

BILLING CODE

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**DEPARTMENT OF THE INTERIOR**

**Fish and Wildlife Service**

**50 CFR Part 17**

**Endangered and Threatened Wildlife  
and Plants; Proposal to List the Golf  
Stick Pearly Mussel as an Endangered  
Species**

**AGENCY:** Fish and Wildlife Service,  
Interior.

**ACTION:** Proposed rule.

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**SUMMARY:** The Service proposes to list a  
freshwater mussel, the golf stick pearly  
mussel (*Obovaria retusa*), as an  
endangered species under the  
Endangered Species Act of 1973, as

amended (Act). This freshwater mussel historically occurred in the Ohio River and its large tributaries in Pennsylvania, West Virginia, Ohio, Indiana, Illinois, Kentucky, Tennessee, and Alabama. Presently, the golf stick pearly mussel is known from four relict, apparently nonreproducing, populations—two reaches of the Tennessee River (one in the State of Kentucky and one in the State of Tennessee), one reach of the Green River in Kentucky, and one reach of the Cumberland River in Tennessee. The distribution and reproductive capacity of this species has been seriously impacted by the construction of impoundments on the large rivers it once inhabited. Unless reproducing populations are found or methods developed to maintain existing populations, this species will likely become extinct in the foreseeable future. Comments and information are sought from the public concerning this proposal.

**DATES:** Comments from all interested parties must be received by May 8, 1989. Public hearing requests must be received by April 21, 1989.

**ADDRESSES:** Comments and materials concerning this proposal should be sent to the Field Supervisor, U.S. Fish and Wildlife Service, Asheville Field Office, 100 Otis Street, Room 224, Asheville, North Carolina 28801. Comments and materials received will be available for public inspection, by appointment, during normal business hours at the above address.

**FOR FURTHER INFORMATION CONTACT:** Mr. Richard G. Biggins at the above address (704/259-0321 or FTS 672-0321).

**SUPPLEMENTARY INFORMATION:**

**Background**

The golf stick pearly mussel (*Obovaria retusa*) was described by Lamarck (1819). This freshwater species, which is characterized as a large river species (Bates and Dennis 1985), has a medium to large shell that is ovate to subquadrate in outline (Bogan and Parmalee 1983). The shell exterior lacks rays and has a yellow-green to brown color. Older individuals are usually darker brown or black. The inside of the shell is salmon to deep purple surrounded by a white border. Like other freshwater mussels, it feeds by filtering food particles from the water. It has a complex reproductive cycle in which the mussel's larvae parasitize fish. The mussel's life span, fish species its larvae parasitize, and other aspects of its life history are unknown.

The golf stick pearly mussel has historically widely distributed in the Ohio, Cumberland, and Tennessee River systems in Pennsylvania, West Virginia,

Ohio, Illinois, Indiana, Kentucky, Tennessee, and Alabama (Bogan and Parmalee 1983, Kentucky Nature Preserves Commission 1980, Parmalee and Klippel 1982, Lauritsen 1987, Stansbery 1970). Based on personal communication with knowledgeable experts (Steven Ahlstedt and John Jenkinson, Tennessee Valley Authority, 1987; Arthur Bogan, Philadelphia Academy of Sciences, 1988; Arthur Clarke, Corpus Christi State University, 1986; Ronald Cicerello, Kentucky Natural Preserves Commission, 1988; James Sickel, Murry State University, 1987; David Stansbery, Ohio State University, 1987) and a review of current literature (see above plus Sickel 1985), the species is known to survive in only four river reaches. The species still exists but apparently does not reproduce in the Tennessee River in Livingston, Marshall, and McCracken Counties, Kentucky; the Tennessee River in Hardin County, Tennessee; the Cumberland River in Wilson, Trousdale, and Smith Counties, Tennessee; and the Green River in Hart and Edmonson Counties, Kentucky.

The continued existence of these four populations is questionable. Unless reproducing populations can be found or methods can be developed to maintain these or create new populations, the species will become extinct in the foreseeable future. The individuals that do still survive in these four river reaches are also threatened from other factors. The Green River in Kentucky has experienced water quality problems related to the impacts from oil and gas production in the watershed. The individuals still surviving in the Tennessee and Cumberland Rivers are potentially threatened by gravel dredging, channel maintenance, and commercial mussel fishing. Although the species is not commercially valuable, incidental take of the species does sometimes occur during commercial mussel fishing for other species.

The golf stick pearly mussel was recognized by the Service in the May 22, 1984, *Federal Register* (49 FR 21664) as a species that was being considered for possible addition to the Federal List of Endangered and Threatened Wildlife and Plants. The species was a candidate placed in Category 2; such species are those for which information then in possession of the Service indicates that a proposal is possibly inappropriate, but for which conclusive data are still lacking to support such a proposal. On March 17, 1987, and October 27, 1987, the Service notified Federal, State, and local governmental agencies and interested individuals by mail that a status review was being conducted

specifically on the golf stick pearly mussel and that the species could be proposed for listing. Since that time, additional contacts with Federal and State agency personnel and the scientific community have occurred concerning the status and potentiality of the species' being protected under the Endangered Species Act.

**Summary of Factors Affecting the Species**

Section 4(a)(1) of the Endangered Species Act (16 U.S.C. 1531 *et seq.*) and regulations (50 CFR Part 424) promulgated to implement the listing provisions of the Act set forth procedures for adding species to the Federal lists. A species may be determined to be endangered or threatened due to one or more of the five factors described in section 4(A)(1). These factors and their application to the golf stick pearly mussel (*Obovaria retusa*) are as follows:

*A. The present or threatened destruction, modification, or curtailment of its habitat or range*

The golf stick pearly mussel was once widespread in the Ohio River and its large tributaries in Pennsylvania, West Virginia, Ohio, Kentucky, Indiana, Illinois, Tennessee, and Alabama (Bogan and Parmalee 1983). However, most of the historically known populations were apparently lost due to conversion of many sections of these big rivers to a series of large impoundments. This seriously reduced the availability of preferred riverine gravel/sand habitat, and it likely affects the distribution and availability of the mussels' fish host. As a result, the species' distribution has been substantially reduced.

The species was last taken in Pennsylvania in 1908 (Pennsylvania Department of Environmental Resources, personal communication, 1987). No live or fresh dead specimens have been taken in West Virginia in recent years (William Tolin, U.S. Fish and Wildlife Service, personal communication, 1987). According to a personal communication from Robert McCance, Jr., Ohio Department of Natural Resources (1987), the last Ohio collection of the golf stick pearly mussel was made in 1938. In Indiana waters the species has not been collected in decades (Max Henschen, Indiana Mollusk Technical Advisory Committee, personal communication, 1987). The Illinois Department of Energy and Natural Resources (Kevin Cummings, personal communication, 1987) reported

that the species has not been collected in over 30 years from Illinois.

The species is presently known from only four river reaches—two in Kentucky and two in Tennessee. In Kentucky waters the golf stick has been taken in recent years only from the Tennessee River in McCracken, Livingston, and Marshall Counties and from the Green River in Hart and Edmonson Counties (Linda Andrews, Kentucky Department of Fish and Wildlife Resources, and Ronald Cicerello, personal communication, 1987). Kentucky's Tennessee River population is represented by the collection of only two live individuals in recent years. One was taken in 1985 (Sickel 1985), and the other was collected in 1986 (C. E. Moore, U.S. Army Corps of Engineers, personal communication, 1987). In the Green River, only one fresh dead individual was taken during a mussel survey between Munfordville, Kentucky, and Mammoth Cave, Kentucky, in 1987 (Ronald Cicerello, personal communication, 1987). The last live specimen taken from the Green River was collected in the mid-1960s (Kentucky Natural Resources and Environmental Protection Cabinet, personal communication, 1987).

In Tennessee the species apparently still survives in the Cumberland River in Wilson, Trousdale, and Smith Counties, and in the Tennessee River in Hardin County. According to personal communication with knowledgeable individuals, the species is taken on rare occasions by commercial mussel fishermen from both these rivers (Paul Parmalee, University of Tennessee, personal communication, 1986; Steven Ahlstedt, personal communication, 1987; Paul Yokley, University of North Alabama, personal communication, 1987).

The four surviving populations are all threatened from impacts on their environment. The Green River population is threatened from degradation of water quality resulting from inadequate environmental controls at oil and gas exploration and production facilities and from altered stream flows from an upstream reservoir. The other populations are potentially threatened by river channel maintenance, navigation projects, and gravel and sand dredging.

#### *B. Overutilization for Commercial, Recreational, Scientific, or Educational Purposes*

Although the species is not commercially valuable, it does exist on harvested mussel beds, and the species

is therefore sometimes taken by mussel fishermen. Thus, take does pose some threat to the species. Federal protection would help to control the take of individuals.

#### *C. Disease or Predation*

Although the golf stick pearly mussel is undoubtedly consumed by predatory animals, there is no evidence that predation threatens the species. However, freshwater mussel die-offs have recently (early to mid-1980s) been reported throughout the Mississippi River basin, including the Tennessee River and its tributaries (Richard Neves, Virginia Polytechnic Institute and State University, personal communication, 1986). The cause of the die-offs has not been determined, but significant losses have occurred to some populations.

#### *D. The Inadequacy of Existing Regulatory Mechanisms*

The States of Kentucky and Tennessee prohibit taking fish and wildlife, including freshwater mussels, for scientific purposes without a State collecting permit. However, these States do not protect the species from take for other purposes. Federal listing will provide the species additional protection under the Endangered Species Act by requiring Federal permits to take the species and by requiring Federal agencies to consult with the Service when projects they fund, authorize, or carry out may adversely affect the species.

#### *E. Other Natural or Manmade Factors affecting its Continued Existence*

None of the four populations is known to be reproducing. Therefore, unless reproducing populations can be found or methods can be developed to maintain these or create new populations, the species will be lost in the foreseeable future. In fact, three of the populations (Cumberland and Tennessee River populations) may contain only old individuals that have passed their reproductive age.

The Service has carefully assessed the best scientific and commercial information available regarding the past, present, and future threats faced by this species in determining to propose this rule. Based on this evaluation, the preferred action is to list the golf stick pearly mussel (*Obovaria retusa*) as an endangered species. Historical records reveal that the species was once much more widely distributed in many of the large rivers of the Ohio River system. Presently only four isolated, apparently non-reproducing, populations are known to survive. Due to the species' history of population losses and the vulnerability

of the four remaining populations, threatened status does not appear appropriate for this species. See the following section for a discussion of why critical habitat is not being proposed for the golf stick pearly mussel.

#### **Critical Habitat**

Section 4(a)(3) of the Act, as amended, requires that, to the maximum extent prudent and determinable, the Secretary designate any habitat of a species that is considered to be critical habitat at the time the species is determined to be endangered or threatened. The Service finds that designation of critical habitat is not prudent for the golf stick pearly mussel at this time, owing to the lack of benefits from such designation. The U.S. Army Corp of Engineers and the Tennessee Valley Authority are the two Federal agencies most involved, and they, along with the State natural resources agencies in Tennessee and Kentucky, are already aware of the location of the remaining populations that would be affected by any activities in these river reaches. Both Federal agencies have conducted numerous studies in these river basins and are knowledgeable of the fauna and of their projects' impacts. No additional benefits would accrue from critical habitat designation that would not also accrue from the listing of the species. In addition, this species is so rare that taking for scientific purposes and private collection could be a threat. The publication of critical habitat maps and other publicity accompanying critical habitat designation could increase that threat. The location of populations of this species have consequently been described only in general terms in this proposed rule. Any existing precise locality data would be available to appropriate Federal, State, and local governmental agencies through the Service office described in the "Addresses" section.

#### **Available Conservation Measures**

Conservation measures provided to species listed as endangered or threatened under the Endangered Species Act include recognition, recovery actions, requirements for Federal protection, and prohibitions against certain practices. Recognition through listing encourages and results in conservation actions by Federal, State, and private agencies, groups, and individuals. The Endangered Species Act provides for possible land acquisition and cooperation with the States and requires that recovery actions be carried out for all listed

species. Such actions are initiated by the Service following listing. The protection required of Federal agencies and the prohibition against taking and harm are discussed, in part, below.

Section 7(a) of the Act, as amended, requires Federal agencies to evaluate their actions with respect to any species that is proposed or listed as endangered or threatened and with respect to its critical habitat if any is being designated. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR Part 402. Section 7(a)(4) requires Federal agencies to confer informally with the Service on any action that is likely to jeopardize the continued existence of a proposed species or result in the destruction or adverse modification of proposed critical habitat. If a species is subsequently listed, section 7(a)(2) requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of such a species or destroy or adversely modify its critical habitat. If a Federal action may adversely affect a listed species or its critical habitat, the responsible Federal agency must enter into formal consultation with the Service. The Service has notified Federal agencies having programs that may affect the golf stick pearly mussel. Federal activities that could occur and impact the species include, but are not limited to, the carrying out or the issuance of permits for hydroelectric facility construction and operation, reservoir construction, river channel maintenance, stream alterations, wastewater facilities development, and road and bridge construction. It has been the experience of the Service, however, that nearly all section 7 consultations have been resolved so that the species has been protected and the project objectives have been met. In fact, the areas inhabited by the golf stick pearly mussel are also inhabited by other mussels that have been federally listed since 1976, and all section 7 consultations for these areas have been successfully resolved.

The Act and implementing regulations found at 50 CFR 17.21 set forth a series of general prohibitions and exceptions that apply to all endangered wildlife. These prohibitions, in part, make it illegal for any subject to the jurisdiction of the United States to take any listed species, import or export it, ship it in interstate commerce in the course of commercial activity, or sell it or offer it for sale in interstate or foreign commerce. It is also illegal to possess, sell, deliver, carry, transport, or ship any such wildlife that has been taken

illegally. Certain exceptions would apply to agents of the Service and State conservation agencies.

Permits may be issued to carry out otherwise prohibited activities involving endangered wildlife species under certain circumstances. Regulations governing permits are at 50 CFR 17.22 and 17.23. Such permits are available for scientific purposes to enhance the propagation or survival of the species and/or for incidental take in connection with otherwise lawful activities. In some instances, permits may be issued during a specified period of time to relieve undue economic hardship that would be suffered if such relief were not available.

#### Public Comments Solicited

The Service intends that any final action resulting from this proposal will be as accurate and as effective as possible. Therefore, any comments or suggestions from the public, other concerned governmental agencies, the scientific community, industry, or any other interested party concerning any aspect of this proposal are hereby solicited. Comments particularly are sought concerning:

(1) Biological, commercial trade, or other relevant data concerning any threat (or lack thereof) to this species;

(2) The location of any additional populations of this species and the reasons why any habitat should or should not be determined to be critical habitat as provided by section 4 of the Act;

(3) Additional information concerning the range and distribution of this species; and

(4) Current or planned activities in the subject area and their possible impacts on this species.

Final promulgation of the regulation on this species will take into consideration the comments and any additional information received by the Service, and such communications may lead to adoption of a final regulation that differs from this proposal.

The Endangered Species Act provides for a public hearing on this proposal, if requested. Requests must be filed within 45 days of the date of the proposal. Such requests must be made in writing and addressed to the Field Supervisor, U.S. Fish and Wildlife Service, Asheville Field Office, 100 Otis Street, Room 224, Asheville, North Carolina 28801.

#### National Environmental Policy Act

The Fish and Wildlife Service has determined that an Environmental Assessment, as defined under the authority of the National Environmental Policy Act of 1969, needed not be

prepared in connection with regulations adopted pursuant to section 4(a) of the Endangered Species Act of 1973, as amended. A notice outlining the Service's reasons for this determination was published in the Federal Register on October 25, 1983 (48 FR 49244).

#### References Cited

- Bates, J.M., and S.D. Dennis. 1985. State Museum of Tennessee Wildlife Resources Agency Technical Report No. 85-3. p. 125.
- Bogan, A.E., and P.W. Parmelee. 1983. Tennessee's rare wildlife, Volume II: the mollusks. 123 pp.
- Kentucky Nature Preserves Commission. 1980. Kentucky natural area plan—Appendix A. *Obovaria retusa* (Lamarck).
- Lamarck, J.B.P.A. 1815-1822. Histoire naturelle des animaux sans vertebres. Tome V-VII, 8 vol.
- Lauritsen, Diane. 1987. The Nature Conservancy element stewardship abstract: *Obovaria retusa*. The Nature Conservancy, Midwest Regional Office, Minneapolis, Minnesota. Unpublished report. 4 pp.
- Parmelee, P.W., and W.E. Klippel. 1982. A relic population of *Obovaria retusa* in the middle Cumberland River, Tennessee. The Nautilus, 96(1):30-32.
- Sickel, James B. 1985. Biological assessment of the freshwater mussels in the Kentucky Dam tailwaters of the Tennessee River. Submitted to Kentucky Division of Water, Frankfort, Kentucky. 42 pp.
- Stansbery, David H. 1970. Eastern freshwater mollusks: (I) the Mississippi and St. Lawrence River systems. Malacologia, 10(1):9-22.

#### Author

The primary author of this final rule is Richard G. Biggins, U.S. Fish and Wildlife Service, Asheville Field Office, 100 Otis Street, Room 224, Asheville, North Carolina 28801 (704/259-0321 or FTS 672-0321).

#### List of Subjects in 50 CFR Part 17

Endangered and threatened wildlife, Fish, Marine mammals, Plants (agriculture).

#### Proposed Regulation Promulgation

Accordingly, it is hereby proposed to amend Part 17, Subchapter B of Chapter I, Title 50 of the Code of Federal Regulations, as set forth below:

#### PART 17—[AMENDED]

11. The authority citation for Part 17 continues to read as follows:

Authority: Pub. L. 93-205, 87 Stat. 884; Pub. L. 94-359, 90 Stat. 911; Pub. L. 95-632, 92 Stat. 3751; Pub. L. 98-159, 93 Stat. 1225; Pub. L. 97-304, 96 Stat. 1411; Pub. L. 100-478, 102 Stat. 2306; Pub. L. 100-653, 102 Stat. 3825 (16 U.S.C. 1531 *et seq.*); Pub. L. 99-625, 100 Stat. 3500, unless otherwise noted.

12. It is proposed to amend § 17.11(h), by adding the following, in alphabetic:

order under CLAMS, to the List of  
Endangered and Threatened Wildlife:

§ 17.11 Endangered and threatened  
wildlife.

(h) \* \* \*

Species		Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Common name	Scientific name						
Clams:							
Pearly mussel, golf stick (=pink ring)	<i>Obovaria retusa</i>	U.S.A. (AL, IL, IN, KY, OH, PA, TN and WV), NA		E		NA	NA

Dated: December 22, 1988.

**Becky Norton Dunlop,**

*Assistant Secretary for Fish and Wildlife and Parks.*

(Proposal: Golf stick pearly mussel (*Obovaria retusa*)—endangered)

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