

## DEPARTMENT OF THE INTERIOR

## Fish and Wildlife Service

## 50 CFR Part 17

RIN 1018-AB31

**Endangered and Threatened Wildlife and Plants; Endangered Status for the Lower Keys Rabbit and Threatened Status for the Squirrel Chimney Cave Shrimp****AGENCY:** Fish and Wildlife Service, Interior.**ACTION:** Final rules.

**SUMMARY:** The Service determines the Lower Keys rabbit (*Sylvilagus palustris hefneri*) to be an endangered species and the Squirrel Chimney cave shrimp (*Palaemonetes cummingsi*) to be a threatened species pursuant to the Endangered Species Act of 1973, as amended (Act). These species are found only in Florida. The Lower Keys rabbit is restricted to a few keys in Monroe County and is endangered by loss of wetlands to residential development. The Squirrel Chimney cave shrimp is restricted to one site in Alachua County, Florida. It is threatened by potential development. This action will implement the protection and recovery provisions afforded by the Act for these species.

**EFFECTIVE DATE:** July 23, 1990.

**ADDRESSES:** The complete files for these rules are available for inspection, by appointment, during normal business hours at the Jacksonville Field Office, U.S. Fish and Wildlife Service, 3100 University Boulevard, South, Suite 120, Jacksonville, Florida 32216.

**FOR FURTHER INFORMATION CONTACT:** David J. Wesley, Field Supervisor, at the above address (telephone 904/791-2580 or FTS 946-2580).

**SUPPLEMENTARY INFORMATION:****Background**

The Lower Keys rabbit (*Sylvilagus palustris hefneri*) is an island subspecies of the widespread marsh rabbit. The subspecies was described by Lazell in 1984, based on a specimen from Sugarloaf Key, Monroe County, Florida (Lazell 1984). The Lower Keys rabbit measures about 40 centimeters (16 inches) in total length and has brownish fur dorsally and gray fur ventrally. It differs from the marsh rabbit of peninsular Florida (*Sylvilagus palustris paludicola*) principally in skull characters.

In recent times, the Lower Keys rabbit was found on at least ten of the Lower Keys, but may now be extirpated from five of these. The rabbit does not occur

east of the Seven Mile Bridge; it is replaced in the Upper Keys by the subspecies *Sylvilagus palustris paludicola*. The Lower Keys rabbit occurs primarily in marshes, ranging from saline to fresh water. It also feeds and disperses through adjacent upland pinelands and hammocks. Salt marshes in the area are typically vegetated with fringerush (*Fimbristylis* sp.), buttonwood (*Conocarpus erectus*), cordgrass (*Spartina alterniflora*), saltwort (*Batis maritima*), glasswort (*Salicornia virginica*), sawgrass (*Cladium jamaicense*), and sea oxeye (*Borrhchia frutescens*). Fresh water marshes support cattail (*Typha latifolia*), sedges (*Cyperus* sp.), and sawgrass. Marshes are very limited in the Lower Keys, since mangroves occupy many coastal areas and interior fresh water habitat is scarce. Known localities for the Lower Keys rabbit are on Federal (National Key Deer Refuge, Key West Naval Air Station), State (Florida Department of Transportation), and private lands. The primary cause of the decline of the Lower Keys rabbit is the filling of wetlands for residential, commercial, and military purposes.

The subspecies was considered a category 2 species (a species for which listing is possibly appropriate, but for which conclusive data is lacking) in the Service's vertebrate notice of review published September 18, 1985 (50 FR 37958), and as a category 1 species in the animal notice of review published January 6, 1989 (54 FR 554), indicating that listing was appropriate.

The Service was petitioned to list the Lower Keys rabbit as an endangered species by Ms. Joel Beardsley in a letter received April 17, 1985. Section 4(b)(3)(B) of the Endangered Species Act of 1973, as amended in 1982, requires that for any such listing petition containing substantial information, a finding be made within 12 months of receipt of the petition. The Service made a finding that the petition presented substantial information and that the requested action may be warranted on August 30, 1985 (50 FR 35272). Subsequent 1-year findings for 1986 (51 FR 29673; August 20, 1986), 1987 (53 FR 25512; July 7, 1988), and 1988 (53 FR 31723; August 19, 1988) were that the petition was warranted but precluded by other listing activities. The August 30, 1989 (54 FR 35905) proposal to classify the Lower Keys rabbit as endangered constituted the final finding required for this species.

The Squirrel Chimney cave shrimp (*Palaemonetes cummingsi*), a decapod crustacean of the family Palaemonidae, was described by Chace in 1954. It measures about 30 millimeters (1.2

inches) in total length and is transparent. The body and eyes are unpigmented, and the eyes are reduced in size in comparison to surface-dwelling species of *Palaemonetes*. The Squirrel Chimney cave shrimp (also known as the Florida cave shrimp) is restricted to Squirrel Chimney, a sinkhole near Gainesville, Alachua County, Florida. The site is privately owned. Squirrel Chimney is a small sinkhole which leads to a flooded cave system over 30 meters (100 feet) deep. Several other cave-dwelling invertebrates are found in Squirrel Chimney: McLane's cave crayfish (*Troglocambarus maclanei*), the light-fleeing crayfish (*Procambarus lucifugus*), the pallid cave crayfish (*Procambarus pallidus*) (a category 2 candidate for Federal listing), and Hobb's cave amphipod (*Crangonyx hobbsi*). The site supports one of the richest cave invertebrate faunas in the United States. In 1983, the site was proposed for recognition as a National Natural Landmark, but the National Park Service has not yet taken final action on the proposal.

The Squirrel Chimney cave shrimp is considered threatened by the Florida Committee on Rare and Endangered Plants and Animals, while the other four species are considered species of special concern. The Squirrel Chimney cave shrimp was classified a category 2 species in the Service's May 22, 1984, invertebrate review notice (49 FR 21664), and also in the animal notice of review published January 6, 1989 (54 FR 554). It is threatened by potential residential development and changes in land use. The Service proposed this species as a threatened species on August 30, 1989 (54 FR 35905).

**Summary of Comments and Recommendations**

In the August 30, 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. Appropriate State agencies, county governments, Federal agencies, scientific organizations, and other interested parties were contacted and requested to comment. Newspaper notices, required by section 4(b)(5)(D) of the Act, were inadvertently not published during the comment period (August 30 to October 30, 1989) announced in the proposal; the comment period on the proposal was therefore reopened from December 4, 1989, to January 3, 1990, in a notice published on December 4, 1989 (54 FR 50006). Newspaper notices were published in

the *Key West Citizen* (Key West, Florida) for the Lower Keys rabbit on December 10, 1989; and in the *Gainesville Sun* (Gainesville, Florida) for the Squirrel Chimney cave shrimp on December 14, 1989.

Twenty comments were received regarding the proposal to list the Lower Keys rabbit. The proposal was supported by the Florida Game and Fresh Water Fish Commission, the Florida Natural Areas Inventory, six conservation organizations, and seven individuals. Three individuals opposed the proposal; one such letter included a petition signed by 26 local residents who opposed the listing of the Lower Keys rabbit. One individual opposed further land acquisition and regulation in the Florida Keys, stating that the tax burden would increase. Service response: Listing decisions pursuant to the Act are required to be based solely on the factors enumerated under section 4(a) of the Act; see the "Summary of Factors Affecting the Species" below. Only biological and threat criteria can be used to determine whether species are endangered or threatened; potential economic effects are not allowed to influence the decision on whether or not a species is endangered or threatened. In any case, it is likely that little, if any, public land acquisition will take place for the Lower Keys rabbit. Some of the habitat of the subspecies is already in government ownership (National Key Deer Refuge and Key West Naval Air Station); much of the remainder is in small isolated parcels that, even if acquired, would have limited effects on the Florida Keys economy.

One comment indicated that the Lower Keys rabbit had been seen on Saddlehill Key in recent years, a site previously not recorded. In another comment the biologist who had carried out the status survey for the Lower Keys rabbit reported his belief that the rabbit had continued to decline since the 1987 survey work. The U.S. Navy, Key West Naval Air Station, indicated its willingness to cooperate in conservation of this species on Navy lands in the Lower Keys. Several other points were raised in the comments. The biologist who scientifically described the Lower Keys rabbit pointed out that the species uses pinelands and hammocks in addition to wetland hammocks; that fact has been incorporated into the final rule. Another individual stated that the Lower Keys rabbit no longer existed and that the only rabbits in the area were escaped domestic rabbits. Service response: While feral domestic rabbits (the European rabbit, *Oryctolagus cuniculus*) may be found in the Lower

Keys, the Lower Keys rabbit (*Sylvilagus palustris hefneri*) represents a different genus, not closely related to the escaped domestic rabbits. Lower Keys rabbits continue to exist, as evidenced by recent sightings and road-killed animals.

Two conservation groups disagreed with the Service's proposal to not designate critical habitat for the Lower Keys rabbit. They felt that critical habitat designation would provide additional protection to the rabbit and its habitat, particularly in areas that appear to be suitable habitat but are currently unoccupied by the species. The Service continues to believe that the disadvantages of critical habitat designation for the Lower Keys rabbit outweigh the benefits. Critical habitat, by definition, applies only to Federal agency actions. Section 7(a)(2) of the Act requires Federal agencies to insure that their actions are not likely to jeopardize the continued existence of any endangered or threatened species, or result in the destruction or adverse modification of critical habitat of such species. The standards for establishing jeopardy to the species and for destruction and adverse modification of habitat are substantially identical. Since no apparent benefits would result from the designation of critical habitat for this species, the Service has not proposed such a regulation.

Four comments were received in response to the proposal to list the Squirrel Chimney cave shrimp as a threatened species. The proposal was supported by the Florida Game and Fresh Water Fish Commission, the Florida Natural Areas Inventory, and the Florida Speleological Society. The landowner of the site where the shrimp occurs opposed the listing of the shrimp, questioning the currentness of the data used to justify the proposal and fearing that the regulation might restrict development of the property. Service response: Although collections of the Squirrel Chimney cave shrimp have not been attempted for several years, there is no reason to believe that the species does not still occur at the site. Neither the landowner nor the Service has been able to identify any current or planned development activities that would be prevented by the listing of this species. No Federal agency activities are currently known or anticipated for the property.

#### Summary of Factors Affecting the Species

After a thorough review and consideration of all information available, the Service has determined that the Lower Keys rabbit should be classified as an endangered species and

that the Squirrel Chimney cave shrimp 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 an endangered or threatened species due to one or more of the five factors described in section 4(a)(1). These factors and their application to the Lower Keys rabbit (*Sylvilagus palustris hefneri*) and the Squirrel Chimney cave shrimp (*Palaemonetes cummingsi*) are as follows:

A. *The present or threatened destruction, modification, or curtailment of its habitat or range.* (1) Lower Keys rabbit—This species probably originally occurred in suitable habitat throughout the larger Lower Florida Keys. Lazell (1984) reported the rabbit from Lower Sugarloaf, Geiger, Saddlebunch, Boca Chica, and Big Pine Keys. He documented 13 sites from these keys (records in Florida Natural Areas Inventory, Tallahassee, Florida). Based on interviews with local residents, he believes that the species also occurred on Cudjoe, Ramrod, Middle Torch, Big Torch, and Key West Keys, but has been extirpated at these sites (J.D. Lazell, The Conservation Agency, *in litt.*, 1985). Lazell (*in litt.* 1985) also provided a rough population estimate, based on pellet counts, of 259 remaining Lower Keys rabbits. Based on interviews with local residents, he believed that the Lower keys rabbit had been locally common as recently as the 1950's.

The Refuge Manager of the Service's National Wildlife Refuge Complex in the Florida Keys (Key Deer, Key West, and Great White Heron) reviewed the annual reports of that station for information on the Lower keys rabbit (*in litt.* 1986). The rabbit was known to be present on Refuge lands on Boca Chica, Saddlebunch, and Big Pine Keys, but not on the smaller, outer keys of these refuges. The species was not considered abundant, and was believed to be restricted to keys with available fresh water. Only a few rabbits have been seen since 1984. Howe (1988) surveyed Lazell's 13 sites, as well as additional areas, in a status survey funded by the Service and carried out by the Florida Game and Fresh Water Fish Commission. He found rabbits at 12 locations (one additional site was found following the conclusion of his survey), while they appear to have been extirpated from 4 or possibly 5 previously known sites. Filling for development or road construction has

resulted in the destruction of the rabbit's habitat at these sites. Only 6 of the 13 remaining known sites are secure from development. The species may also be extirpated from Saddlebunch Key, where most of the habitat has been destroyed. Howe estimates that 200-400 Lower Keys rabbits remain on Sugarloaf, Welles, Annette, Boca Chica, Big Pine, and Hopkins Keys in small, scattered populations. A few rabbits may also still occur on Saddlehill Key.

(2) Squirrel Chimney cave shrimp—This species is known from only one sinkhole. Any detrimental change to the sinkhole or the underlying aquifer has the potential to adversely affect or even cause the extinction of the species. The property surrounding the sinkhole is currently oak hammock and pine plantation, but it may be developed for residential use (single-family houses) in the foreseeable future. The property is in an actively developing area on the outskirts of Gainesville. Septic tanks and the use of pesticides and herbicides associated with residential development have the potential to degrade water quality in the aquifer, and human activities in the vicinity of the sinkhole could damage the vegetation in and around the sink. Forestry practices have the potential to damage the sinkhole through erosion or pesticides. The current property owners intend to give The Nature Conservancy the first option to purchase the land around the sinkhole, but even if this site is acquired, the sinkhole will remain vulnerable to development in the near vicinity.

**B. Overutilization for commercial, recreational, scientific, or educational purposes.** The Lower Keys rabbit was actively hunted in the past (Lazell 1985), but it is not known whether such activity continues. The current small population size and limited distribution of this animal would make any hunting a serious threat. The Squirrel Chimney cave shrimp is restricted to one small site that could be seriously damaged by a single act of vandalism.

**C. Disease or predation.** The Lower keys rabbit is vulnerable to predation by feral house cats, which are common on the Lower keys. Mammalian predators such as cats are not native to the Lower Keys, and wildlife there, as on many islands, may not be well adapted to withstanding such predation. Disease or predation are not known to be affecting the Squirrel Chimney cave shrimp.

**D. The inadequacy of existing regulatory mechanisms.** No existing regulatory mechanisms apply to the Lower keys rabbit or the Squirrel Chimney cave shrimp.

**E. Other natural or manmade factors affecting its continued existence.** The

Lower keys rabbit occurs in small, disjunct populations which may persist only due to migration among colonies. The continuing urbanization of the Lower Keys makes such movements increasingly difficult. Other natural or manmade factors are not known to be affecting the Squirrel Chimney cave shrimp.

The Service has carefully assessed the best scientific and commercial information available regarding the past, present, and future threats faced by these species in determining to propose this rule. Based on this evaluation, the preferred action is to list the Lower Keys rabbit as an endangered species and the Squirrel Chimney cave shrimp as a threatened species. The Lower Keys rabbit is in danger of extinction throughout a significant portion, if not all, of its range. While not in immediate danger of extinction, the Squirrel Chimney cave shrimp is likely to become an endangered species in the foreseeable future. Critical habitat is not being designated for either species for the reasons discussed below.

#### 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 which 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 Lower Keys rabbit or the Squirrel Chimney cave shrimp. Publication of critical habitat maps for the Lower Keys rabbit could result in hunting or poaching of this species in its few remaining sites. Federal agencies with Lower Keys rabbits on their properties have been notified. Their activities will be subject to section 7 of the Act, as discussed under "Available Conservation Measures."

The Squirrel Chimney cave shrimp is restricted to a single known locality that could easily be damaged by vandalism (see factor "B." above). The private landowners do not desire visitors at the site. No Federal activities are known or anticipated at the site.

Publication of critical habitat description would make both species more vulnerable to take or vandalism. For the above reasons, the Service has concluded that designation of critical habitat is not prudent for the Lower Keys rabbit or the Squirrel Chimney cave shrimp. All involved parties and major land owners have been notified of the location and the importance of protecting the habitat of these species. Protection will be addressed through the

recovery process and through the section 7 jeopardy standard.

#### 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 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) 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.

For the Lower Keys rabbit, affected Federal agencies are the U.S. Navy and the U.S. Army Corps of Engineers (Corps). The rabbit occurs on Key West Naval Air Station, and the Corps has jurisdiction over some of the wetlands used by the rabbit through its permitting authority pursuant to section 404 of the Clean Water Act. The Navy currently anticipates no conflicts with its mission on Key West Naval Air Station, and will assist in conserving the Lower Keys rabbit. The Corps must now evaluate wetland permit applications for potential effects on the Lower Keys rabbit. If appropriate, the Corps must consult with the Service concerning the Lower Keys rabbit. Wetland permitting in some areas may become more restrictive.

No Federal agency involvement is known or anticipated for the Squirrel Chimney cave shrimp.

The Act and its implementing regulations found at 50 CFR 17.21 and 17.31 set forth a series of general trade prohibitions and exceptions that apply to endangered and 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 and 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 is also 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 endangered and 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 for 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**

Chace, F.A., Jr. 1954. Two new subterranean shrimp (Decapoda:Caridea) from Florida and the West Indies, with a revised key to the American species. *J. Wash. Acad. Sci.* 44:318-324.  
 Howe, S.E. 1988. Lower Keys rabbit status survey. Final report of Florida Game and Fresh Water Fish Commission to Jacksonville Field Office of U.S. Fish and Wildlife Service under Cooperative Agreement 14-16-004-87-939. 10 pp.  
 Lazell, J.D., Jr. 1984. A new marsh rabbit (*Sylvilagus palustris*) from Florida's Lower Keys. *J. Mamm.* 65(1):26-33.

**Author**

The primary author of this rule is Dr. Michael M. Bentzien (see **ADDRESSES** section above).

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

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

**Regulations 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. 1531-1543; 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 the groups indicated, 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						
<b>MAMMALS</b>							
Rabbit, Lower Keys	<i>Sylvilagus palustris</i>	U.S.A. (FL)	Entire	E	390	NA	NA
<b>Crustaceans</b>							
Shrimp, Squirrel Chimney (=Florida) Cave.	<i>Palaemonetes cummingi</i>	U.S.A. (FL)	NA	T	390	NA	NA

Dated: May 15, 1990.  
 Richard N. Smith,  
 Acting Director, Fish and Wildlife Service.  
 [FR Doc. 90-14410 Filed 8-20-90; 8:45 am]  
**BILLING CODE 4310-55-M**

**DEPARTMENT OF THE INTERIOR**

**Fish and Wildlife Service  
 50 CFR Part 17**

**RIN 1018-AB31**

**Endangered and Threatened Wildlife and Plants; Designation of the Freshwater Mussel, the Fanshell as an Endangered Species**

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

**ACTION:** Final rule.

**SUMMARY:** The Service designates a freshwater mussel, the fanshell (*Cyprogenia stegaria* (= *C. Irrorata*)), as an endangered species under the Endangered Species Act of 1973, as amended (Act). This freshwater mussel historically occurred in the Ohio River and many of its large tributaries in Pennsylvania, West Virginia, Ohio, Indiana, Illinois, Kentucky, Tennessee, Alabama, and Virginia. Presently, the fanshell is believed to be reproducing in only three rivers—the Green and Licking Rivers in Kentucky, and the Clinch River in Tennessee and Virginia. Additionally, small, apparently nonreproducing populations (based on the collection of a

few old specimens in the 1980s) may still persist in the Muskingum River, Ohio; the Kanawha River, West Virginia; the Wabash River system in Illinois and Indiana; Tygarts Creek, Kentucky; and the Tennessee and Cumberland Rivers in Tennessee. The distribution and reproductive capacity of this species has been seriously impacted by the construction of impoundments and navigation facilities, dredging for channel maintenance, sand and gravel mining, and water pollution.

**EFFECTIVE DATE:** July 23, 1990.

**ADDRESSES:** The complete file for this rule is available for inspection, by