CHAPTER I—FISH AND WILDLIFE SERVICE, DEPARTMENT OF THE INTERIOR

PART 17—ENDANGERED AND THREATENED WILDLIFE AND PLANTS

Determination That Seven Eastern U.S. Land Snails Are Endangered or Threatened Species

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: The Service determines that seven Eastern U.S. land snails are endangered species and five Eastern U.S. land snails to be threatened species. This action is being taken because of the threats of habitat modification and overcollecting. This rule provides additional protection necessary for these species. Each species of snail occurs in a single State. The States are Florida, Iowa, New York, North Carolina, Tennessee, Virginia, and West Virginia.

DATES: This rulemaking will become effective on August 2, 1978.

FOR FURTHER INFORMATION CONTACT:

SUPPLEMENTARY INFORMATION:

BACKGROUND

On April 28, 1976, the Service published a proposed rulemaking in the Federal Register (41 FR 17742-17747) advising that sufficient evidence was on file to support proposing a determination that 11 snail species were endangered or threatened species pursuant to the Endangered Species Act of 1973, 16 U.S.C. 1531, et seq. That proposal summarized the factors thought to be contributing to the likelihood that each species could become extinct immediately or within the foreseeable future. The summary specified the prohibitions which would be applicable to each species if such a determination were made, and solicited comments, suggestions, objections, and factual information from any interested person.

SUMMARY OF COMMENTS AND RECOMMENDATIONS

Section 4(d)(1)(A) of the act requires that the Governor of each State within which a resident species of wildlife is known to occur, be notified and provided 90 days to comment before any such species is determined to be a threatened or an endangered species. Letters were sent to the Governor of nine States on May 20, 1976, notifying them of the proposed rulemaking and requesting comments. On this same date, letters were sent to other interested parties. The April 28, 1976, proposed rulemaking which appeared in the Federal Register (41 FR 17742-17747) constituted the beginning of the official 60-day public comment period which expired on June 28, 1976. However, comments received until November 30, 1977 were included. Section 4(d)(1)(C) of the act requires that a summary of all comments and recommendations received be published in the Federal Register prior to adding any species to the list of endangered and threatened wildlife.

The Service received the following comments: Harold S. Feinberg, American Museum of Natural History, New York; F. Wayne Grimm, National Museum of Natural Sciences, Vanier, Ontario, Canada; Leslie Hubricht, Meridian, Mississippi; and G. Alan Solem, Chicago Field Museum of Natural History. Solem joined a habitat inspection trip with the Tennessee Wildlife Resources Agency favors listing, the Tennessee Department of Transportation, Federal Highway Administration, commented on provisions which had been made in regard to maintenance of a specific FHA project to avoid impacting this species. The Virginia Department of Conservation and Recreation, the Virginia Fish and Wildlife Commission, and the Virginia Fringed Mountain Snail (Ptythogyrus virginianus)—Hubricht, Grimm and Solem support listing. Grimm and Solem reiterated their originally submitted evidence that was incorporated in the proposal. The Department of Transportation, Federal Highway Administration, commented on provisions which had been made in regard to maintenance of a specific FHA project to avoid impacting this species.

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population as likely a result of snails in the untrampled areas moving into the trampled areas.

Pilsbry (1948), regarded *chittenangoensis* to be a subspecies of *Succinea ovalis*; we hesitate to follow this taxonomy since *chittenangoensis* is only a form of *Succinea ovalis*. Solem (1976), regarded it as only a form of *Succinea ovalis*. Solem states that the shell difference exhibited by *chittenangoensis* could be the result of a simple dominant gene change, but that the extent to which this shell difference is linked to physiological and/or biochemical changes that aid adaptation to the unusual environment is not known and should be investigated. Until such an investigation is completed, we follow in this rulemaking the suggestions of Hubricht, Clarke, and Grimm that *chittenangoensis* is a full species of *Succinea*.

Grimm, Clarke, and Hubricht continue to support the specific use of *chittenangoensis* at this time. Grimm and Hubricht believe *Succinea chittenangoensis* to be the direct descendant of *Succinea pletiscenica*. F.C. Baker, a fossil snail of Illinois and southern Ontario. New evidence indicating that *Succinea chittenangoensis* may indeed be a Pleistocene relic is the recent discovery of a snail population on the North Carolina-Tennessee border that has been identified by Leslie Hubricht as *chittenangoensis*. The Service is investigating the status of this population. The New York population is listed as threatened at this time. A decision about the species as a whole will be made upon completion of the study.

Flat-spired three-toothed snail (*Troadopsis platysayoides*)—Grimm, Hubricht, and Solem support listing. Grimm and Solem reiterated their originally submitted evidence that was incorporated in the proposal. In addition, Grimm believes that “smoking by persons standing on top of the camp-rock and throwing cigarettes into the leaves provides a serious hazard to the snail.”

Four other snail species were proposed for listing in the same proposed rulemaking as the above seven. Comments on them are as follows. Jone’s middle-toothed land snail (*Mesodon jonesianus*)—Tennessee provided additional support for listing. Solem reiterated that classification of this species be deferred pending a systematic search by trained technicians to ascertain if its true range is not, in fact, larger than stated. The Service agrees.

Pilsbry’s narrow aperture land snail (*Stenotrema pilsbryi*)—Hubricht presented evidence which showed that the range of the strange many-whorled land snail, *Pulvura peregrina*, “is sufficiently widespread so that it is not endangered or threatened. The Forest Service recommended that classification of this species be deferred pending a systematic search by trained technicians to ascertain if its true range is not, in fact, larger than stated.” The only evidence presented was that it “occurs in habitats ranging from forests with which are locally quite extensive.” However, the Service agrees that the range needs to be better determined. Hubricht supports listing the species. Oklahoma wrote that it had no information on this species.

**CONCLUSION**

After a thorough review and consideration of all the information available, the Service determined that seven Eastern U.S. snails are in danger of extinction (endangered) or are likely to become so (threatened) throughout all or a significant portion of their range due to one or more of the factors described in section 4(a) of the act. This review amplifies and substantiates the description of those factors included in the proposed rulemaking (41 FR 17742-17747). Those factors are as follows:

1. The present or threatened destruction, modification or curtailment of its habitat or range. Painted snake coiled forest snail, *Anguispira picta*, threatened—discovered in 1906 in Buck Creek Cove, south of Sherwood, Franklin County, Tenn., it has never been found elsewhere although it has been extensively searched for by several competent malacologists. The area is subject to periodic lumbering; this species is not found in habitats no longer having good cover and cannot survive such lumbering activities. It is listed as threatened rather than endangered because the logging threats have not been demonstrated to be imminent.

Iowa Pleistocene snail, *Discus macclintocki*, endangered—this is a relic of preglacial times; it was once widespread but is now known only from a cave in Bixby State Park, Clayton County, Iowa. The park has been turned over to the county for management but snail’s survival in a nonglaciated driftless area within the boundaries of the last four glaciations is so unique that the species was first described and has long been known only as a fossil.

General threats in the driftless area include the spraying of 2,4,5-T, a defoliant. This spraying is being done to convert forest and brushland into pasture for livestock. The existence of this species depends upon its requirement for a “fossil” climate at the mouth of the cave where temperature and humidity are relatively constant. If the talus is undisturbed this will be an effective reservoir, but the talus habitat appears thin. An ardent collector in the process of turning over the rocks, could destroy it, and thereby the species, in one afternoon. A new footpath cut through the habitat and the park is heavily vandalized. Probably fewer than 100 live individuals exist.

Noonday land snail, *Mesodon clarkei*—Key West, other lower Keys, Key Vaca, and Stock Island, it has been extirpated from all but the latter. It was extirpated on Key West by real estate development and requires the retention of some natural habitats on Stock Island, where it is similarly threatened, for its continued existence. It may be threatened by overgrazing of livestock.

Virginia fringed mountain snail, *Polygyrus virginianus*, endangered—
known only from a small area of a single river bluff opposite Radford in Pulaski County, Va., there are only a few hundred individual snails at most in existence, and their continued existence is jeopardized by the destruction of rockslide habitat from quarrying and anticipated road construction. The population of Radford increased 24 percent from 1960 to 1970. The Virginia fringed mountain snail is the only species in its genus. Thus the genus is endangered and loss of the Virginia fringed mountain snail would detract greatly from living diversity.

Chittenango ovate amber snail, New York population of Succinea chittenaensis, threatened—restricted to the spray zone talus and rocks under Chittenango Falls, Madison County, N.Y., this population requires cool to cold air circulating through the talus area. This snail was common in 1905, rare in 1925, and 1965 and 1970 it occupies a total area of less than 200 square feet. There has been a drastic decrease in populations of other mollusks downstream and this species is believed to be threatened by the pollution in the spray. An estimated 60 percent of the habitat is trampled by park visitors. The snail is listed as threatened, although it was proposed as endangered, because it is not likely to become extinct in the foreseeable future.

Flat spired three-toothed land snail, Triodopsis platysayoides, threatened—this species is restricted to isolated patches of deep undisturbed litter and sheltered retreats among rocks in a small area of less than one-quarter square mile on the summit of Copper's Rock, Monongalia County, W. Va. In dry seasons the snails retreat in among the huge, scattered, and split boulders just below the summit. The entire one-quarter square mile area is regularly and frequently visited by the public. A concession stand is at the top of the rock with moderately extensive parking available. There are about 300 to 500 living individuals. The species is threatened because trampling of the foraging litter is reducing the available food space niche for this highly restricted species. Although proposed as endangered the snail is determined to be threatened because of the protection received by virtue of being in a state park.

2. Overutilisation for commercial, sporting, scientific, or educational purposes. The Virginia fringed mountain snail and the Iowa Pleistocene snail, could be made extinct by one or two collections; the painted snake coiled forest snail and the Stock Island tree snail (Orthalius reses); Chittenango ovate amber snail (New York population of Succinea chittenaensis), and the flat-spired three-toothed land snail (Triodopsis platysayoides). Jones' middle-toothed land snail (Mesodon jonesianus), Magazine Mountain snail (Mesodon macclintocki), and Blasby's narrow-apertured land snail (Stenotrema blasbyi), although not finally determined at this time, remain proposed until such time as their distribution and numbers, and the threats are more precisely identified so as to allow a more accurate determination.

Disease or predation. The Iowa Pleistocene snail is threatened by predation by beetles; the Chittenango ovate amber snail is seriously threatened by predation by the introduced and now established European snails, Discus rolundatus and Ozychilus. 4. The inadequacy of existing regulatory mechanisms. No specific regulatory mechanisms are adequate to protect these species from overcollecting, or other human pressure presently exist.

5. Other natural or manmade factors affecting its continued existence. Not known to be applicable to any of the seven above-named species.

In summary, two Eastern U.S. land snails are endangered because they are in immediate danger of extinction throughout their range: Iowa Pleistocene snail (Discus macclintocki), and the Virginia fringed mountain snail (Polygyrusus virginianus).

The other five species are threatened because they are likely to become endangered in the foreseeable future over most of their range; painted snake coiled forest snail (Anguissira picta), noonday snail (Mesodon clarki nantahala); Stock Island tree snail (Orthalius reses); Chittenango ovate amber snail (New York population of Succinea chittenaensis), and the flat-spired three-toothed land snail (Triodopsis platysayoides).

6. The inadequacy of existing regulatory mechanisms. No specific regulatory mechanisms are adequate to protect these species from overcollecting, or other human pressure presently exist.

5. Other natural or manmade factors affecting its continued existence. Not known to be applicable to any of the seven above-named species.

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Strange many-colored land snail, Polygyra peregrina: This snail is determined to be neither endangered or threatened and should no longer be considered a candidate species for determination unless more widespread threat to its survival is demonstrated.

The Secretary shall review other programs administered by him and utilize such programs in furtherance of the purposes of this act. All other Federal departments and agencies shall, in consultation with and with the assistance of the Secretary, utilize their authorities in furtherance of the purposes of this act by carrying out programs for the conservation of endangered species and threatened species listed pursuant to section 4 of this act and by taking such action necessary to insure that actions authorized, funded, or carried out by them do not jeopardize the continued existence of such endangered species and threatened species or result in the destruction or modification of habitat of such species which is determined by the Secretary, after consultation as appropriate with the affected States, to be critical.

Final Regulations for interagency cooperation were published in 50 CFR Part 17.21, in the FEDERAL REGISTER (43 FR 870-876) to assist Federal agencies in complying with section 7 of the act.

Although no critical habitat has yet been determined for these species, the other provisions of section 7 are applicable.

Endangered species regulations already published in title 50 of the Code of Federal Regulations set forth a series of general prohibitions and exceptions which apply to all endangered species. The regulations referred to above, which pertain to endangered and threatened species, are found at §§17.21 and 17.31 of title 50 and are summarized below.

With respect to these species all prohibitions of section 9(1) of the act, as implemented by 50 CFR Part 17.21, would apply. These prohibitions, in part, hold anyone subject to the jurisdiction of the United States to take, import or export, transport in interstate or foreign commerce in the course of a commercial activity, or sell or offer for sale in interstate or foreign commerce these species. It also would be illegal to possess, sell, deliver, carry, transport, or ship any such wildlife which was illegally taken. Certain exceptions would apply to agents of the Service and State conservation agencies.

Regulations published in the FEDERAL REGISTER of September 26, 1975 (40 FR 44415), codified in 50 CFR Part 17, provided for the issuance of permits to carry out otherwise prohibited activities involving endangered or threatened species under certain circumstances. Such permits involving endangered species are available from the Service for scientific purposes or to enhance the propagation or survival of the species. In some instances, permits may be issued during a specified period of time to relieve undue economic hardship which would be suffered if such relief were not available.

EFFECT INTERNATIONALLY

In addition to the protection provided by the act, the Service will review these species to determine whether they should be proposed to the Secretariat of the Convention on International Trade in Endangered Species of Wild Fauna and Flora for inclusion in a Appendix(ices) to that Convention or whether they should be considered under other appropriate international agreements.

NATIONAL ENVIRONMENTAL POLICY ACT

An environmental assessment has been prepared and is on file in the Service's Washington Office of Endangered Species. It addresses this action.
The primary authors of this final rulemaking are Marc J. Imlay, Ph. D and Clare Senecal, Office of Endangered Species, 202-343-7814.

Accordingly, part 17 of chapter I of title 50 of the Code of Federal Regulations is amended by adding alphabetically under "Snails" the following to the list of endangered and threatened wildlife in §17.11:

§ 17.11 Endangered and threatened wildlife.

<table>
<thead>
<tr>
<th>Species</th>
<th>Common name</th>
<th>Scientific name</th>
<th>Population</th>
<th>Known distribution</th>
<th>Status listed</th>
<th>Special rules</th>
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<td>Asycapira picta</td>
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<td>U.S.A. (Tennessee)</td>
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<td>Discus marci</td>
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<td>U.S.A. (North Carolina)</td>
<td>...do...</td>
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<td>41</td>
</tr>
<tr>
<td>Snail, Stock Island tree</td>
<td>Orthalicus rectus</td>
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<td>U.S.A. (Florida)</td>
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<td>41</td>
</tr>
<tr>
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<td>Polygyris virginiensis</td>
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<td>U.S.A. (Virginia)</td>
<td>...do...</td>
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<td>U.S.A. (New York)</td>
<td>...do...</td>
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<tr>
<td>Snail, flat-spired three-toothed...</td>
<td>Triodopsis platysayoides</td>
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<td>U.S.A. (West Virginia)</td>
<td>...do...</td>
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<td>41</td>
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Note.—The Service has determined that this document does not contain a major action requiring preparation of an Economic Impact Statement under Executive Order 11949 and OMB Circular A-107.


LYNN A. GREENWALT,
Director, Fish and Wildlife Service.

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