Kentucky. This is a critical habitat unit for the Cumberland elktoe.

(A) Unit 8 includes the mainstem of Rock Creek from its confluence with White Oak Creek (-84.59 longitude, 36.71 latitude), upstream to Sinking Creek rkm 18 (rmi 11) (-84.69 longitude, 36.65 latitude),

McCreary County, Kentucky.
(B) Map of Unit 8 follows:

[[Page 33269]]

[GRAPHIC] [TIFF OMITTED] TP03JN03.008

(xi) Unit 9. Big South Fork of the Cumberland River and its tributaries, Fentress, Morgan, and Scott Counties, Tennessee, and McCreary County, Kentucky. This is a critical habitat unit

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for the Cumberlandian combshell, Cumberland elktoe, and oyster mussel.
(A) Unit 9 consists of the Big South Fork of the Cumberland River mainstem from its confluence with Laurel Crossing Branch (-84.54 longitude, 36.64 latitude), McCreary County, Kentucky, upstream to its confluence with the New River and Clear Fork, Scott County, Tennessee; North White Oak Creek from its confluence with the Big South Fork upstream to Panther Branch (-84.75 longitude, 36.42 latitude), Fentress County, Tennessee; New River from its confluence with Clear Fork upstream to U.S. Highway 27 (-84.55 longitude, 36.38 latitude), Scott County, Tennessee; Clear Fork from its confluence with the New River upstream to its confluence with North Prong Clear Fork, Morgan and Fentress Counties, Tennessee; White Oak Creek from its confluence with Clear Fork upstream to its confluence with Bone Camp Creek, Morgan County, Tennessee; Bone Camp Creek from its confluence with White Oak Creek upstream to Massengale Branch (-84.71 longitude, 36.28 latitude), Morgan County, Tennessee; Crooked Creek from its confluence with Clear Fork upstream to Buttermilk Branch (-84.92 longitude, 36.36 latitude), Fentress County, Tennessee; and North Prong Clear Fork from its confluence with Clear Fork upstream to Shoal Creek (-84.97 longitude, 36.26 latitude), Fentress County, Tennessee.
(B) Maps of Unit 9 follow:

[[Page 33271]]

[GRAPHIC] [TIFF OMITTED] TP03JN03.009

[[Page 33272]]

[GRAPHIC] [TIFF OMITTED] TP03JN03.010

[[Page 33273]]

[GRAPHIC] [TIFF OMITTED] TP03JN03.011

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(xii) Unit 10. Buck Creek, Pulaski County, Kentucky. This is a critical habitat unit for the Cumberlandian combshell and oyster mussel.
(A) Unit 10 includes the Buck Creek mainstem from the State Road 192 Bridge (-84.43 longitude, 37.06 latitude) upstream to the State

Road 328 Bridge (-84.56 longitude, 37.32 latitude) in Pulaski County, Kentucky.

(B) Map of Unit 10 follows:

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[GRAPHIC] [TIFF OMITTED] TP03JN03.012

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(xiii) Unit 11. Sinking Creek, Laurel County, Kentucky. This is a critical habitat unit for the Cumberland elktoe.

(A) Unit 11 includes the mainstem of Sinking Creek from its confluence with the Rockcastle River (-84.28 longitude, 37.10 latitude) upstream to its confluence with Laurel Branch (-84.17 longitude, 37.09 latitude) in Laurel County, Kentucky.

(B) Map of Unit 11 follows:

[[Page 33277]]

[GRAPHIC] [TIFF OMITTED] TP03JN03.013

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(xiv) Unit 12. Marsh Creek, McCreary County, Kentucky. This is a critical habitat unit for the Cumberland elktoe.

(A) Unit 12 includes the Marsh Creek mainstem from its confluence with the Cumberland River (-84.35 longitude, 36.78 latitude) upstream to State Road 92 bridge (-84.35 longitude, 36.66 latitude) in McCreary County, Kentucky.

(B) Map of Unit 12 follows:

[[Page 33279]]

[GRAPHIC] [TIFF OMITTED] TP03JN03.014

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(xv) Unit 13. Laurel Fork, Claiborne County, Tennessee, and Whitley County, Kentucky. This is a critical habitat unit for the Cumberland elktoe.

(A) Unit 13 includes the mainstem of the Laurel Fork of the Cumberland River from the boundary between Claiborne and Campbell Counties (-84.00 longitude, 36.58 latitude) upstream to rkm 11 (rmi 6.85) in Whitley County, Kentucky. The upstream terminus is 2 river miles upstream of the Kentucky/Tennessee State line (-84.00 longitude, 36.60 latitude).

(B) Map of Unit 13 follows:

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[GRAPHIC] [TIFF OMITTED] TP03JN03.015

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* * * * *

Dated: May 19, 2003.
Craig Manson,
Assistant Secretary for Fish and Wildlife and Parks.
[FR Doc. 03-12944 Filed 6-2-03; 8:45 am]

BILLING CODE 4310-55-P