

50 CFR Part 17

RIN 1018-AB36

Endangered and Threatened Wildlife and Plants; Determination of Threatened Status for the Inflated Heelsplitter, *Potamilus inflatus***AGENCY:** Fish and Wildlife Service, Interior.**ACTION:** Final rule.

SUMMARY: The Service determines the inflated heelsplitter mussel (*Potamilus inflatus*), to be a threatened species under the authority of the Endangered Species Act of 1973, as amended (Act). This freshwater mussel is currently known from only the Amite River, Louisiana, and the Tombigbee and Black Warrior Rivers, Alabama. Habitat modification by gravel dredging and for flood control and navigation represent major threats to this species. This rule will implement the protection of the Endangered Species Act of 1973 for the inflated heelsplitter.

EFFECTIVE DATE: October 29, 1990.

ADDRESSES: The complete file for this rule is available for inspection, by appointment, during normal business hours at U.S. Fish and Wildlife Service, Jackson Mall Office Center, 300 Woodrow Wilson Avenue, Suite 316, Jackson, Mississippi 39213.

FOR FURTHER INFORMATION CONTACT: James H. Stewart at the above address, (telephone 601/965-4900 or FTS 490-4900).

SUPPLEMENTARY INFORMATION:**Background**

The inflated heelsplitter was first described as *Symphynota inflata* by Lea in 1831. While the taxonomic status of this species has not been questioned in the literature, there has been considerable discussion of the genus. It has been placed in *Unio*, *Lampsilis*, *Metaptera*, *Margarita*, *Margaron*, and *Proptera*, in addition to the other names discussed here (Simpson 1914, Clarke 1986, Hartfield 1988). *Potamilus* is accepted as the correct generic name by numerous authors (Morrison 1969, Valentine and Stansbery 1971, Clarke 1986, Turgeon *et al.* 1988). The common name in general usage for this species has been the Alabama heelsplitter. This rule follows the common names as used in Turgeon *et al.* (1988) in support of the

effort to standardize nomenclature of mussels.

The inflated heelsplitter was known historically from the Amite and Tangipahoa Rivers, Louisiana; the Pearl River, Mississippi; and the Tombigbee, Black Warrior, Alabama, and Coosa Rivers, Alabama (Hurd 1974, Stern 1976, Hartfield 1988). The presently known distribution is limited to the Amite River, Louisiana, and the Tombigbee and Black Warrior Rivers, Alabama (Stern 1976, Hartfield 1988). The collection of this species from the Pearl River by Hinckley was reported by Frierson (1911) and a single valve collected by Parker is curated in the U.S. National Museum (Dr. James Williams, U.S. Fish and Wildlife Service, pers. comm. 1988). There are no other reported collections from the Pearl River (Hartfield 1988). A single specimen was collected from the Tangipahoa River, Louisiana, in 1964 by Stein and Stansbery (Dr. David Stansbery, Ohio State University, pers. comm. 1985). Hartfield (1988) did not find the species in the Tangipahoa River during his survey. Hurd (1974) doubted the occurrence of this species in the Coosa River based upon the single lot available in museums. The species has not been reported from the Coosa or Alabama Rivers in over 20 years (Hurd 1974, Hartfield 1988).

The inflated heelsplitter has an oval, compressed to moderately inflated, thin shell. The valves may gape anteriorly, the umbos are low, and there is a prominent posterior wing that may extend anterior to the beaks in young individuals. The shell is brown to black and may have green rays in young individuals. The umbonal cavity is very shallow and the nacre is pink to purple. Shell length reaches 140 millimeters (5½ inches) in adults (Stern 1976). It is most similar to the pink papershell (*Potamilus ohioensis*), yet is easily distinguished by shell morphology (Hartfield 1988). The shell and teeth of the inflated heelsplitter are more delicate, and the shell is darker and has a pointed posterior, whereas the pink papershell has a rounded posterior. The inflated heelsplitter appears more inflated due to a more developed and rounded posterior ridge. The posterior wing of the inflated heelsplitter is more pronounced and abruptly rounded over the dorsum. The pink papershell may lack much of a wing, and when pronounced, it may be only slightly rounded and extend scarcely above the dorsum (Hartfield 1988). Lending further taxonomic strength to this species' distinction is the occurrence of the pink papershell in lakes and sloughs, while the inflated

heelsplitter has not been found in this habitat.

The preferred habitat of this species is soft, stable substrates in slow to moderate currents (Stern 1976). It has been found in sand, mud, silt and sandy-gravel, but not in large gravel or armored gravel (Hartfield 1988). It is usually collected on the protected side of bars and may occur in depths over 20 feet. The occurrence of this species in silt may not indicate that the life cycle can be successful in that substrate (Hartfield 1988). Adult mussels may survive limited amounts of silt where juveniles would suffocate. The occurrence of this species in silt may be because it was established prior to deposition of the silt.

The inflated heelsplitter was listed as a category 2 candidate (a taxon for which data in the Service's possession indicate listing is possibly appropriate) in the notice of review published in the *Federal Register* on May 22, 1984 (49 FR 21664) and January 6, 1989 (54 FR 554). The proposal to list this species was published on October 27, 1989 (54 FR 43835), and a public hearing (held on March 14, 1989) and reopening of the comment period were announced on February 21, 1990 (55 FR 6020).

Summary of Comments and Recommendations

In the October 27, 1989, proposed rule and associated notifications, all interested parties were requested to submit factual reports or information that might contribute to the development of a final rule. The comment period was reopened and extended until March 25, 1990, to accommodate the public hearing. Appropriate State agencies, county governments, Federal agencies, scientific organizations, and other interested parties were contacted and requested to comment. A newspaper notice was published in the *Montgomery Advertiser*, Montgomery, Alabama, on November 24, 1989; the *Baton Rouge Advocate*, Baton Rouge, Louisiana; the *Tuscaloosa News*, Tuscaloosa, Alabama; the *Mobile Press Register*, Mobile, Alabama; and the *Birmingham News*, Birmingham, Alabama, on November 25, 1989. The newspaper notice of the public hearing and reopening of the comment period was published in the *Baton Rouge Advocate*, *Mobile Press Register*, and the *Times Picayune*, New Orleans, Louisiana, on February 24, 1990, and in the *Tuscaloosa News* on February 25, 1990. Five comments were received and are discussed below. A public hearing was requested by the Warrior-Tombigbee Development Association. The hearing

was held at the Mississippi Natural Science Museum, Jackson, Mississippi, on March 14, 1990, with seven people attending. Comments were received from three individuals following a statement by the Service.

The Louisiana Department of Wildlife and Fisheries provided a letter in support of the proposal. One Federal agency provided information on hydropower plants without expressing a position on the proposal. A private company commented without stating a position. Two U.S. Army Corps of Engineers' offices commented by copy of memoranda sent to their Washington office. The Mobile District Corps of Engineers' office expressed support for protection of the species, while raising some concerns that are discussed below. The Lower Mississippi Valley Division, Corps of Engineers, did not express a position on the proposal while acknowledging that projects on the Amite River, Louisiana, will require coordination with the Service.

Written comments and oral statements presented at the public hearing and received during the comment periods are covered in the following summary. Comments of a similar nature or point are grouped into a number of general issues. These issues and the Service's response to each are discussed below.

Issue 1: Is the data adequate to support the listing and should listing be deferred while more data is acquired?

Response: The listing is based upon literature records, a Service contracted survey, and surveys by Service biologists of mussels in all the major river systems of Alabama, Louisiana, and Mississippi. The Service does not believe that additional populations will be found outside the river systems from which the species is currently known. To defer the listing will only defer protection of the species.

Issue 2: One commenter questioned if the data supported the Service's contention that habitat modification is a result of gravel dredging, flood control and major navigation projects and that these factors represent major threats to the existence of the inflated heelsplitter.

Response: The removal of substrate by gravel dredging, flood control and maintenance for navigation permanently alters the habitat and frequently renders it unsuitable for mussels. Numerous studies have demonstrated that riverine mussels cannot survive in impoundments, many of which are for flood control and navigation. The deposition of spoil from channel maintenance for navigation will suffocate mussels (U.S. Army Corps of Engineers 1987). The entire Amite River

is subject to gravel dredging and impacts from flood control projects (Hartfield 1989). The lower Tombigbee River is almost continually dredged for channel maintenance with much of the spoil disposal occurring within the river banks. This results in mussels being covered with sediment and suffocated (U.S. Army Corps of Engineers 1987). The construction of numerous impoundments on the Alabama, Tombigbee, Black Warrior, and Coosa Rivers has resulted in a decline in many species of riverine mussels as evidenced by numerous surveys.

Issue 3: The Service should sample to determine if effluents below Tombigbee River Mile 74 are the reason mussels are not present.

Response: The proposed and final rules state that mussels were not found downstream of this site and this was possibly due to effluent discharge. The absence of mussels is supported by field survey results. The cause for this lack of mussels is presented as an observation and possibility rather than a fact supported by data. The Service agrees that sampling to determine why mussels no longer occur in that area would be desirable.

Issue 4: The Service should defer listing while additional information is gathered or consider some reasonable and prudent alternatives to listing.

Response: The Service has reviewed available scientific and commercial data relevant to this species and considers it sufficient to make a determination. The Service could not find an alternative to listing that would protect this species, nor has anyone else proposed such an alternative.

Issue 5: Has the proposed rule been reviewed by individuals outside the Service to ensure the determination will be unbiased?

Response: A notice of intent to propose this species for listing, dated June 8, 1989, was provided to Federal and State agencies that could have projects that may affect this species. After publication, the Service provided a copy of the proposed rule to more than 100 agencies, organizations, and individuals and published a legal notice in several local newspapers to notify the public. All resulting comments were fully considered.

Summary of Factors Affecting the Species

After a thorough review and consideration of all information available, the Service has determined that the inflated heelsplitter should be classified as a threatened species. Procedures found at 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 were followed. 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 inflated heelsplitter are as follows:

A. The present or threatened destruction, modification, or curtailment of its habitat or range. The inflated heelsplitter historically occurred in the Amite and Tangipahoa Rivers, Louisiana; the Pearl River, Mississippi; and the Tombigbee, Black Warrior, Alabama, and Coosa Rivers, Alabama (Hurd 1974, Stern 1976, Hartfield 1988, 1989). It is currently known from only the Amite, Tombigbee and Black Warrior Rivers. Only one specimen has been collected from the Tangipahoa River, and in a recent survey by Hartfield (1988) no additional specimens were found. Hartfield found the upper Tangipahoa River to be much smaller than areas where this species occurs in other rivers. The stretch of the Tangipahoa River where the one specimen was collected has been severely eroded in recent years, presumably by gravel mining (Hartfield 1988).

The inflated heelsplitter has been reported from two areas on the Pearl River, Mississippi. One site was in the lower Pearl downstream of Bogalusa, Louisiana (Williams, pers. comm. 1988) and the other site was near Jackson, Mississippi (Frierson 1911). The exact collecting site is unknown for both of these records. The Pearl River near Jackson has been impacted by pollution, channelization, flood control levees, and by an impoundment for recreation and a municipal water supply. The lower Pearl River near Bogalusa has been impacted by channel erosion, habitat modification for navigation, and industrial and urban pollution (Hartfield 1988). Based upon the scarcity of records from the Coosa River, Hurd (1974) doubted the historic occurrence of this species in that system. It has not been reported from that system since the construction of impoundments for flood control and hydropower.

The type specimen was reported from the Alabama River by Lea (1831) and the species has been reported from this same river by others (Conrad 1834, Simpson 1914). However, it has not been collected from the Alabama River in many years, presumably due to the impoundment of that system for navigation, flood control, and hydropower (Hartfield 1989).

The only known site for this species in the Black Warrior River is below Selden (=Warrior) Dam near Eutaw, Alabama. A single specimen was collected by Grace in the mid-1970's (Williams, pers. comm. 1985). A survey by Service divers in 1989 found two fresh dead shells but no live individuals. The species undoubtedly continues to survive in the Black Warrior River below Selden Dam. The remainder of the Black Warrior River has been impacted by impoundment for navigation and sedimentation from surface mining.

The species continues to survive in the Tombigbee River in at least two localities, Gainesville Bendway and downstream of Coffeerville (=Jackson) Dam. Most of the Tombigbee River was modified by construction of the Tennessee-Tombigbee Waterway. This resulted in the loss of riverine habitat by impoundment, channelization, and flow diversion. Habitat that was originally believed would continue to support mussel populations has been destroyed by heavy accumulations of sediment. The only known population of the inflated heelsplitter in the Waterway is below Gainesville Spillway where the normal river flow, with the exception of navigation lockages, is released from this impoundment (Paul Hartfield, Mississippi Department of Wildlife Conservation, pers. comm. 1989). This has maintained a relatively clean and stable habitat suitable to this species.

The only other known population in the Tombigbee River occurs downstream of Coffeerville Dam. In this stretch, the species has been collected by Service and Mississippi Department of Wildlife Conservation biologists at four sites over a 12 river mile area. Below the lowermost of these collecting sites, no mussels were found by surveys in 1985 and 1988 by Service and Department biologists, possibly due to impacts from industrial effluents. The entire Tombigbee River has been modified for navigation by impoundment and channelization, and frequent dredging is required to maintain the navigation channel. Navigation dredging threatens this population by the deposition of spoil on bars along the sides of the river channel (Hartfield 1988). This material washes onto mussel habitat below the bars and may suffocate mussels and make conditions unfavorable for recruitment.

The inflated heelsplitter continues to exist in the Amite River with major threats being gravel mining and proposed channel modification for flood control. Hartfield (1989) concluded that 30 percent of the range of this species in the Amite River had been lost since

1976, primarily due to gravel mining. Without protection, this loss is expected to continue with the intensive gravel mining and resulting headcutting that is ongoing. The Corps of Engineers and Louisiana Department of Transportation and Development are studying methods of flood control on the Amite River. The proposed Darlington Reservoir would be constructed upstream of existing inflated heelsplitter habitat and the actual impoundment of the stream may not impact this population of the species. The impact of this reservoir will likely be determined by the type and method of water releases. A deep water release would result in colder water temperatures, which may interrupt the life cycle of this mussel. The control of water flows, especially during low water levels, could strand mussels on dry bars and may reduce the capacity of the river to flush sediments from mussel habitat. An alternative flood control measure under consideration is the widening and channelization of the Amite River. This potential action would likely eliminate the inflated heelsplitter from the Amite River, leaving the only population in the Tombigbee and Black Warrior system.

B. *Overutilization for commercial, recreational, scientific, or educational purposes.* The species is not of commercial value at this time and any collecting is likely to be for scientific purposes. Over collection is not considered a threat

C. *Disease or predation.* Diseases are not known for mussels, although unexplained dieoffs, have occurred. Predation may exist to a limited extent when muskrats and raccoons prey on mussels. This would have a minimal effect since this species seems to prefer deeper water.

D. *The inadequacy of existing regulatory mechanisms.* Existing laws are inadequate to protect this species. It is not recognized by Alabama or Louisiana as needing any special protection. Both States have regulations that protect mussels that are federally listed. The species is not given any special consideration under other environmental laws when project impacts are reviewed.

E. *Other natural or manmade factors affecting its continued existence.* The known populations are isolated from each other and apparently are limited in extent. This could result in low genetic variation and make these populations more susceptible to environmental disturbance due to loss of adaptability.

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 make this rule final. Based on this evaluation, the preferred action is to list the inflated heelsplitter as threatened. Threatened status was chosen because the species still exists in three rivers, and the range within two of these rivers consists of reproducing populations that are widely distributed.

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 this species at this time due to the lack of benefit from such designation. All Federal and State agencies likely to be involved have been notified of the location and importance of protecting this species' habitat. No additional benefits would accrue from a critical habitat designation that would not accrue from the listing. Precise locality data are available to appropriate agencies through the Service office described in the ADDRESSES section. Protection of this species' habitat will be addressed through the recovery process and through the Section 7 jeopardy standard. Therefore, it is not prudent to declare critical habitat for the inflated heelsplitter.

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. The protection required of Federal agencies and the prohibitions 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)(2) requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of a listed species or to destroy or adversely modify its critical habitat. If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency must enter into formal consultation with the Service.

Federal involvement is expected to include the Environmental Protection Agency in consideration of the Clean Water Act's provisions for pesticide registration, and waste management actions. The Corps of Engineers will include this species in project planning and operation and during the permit review process. The Federal Highway Administration will consider impacts of bridge and road construction at points where known habitat is crossed.

Continuing urban development within the drainage basins may involve the Farmers Home Administration and their loan programs.

The Act and implementing regulations found at 50 CFR 17.21 and 17.31 set forth a series of general prohibitions and exceptions that apply to all threatened wildlife. These prohibitions, in part, make it illegal for any person subject to the jurisdiction of the United States to take (includes harass, harm, pursue, hunt, shoot, wound, kill, trap, or collect; or to attempt any of these), import or export, ship in interstate commerce in the course of commercial activity, or sell or offer for sale in interstate or foreign commerce any listed species. It also is illegal to possess, sell, deliver, carry, transport, or ship any such wildlife that has been taken illegally. Certain exceptions apply to agents of the Service and State conservation agencies.

Permits may be issued to carry out otherwise prohibited activities involving threatened wildlife species under certain circumstances. Regulations governing permits are at 50 CFR 17.22, 17.23, and 17.32. 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. For threatened species, there are also permits for zoological exhibition, educational purposes, or special purposes consistent with the purposes of the Act.

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, need 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

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Author

The primary author of this rule is James H. Stewart (see ADDRESSES section).

List of Subjects in 50 CFR Part 17

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

Regulation Promulgation

PART 17—[AMENDED]

Accordingly, part 17, subchapter B of chapter I, title 50 of the Code of Federal Regulations, is amended as set forth below:

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. Amend § 17.11(h) by adding the following, in alphabetical 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							
Heelsplitter, inflated	<i>Potamius inflatus</i>	U.S.A. (AL, LA, MS)	NA	T	404	NA	NA

Dated: September 24, 1990.

Bruce Blanchard,

Acting Director, Fish and Wildlife Service.

[FR Doc. 90-23044 Filed 9-27-90; 8:45 am]

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