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**DEPARTMENT OF THE INTERIOR****Fish and Wildlife Service****50 CFR Part 17****RIN 1018-AB38****Endangered and Threatened Wildlife and Plants; Withdrawal of the Proposed Rule To List the Prairie Mole Cricket (*Gryllotalpa Major*) as Threatened****AGENCY:** Fish and Wildlife Service, Interior.**ACTION:** Withdrawal of proposal rule.

**SUMMARY:** The U.S. Fish and Wildlife Service (Service) is withdrawing the proposed rule (April 25, 1990; 55 FR 17465) to list the prairie mole cricket (*Gryllotalpa major*) as a threatened species under the Endangered Species Act of 1973, as amended (Act). Data received as a result of additional field surveys in the spring of 1991 in Kansas and Oklahoma reveal that the species is more abundant and widespread than previously thought and is found in types of native grass cover that are not under immediate threat of destruction or modification. Because of the number and extent of occurrences and the fact that the species is now known to occur in a wider range of vegetation types that are less threatened with destruction, the Service has determined that the species is not likely to become endangered throughout all or a significant portion of its range in the foreseeable future.

**ADDRESSES:** The complete file for this notice is available for public inspection, by appointment, during normal business hours at the U.S. Fish and Wildlife Service Regional Office, Federal Building, Fort Snelling, Twin Cities, Minnesota 55111.

**FOR FURTHER INFORMATION CONTACT:** Mr. Craig Johnson, Endangered Species Coordinator, at the above address (612/725-3276 or FTS 725-3276).

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

The presettlement tallgrass prairie extended from Canada to Oklahoma and from Nebraska to Indiana. Based on historic records, the prairie mole cricket was presumed to be distributed evenly throughout the southwest portion of the

tallgrass prairie, encompassing an area about the size of the States of Indiana and Oklahoma. The present distribution of the species has been reduced to small remaining prairie segments in the southwest one-fourth of Missouri, eastern Kansas, northwest and central Arkansas, and eastern Oklahoma. Most of these extant populations are found on small fragmented remnant prairie or native grass areas. Wilcove (1987) estimates that less than 0.5 percent of Missouri's presettlement prairie remains.

The earliest records of *Gryllotalpa major* are dated from the 1870's from eastern Kansas and southwest Missouri. Saussure described the first specimen from Illinois in 1874. Historical records indicate that specimens were collected from Arkansas, Illinois, Oklahoma, and Mississippi, in addition to Kansas and Missouri. Collecting continued until the 1930's when it seemed to decline significantly (Figg and Calvert 1987). At the time of the Service's 1984 Invertebrate Species Notice of Review (49 FR 21664), the prairie mole cricket was thought to be extinct. The closest relative to the prairie mole cricket is an African species *Gryllotalpa gryllotalpa* (Dennis Figg, Missouri Department of Conservation, *in litt.* 1989).

Adult prairie mole crickets are among the largest insects in North America and may measure up to 6 cm (2.5 inches) from end to end, including the antennae (Figg and Calvert 1987). The prairie mole cricket can sometimes be distinguished from the normally smaller northern mole cricket (*Gryllotalpa hexadactyla*) by its size. The northern mole cricket measures 20-35 mm (.75-1.4 inches). Walker (pers. comm. in Figg and Calvert 1987) reports the prairie mole cricket may weigh up to 2.6 grams. Figg (*in litt.* 1989) suggests that a simple field method to distinguish these species is to observe the process on the trochanter of the foreleg, which is knife-shaped on the prairie mole cricket and more circular on the common northern mole cricket. The northern mole cricket is found in marshes, wetlands, and along rivers and lakes.

Adult mole crickets become active in the soil surface twice during the year, most notably during the spring, for courtship and reproduction (Figg and Calvert 1987). Males and females are identical externally, except for modified forewings that males use to attract sexually responsive females (Alexander 1975). Male prairie mole crickets construct specially designed burrow systems several inches below the soil surface that contain a bulb-like resonant chamber to increase acoustical output

when the male calls to attract females during courtship. Males commence calling in late April and continue through May (Figg and Calvert 1987). Calling begins 5 to 10 minutes after sunset and ends at dark. Conditions need to be conducive for the females to fly; warm, dry and still. Calls at one Missouri prairie in 1987 could be heard over a quarter of a mile away (Figg and Calvert 1987). After courtship, the females disperse into the surrounding habitat, dig a tunnel, and lay their eggs (Figg and Calvert 1987). The eggs then hatch in the soil and the young are miniature versions of the adults except they lack wings. They require two to three years before they grow into adults and are ready for spring courtship.

The habitat preference of the prairie mole cricket is the tallgrass prairie or, at a minimum, native grass areas with little or no disturbance. Communities where the species are found vary within the prairie ecosystem (Figg and Calvert 1987). Observations by Figg and Calvert indicate that most prairie mole cricket populations occur on silty to sandy loam prairies that are well drained. However, it is not unusual to find population sites on ridges with shallow soils. The species has not been found on wet prairies, marshes, dolomite glades, and dry loess prairies. It is difficult to accurately count individual burrows due to vegetative cover and the intensity of calling crickets. Busby (*in litt.* 1989) reports that larger Kansas populations support 24-30 males. At several locations in Arkansas, Shepherd (pers. comm. 1989) estimated approximately 150 prairie mole crickets.

Field work in Arkansas (Harold Grimmitt, pers. comm. 1991) reveals counts as high as 296 males on 28 acres.

The proposed rule to list the prairie mole cricket (*Gryllotalpa major*) as a threatened species under the Act was published in the *Federal Register* on April 25, 1990 (55 FR 17465). This proposal was supported by biological information (Figg and Calvert 1987) indicating that the species was limited in distribution to small segments within the tallgrass prairies of southwestern Missouri, eastern Kansas, northeastern Oklahoma, and northwest and central Arkansas. At the time of the proposal, the prairie mole cricket was known from approximately 95 locations in the above four states. The species was thought to be in peril because of the destruction and alteration of its prairie habitat for agricultural and other uses.

Newspaper notices inviting general public comment on the proposal were published in 14 daily newspapers within the current range of the prairie mole cricket in Missouri, Kansas, Oklahoma,

and Arkansas. Copies of the *Federal Register* proposal were furnished to landowners, other government agencies, and various interested parties.

Three comments were received during the comment period, which extended from April 25, 1990, until June 11, 1990. The Kansas Department of Wildlife and Parks did not have additional species information to provide and had no recommendation with regard to the proposal. The Kansas Association of Wheat Growers (Association) expressed concerns about how the presence of *Gryllotalpa major* on privately owned lands would affect farming practices if the species were to be placed on the endangered species list and given protection under the Act. Discussions with the Association revealed that the document they had received about the proposal was incomplete. Once the Association was provided with complete information about the prairie mole cricket, how it would be protected, and what the expected impacts upon cultivation practices might be, they had no further questions or comments.

Questions were raised within the Service about the adequacy of surveys that had been conducted and the types of microhabitat that the species requires. The Service debated whether the various types of habitat where the prairie mole cricket might be found had been adequately searched. Concern was expressed that additional surveys should be conducted in other types of grasslands, particularly within the "continuous prairies" of Kansas and Oklahoma, before a final listing decision was to be made.

As a result of these comments, the Service, under section 4(b)(6)(B)(i) of the Act, extended for 6 months the 1-year deadline for the final decision on the proposal to list *Gryllotalpa major* (April 11, 1991; 56 FR 14677). A new comment period opened June 17, 1991, and closed July 16, 1991. Notification of the rule extension was sent to all the parties that had previously received a copy of the proposed rule.

The Service contracted with Dr. William H. Busby, of the Kansas Biological Survey, to coordinate an intensive survey for the prairie mole cricket in the Flint Hills of Kansas. Concurrently, expanded survey efforts were conducted in Oklahoma by the Oklahoma Natural Heritage Inventory and the Service. These surveys revealed that, although the current range of *Gryllotalpa major* remains restricted from its historic range, the occurrences of the species within its current range are more abundant than previously believed. These surveys also revealed

that the species not only occurs in "tallgrass" prairies but in areas that have suffered some form of disturbance and where at least some native grasses remain. As a result of the 1991 surveys, the Service can now document approximately 290 extant occurrences of the prairie mole cricket in 49 counties in southwestern Missouri, eastern Kansas, eastern Oklahoma, and northwest and central Arkansas.

Seven comments were received during the extended comment period from the following: Missouri Department of Conservation, Arkansas Game and Fish Commission, Arkansas Natural Heritage Commission, Kansas Department of Wildlife and Parks, Oklahoma Natural Heritage Inventory, Kansas Biological Survey, and the Service's Tulsa Field Office. All of the respondents recommended that *Gryllotalpa major* not be placed on the Federal list of endangered and threatened species.

#### Finding and Withdrawal

Data collected by Busby (1991) and information contained in the comments received indicate that *Gryllotalpa major* is more widespread and abundant than previously believed and is found in types of habitat not considered before. It appears that the species does not face the degree of threats previously believed and is able to survive in a wider range of habitats. The known number of species' occurrences has increased from 95 at the time of the proposed rule (55 FR 17465) in 1989 to 290 in 1991. The number of counties where occurrences are recorded has increased from 30 to 49. All comments received by the Service during the reopened comment period in June and July 1991 recommended that the Service withdraw the listing proposal and place the species in category 2 of the Animal Notice of Review. Placing the species in this category will enable the Service to continue funding for additional population surveys and monitoring. If future data reveal a stable and increasing range-wide population, the Service will consider placing the species in the 3C category in a subsequent Animal Notice of Review. Taxa placed in the 3C category are those that have proven to be more abundant or widespread than previously believed and/or those that are not subject to any identifiable threat. Therefore, in compliance with section 4(b)(6)(B)(ii) of the Endangered Species Act of 1973, as amended, the Service withdraws its proposed rule of April 25, 1990 (55 FR 17465), to list *Gryllotalpa major* (prairie mole cricket) as threatened.

#### References Cited

- Alexander, R.D. 1975. Natural Selection and Specialized Chorusing Behavior in Acoustical Insects. In D. Pimental, ed., *Insects, Science and Society*. Academic Press, New York.
- Busby, W.H. 1991. Prairie Mole Cricket Report for Kansas, 1991. Unpublished report. 15 pp.
- Figg, D.E., and P.D. Calvert. 1987. Status, Distribution, and Life History of the Prairie Mole Cricket (*Gryllotalpa major*). Sassure. Unpublished report. 39 pp.
- Wilcove, D.S. 1987. From Fragmentation to Extinction. *Natural Areas Journal* 7(1):23-29.

The author of this notice is William F. Harrison (see **ADDRESSES** section).

The authority for this action is 18 U.S.C. 1531-1544.

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

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

Dated: January 9, 1992.

Richard N. Smith,

Acting Director, Fish and Wildlife Service.

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