

[4310-55]

Title 50—Wildlife and Fisheries

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 two Eastern U.S. land snails to be 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:

Mr. Keith M. Schreiner, Associate Director—Federal Assistance, Fish and Wildlife Service, U.S. Department of the Interior, Washington, D.C. 20240, 202-343-4646.

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, 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(b)(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 Governors 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(b)(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. All are recognized eastern land snail experts, and all expressed support for listing the seven land snails in this rulemaking.

Letters of general support were received from the Environmental Defense Fund and from two private citizens. Responses from the States and specific comments are as follows:

Painted snake coiled forest snail (*Anguispira picta*)—the Tennessee Wildlife Resources Agency favors listing this species as endangered for the reasons stated in the proposal: Restricted range and lumbering activities. Hubricht and Solem support listing. Solem believes that *Anguispira picta* lives in a thin habitat and could be "wiped out" by avid collectors.

Iowa Pleistocene snail (*Discus macclintocki*)—Grimm, Hubricht, and Solem support listing. Grimm had no additional observations or recommendations beyond those he submitted in 1972 which were incorporated in the proposal. Solem believes that *Discus macclintocki* lives in a thin habitat and could be "wiped out" by avid collectors.

Noonday snail (*Mesodon Clarki nantahala*)—this species is restricted to Blowing Spring and Handpole Brook in Nantahala Gorge. The gorge, which is very narrow and deep, receives sunlight for only short daily periods. "Nantahala" is a Cherokee word meaning noonday, an allusion to the late rising of the sun over the gorge. Consequently, North Carolina has changed this species' name to noonday on their State list of threatened species; we accept the name change. On August 18, 1976, at the request of the

State of North Carolina, Dr. Marc Imlay, of the Fish and Wildlife Service's Office of Endangered Species, joined a habitat inspection trip with ten representatives of the State Wildlife Resources Commission, the North Carolina Department of Transportation, and the North Carolina State Museum. On this trip seven recently dead shells of *Mesodon clarki nantahala* were found where they had been previously reported; they were not found elsewhere. *Mesodon clarki nantahala* was found in several other localities in the gorge. It was generally agreed among the 11 participants that if the highway were widened, as proposed, all or most of the known and potential habitat of the subspecies would be destroyed. The State of Georgia commented that *Mesodon clarki nantahala* was endangered rather than threatened because of the proposed highway project (U.S. 19). However, the service recognizes that the project is still in the proposal stage. The snail is threatened at this time. The U.S. Forest Service recommends that the listing of the noonday snail (*Mesodon clarki nantahala*) "be deferred pending a systematic search by trained technicians to ascertain if the true range of the species is not in fact larger than stated." The only evidence presented was that it "occurs in habitats representative of land forms which are locally quite extensive." Hubricht and Solem support listing. Solem believes that the *Mesodon clarki nantahala* population could not be dented by collectors but could be destroyed by highway widening.

Stock Island tree snail (*Orthalicus reses*)—the Florida Game and Fresh Water Fish Commission favors listing, since intensive development has reduced the range to Stock Island. Hubricht and Solem support listing. Solem believes that collecting or expansion of tourist facilities could have drastic effects.

Virginia fringed mountain snail (*Polygyris virginiensis*)—Grimm, Hubricht, 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.

Chittenango ovate amber snail (New York Population of *Succinea chittenangoensis*)—the State of New York inspected the site of this snail and supported its listing. Dr. Arthur Clarke, U.S. National Museum, documented the presence of pollution. Grimm and Hubricht support listing. Solem does not believe collectors pose a threat whereas Grimm does. Hubricht and others explain the decline in the snail

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* and *ovalis* may occur sympatrically. Leslie Hubricht (1972), Arthur Clarke (letter), and Wayne Grimm (letters) considered *chittenangoensis* to be a full species of *Succinea*; 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 pleistocenica*, F.C. Baker, 1927, 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-spined three-toothed snail (*Triadopsis 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 caprock 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: Jones' middle-toothed land snail (*Mesodon jonesianus*)—Tennessee provided additional information on *Mesodon jonesianus*. It probably occurs on both sides of the State line at Newfound Gap in both Tennessee and North Carolina, but is restricted to the older forest. Its existence in Tennessee and North Carolina in the older damp birch, beech, maple, and hemlock was confirmed by Wayne Grimm but he believes the size of the population is

unknown. The National Park Service, in a letter to the State of Tennessee, supported the listing of *Mesodon jonesianus* as endangered because of the restricted habitat and because wild boars are disturbing and uprooting "areas of the forest floor in the vicinity of Newfound Gap and are known to eat snails." Hubricht and Solem support listing. Solem stated that expansion of tourist facilities could have drastic effects on the species and that the species could be "wiped out" by avid collectors. The Service believes that the range of the species needs to be more precisely determined before the effects of wild boars, collectors, or facilities can be evaluated.

Magazine Mountain snail (*Mesodon magazinensis*)—Solem supports listing because of the threat of expansion of tourist facilities. Hubricht indicated that the species is probably not as rare as indicated, although limited to Magazine Mountain. He suggests that the snail can probably be found over the whole north side of the mountain. The Service believes that the range of the species needs to be more precisely determined before the effects of tourist facility expansion can be evaluated.

Strange many-whorled land snail (*Polygyra peregrina*)—Hubricht presented evidence which showed that the range of the strange many-whorled land snail, *Polygyra 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 Service agrees.

Pilsbry's narrow apertured land snail (*Stenotrema pilsbryi*)—the U.S. Forest Service recommended that the listing of *Stenotrema pilsbryi* "be deferred pending a systematic search by trained technicians to ascertain if the true range of the species is not, in fact, larger than stated." The only evidence presented was that it "occurs in habitats representative of land forms 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 not information on this species.

CONCLUSION

After a thorough review and consideration of all the information available, the Director has 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 rulemak-

ing (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. The 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 had 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 cuts through the habitat and the park is heavily vandalized. Probably fewer than 100 live individuals exist.

Noonday land snail, *Mesodon clarki nantahala*, threatened—this subspecies is restricted to the Blowing Spring area of Nantahala Gorge and Handpole Brook in Swain County, N.C. Widening of U.S. 19 to four lanes, as is now proposed, could destroy most of the known colonies of this subspecies.

Stock Island tree snail, *Orthalicus reses*, threatened—once known from 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, *Polygyris virginiensis*, endangered—

known only from a small area of a single river bluff opposite Radford in Pulaski County, Va., there are only a few hundred individuals 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 chittenangoensis*, 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 1965, and very rare in 1974. 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 have declined because of 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. *Overutilization 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 are threatened by overcollecting.

3. *Disease or predation.* The Iowa Pleistocene snail is threatened by pre-

dition by beetles; the Chittenango ovate amber snail is seriously threatened by predation by the introduced and now established European snails, *Discus rotundatus* and *Orychilus*.

4. *The inadequacy of existing regulatory mechanisms.* No specific regulatory mechanisms 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 (*Polygyris 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 (*Anguispira picta*); noonday snail (*Mesodon clarki nantahala*); Stock Island tree snail (*Orthalicus reses*); Chittenango ovate amber snail (New York population of *Succinea chittenangoensis*), and the flat-spired three-toothed land snail (*Triodopsis platysayoides*).

Jones' middle-toothed land snail (*Mesodon jonesianus*), Magazine Mountain snail (*Mesodon magazinensis*), Pilsbry's narrow-apertured land snail (*Stenotrema pilsbryi*), 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.

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

EFFECT OF THE RULEMAKING

Section 7 of the act (16 U.S.C. 1536) provides:

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 402 on January 4, 1978, 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(a)(1) of the act, as implemented by 50 CFR Part 17.21, would apply. These prohibitions, in part would make it illegal for any person 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 44412), 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 placement upon the appropriate 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

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as it involves these species. The assessment is the basis for a decision that this determination is not a major Federal action which would significantly affect the quality of the human environment within the meaning of section 102(2)(C) of the National Environmental Policy Act of 1960.

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.

* * * * *

Species		Range			Status	When listed	Special rules
Common name	Scientific name	Population	Known distribution	Portion endangered			
Snails:							
Snail, painted snake coiled forest..	<i>Anguispira picta</i>	NA	U.S.A. (Tennessee).....	Entire.....	T	41	NA
Snail, Iowa Pleistocene.....	<i>Discus maccintocki</i>	NA	U.S.A. (Iowa).....	do.....	E	41	NA
Snail, noonday.....	<i>Mesodon clarki nanthahala</i>	NA	U.S.A. (North Carolina).....	do.....	T	41	NA
Snail, Stock Island tree.....	<i>Orthalicus reses</i>	NA	U.S.A. (Florida).....	do.....	T	41	NA
Snail, Virginia fringed mountain...	<i>Polygyriscus virginianus</i>	NA	U.S.A. (Virginia).....	do.....	E	41	NA
Snail, Chittenango ovate amber....	<i>Succinea chittenangoensis</i> New York		U.S.A. (New York).....	do.....	T	41	NA
Snail, flat-spined three-toothed.....	<i>Triodopsis platysayoides</i>	NA	U.S.A. (West Virginia).....	do.....	T	41	NA

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.

Dated June 26, 1978.

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

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