

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

Endangered and Threatened Wildlife and Plants; Determination of Endangered Status for *Jatropha Costaricensis* (Costa Rican *Jatropha*)

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: The Service determines *Jatropha costaricensis* (Costa Rican *jatropha*) to be an endangered species. Only one population of this shrub to small tree is known to occur on a steep hillside above the Pacific Ocean in tropical dry forest habitat. Dry season fires, trampling by cattle, timber cutting, and the negative genetic effects of small population size threaten the plant with extinction. The Costa Rican *jatropha* occurs near sea level near Playas del Coco, Guanacaste Province, Costa Rica. A single plant known from a second site about 20 miles away in Santa Rosa National Park has been lost with erosion of a river bank. This final rule will implement U.S. Federal protection provided by the U.S. Endangered Species Act of 1973, as amended.

DATES: The effective date of this rule is August 27, 1984.

ADDRESSES: The complete file for this rule is available for inspection, by appointment, during normal business hours at the Service's Office of Endangered Species, 1000 North Glebe Road, Suite 500, Arlington, Virginia, U.S.A.

FOR FURTHER INFORMATION CONTACT: Mr. John L. Spinks, Jr., Chief, Office of Endangered Species, U.S. Fish and Wildlife Service, Washington, D.C. 20240, U.S.A. (703/235-2771).

SUPPLEMENTARY INFORMATION:**Background**

Jatropha costaricensis (Costa Rican *jatropha*) is a member of the spurge family (Euphorbiaceae). This is a primarily tropical family, with a number of species occurring in the United States. It includes many plants of economic value, providing food, drugs, rubber, etc. The genus *Jatropha* consists of perhaps 125 species, several of which are used for ornamental, industrial, or medicinal purposes. *Jatropha costaricensis* is shrub to small tree (2-5 m tall) with gray leaves and inconspicuous green or white flowers; male and female flowers are borne on different plants. It was first collected in 1973 and was described as a species new to science in 1978. It is a

member of the maritime tropical dry forest community growing on steep rocky limestone slopes (Webster and Poveda, 1978).

The only known population of the species, consisting of fewer than 50 individuals, occurs on a steep, east-facing slope at Playas del Coco, and a single fire or incident of trampling by livestock could cause irreversible harm to the species. It was also reported from Parque Nacional Santa Rosa (Santa Rosa National Park) about 20 miles to the north (Janzen and Liesner, 1980), but the only individual known there is no longer extant.

The Service was petitioned in 1979 by Sr. Luis J. Poveda of the Museo Nacional, San José, Costa Rica, on behalf of *Jatropha costaricensis*. The petitioner indicated that this plant is a phytogeographically significant relict in a remnant of a more widespread vegetation formation under drier climatic conditions in the past, and that its present habitat at Playas del Coco is being destroyed by nearby housing, trampling by cattle, and the cutting of trees.

In response to the petition, the Service published a status-review notice in the July 31, 1979, **Federal Register** (44 FR 44916). Three professional botanists commented in support of the need to list and protect *Jatropha costaricensis*. The Organization of American States and the Missouri Botanical Garden commented that they had no information in their files upon which to base a decision. No one provided data to controvert the need to propose the species for listing.

On February 15, 1983, the Service published a notice in the **Federal Register** (48 FR 6752) of its prior finding that the petitioned action on such species may be warranted, in accord with section 4(b)(3)(A) of the Act as amended in 1982. On July 15, 1983, the Service found that the petitioned action was warranted, and published in the **Federal Register** (48 FR 32525) the proposed rule to implement the action, in accord with section 4(b)(3)(B)(ii) of the Act.

Summary of Comments and Recommendations

In the July 5, 1983, proposed rule (48 FR 32525) 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 government of Costa Rica, appropriate Federal agencies, scientific and conservation organizations and institutions, and other interested parties were contacted and

requested to comment. Five comments were received and are discussed below.

The New York Botanical Garden and the Threatened Plants Unit of the International Union for Conservation of Nature and Natural Resources (IUCN) indicated that they had no particular information on the species. The IUCN gave its support for such listings. Dr. Grady Webster of the University of California, Davis, indicated that the recently coined common name was inaccurate, as the species would then be confused with *Cnifoscolus*; the name has been changed accordingly. He indicated full support for listing the species, stating it might help local conservation efforts.

Sr. Luis Poveda of the Museo Nacional in Costa Rica supported the listing and noted that the species is very scarce in Santa Rosa National Park, not existing there as a population. Dr. Daniel Janzen of the University of Pennsylvania, Philadelphia, commented that the only specimen he definitely knew in the park was eroded away with the change along the river bank. He stated that he did not know if there might be any breeding population in the park, or only the isolated, dispersed individual. He noted that there was some essentially identical habitat to that at Playas del Coco in the park, and that he would continue to look for the species. He assumes there are other individuals of *Jatropha costaricensis* in the park, stating he might have seen others. He noted that while the park itself is secure, the vegetation formation of this species at Playas del Coco and elsewhere outside the park was mostly gone already and that the rest is rapidly being cut, so that the park is becoming an isolated island of vegetation.

The Service made further inquiries to Dr. Paul Opler of the Service's Division of Biological Services, Fort Collins, Colorado, and to Dr. William Burger of the Field Museum of Natural History, Chicago. Dr. Opler is a co-discoverer of the species, familiar with Costa Rica, and author of the proposed rule. He said that the park is rather well known botanically, that the species is therefore probably quite rare there, and that it seemed best to proceed with the final rule at this time. Dr. Burger is an expert on the Costa Rican flora, and also editor and an author in the continuing *Flora Costaricensis*. He also stated that the park is quite well known and that it seemed best to list the species.

The Service thanks the individuals who responded to the notice and to the proposed rule.

Summary of Factors Affecting the Species

After a thorough review and consideration of all information available, in accord with section 4(b)(1)(A) of the U.S. Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*), the Service has determined that *Jatropha costaricensis* should be classified as an endangered species. Procedures found at section 4(a)(1) of the Act and regulations promulgated to implement its listing provisions (codified at 50 CFR Part 424; under revision to accommodate the 1982 Amendments—see proposal at 48 FR 36062, August 8, 1983) were followed. A species may be determined to be an endangered or a threatened species due to one or more of the five factors described in section 4(a)(1). These factors and their application to *Jatropha costaricensis* Webster *et Poveda*, Costa Rican *jatropha*, are as follows:

A. The Present or Threatened Destruction, Modification, or Curtailment of Its Habitat or Range

Trampling by cattle, cutting of trees, and development of housing are modifying and could potentially further modify this species' habitat at Playas del Coco. A village and resort area are within ¼ mile of the habitat, and cattle trails run through it. The only known specimen in Santa Rosa National Park was lost because of erosion along the river bank where it occurred.

B. Overutilization for Commercial, Recreational, Scientific or Educational Purposes

Not applicable to this species.

C. Disease or Predation

Not applicable to this species.

D. The Inadequacy of Existing Regulatory Mechanisms

Costa Rican law provides no direct protection for this plant. It would be protected in the park, but it is not definitely known to occur there. It is not included among the Costa Rican plants on the Annex of the Convention on Nature Protection and Wildlife Preservation in the Western Hemisphere, to which Costa Rica is a party.

E. Other Natural or Manmade Factors Affecting Its Continued Existence

Dry season fires, often kindled by vandals, are frequent in the affected part of Costa Rica, and such a fire might destroy the entire known plant population. In addition, small population size might indicate a deleterious situation for the *Jatropha* from decrease

in its genetic variability. Fewer than 50 individuals of the species are known to exist in the single population; the current sex ratio is unknown. Even if the species is located within the park, the probable relict nature of the plant, with loss of habitat through millennia as a consequence of climatic change, suggests that it is biologically in danger of extinction.

The Service has carefully assessed the best scientific 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 *Jatropha costaricensis* as an endangered species. With so few individuals known and the risk of damage to its only known habitat, endangered status seems an accurate assessment of the species' condition. Critical habitat is not designated for foreign species, as discussed in the following section. A decision to take no action at this time would exclude the Costa Rican *jatropha* from needed attention and possible protection available under the U.S. Endangered Species Act. Since the Santa Rosa National Park is considered well known botanically, it is unlikely that the species occurs there in significant enough numbers to change its status. However, should new field work lead to new information on the species, a reclassification to threatened status or a delisting could be proposed if warranted. Section 4(b)(1)(A) of the Act requires listing on the basis of the best information available, which does not encourage delay based on speculation when sufficient information on a species' status is judged to be at hand.

Critical Habitat

Section 4(a)(3) of the Act, as amended, requires that to the maximum extent prudent and determinable, the Secretary designate critical habitat at the time a species is determined to be endangered or threatened. This requirement is not applicable to foreign species, however, and no critical habitat is being designated for the plant under consideration.

Available Conservation Measures

Conservation measures provided to species listed as endangered or threatened under the U.S. Endangered Species Act include national and international recognition, possibilities for recovery actions and for U.S. Federal protection, and prohibitions against certain practices. These measures are discussed, in part, below.

Section 7(a) of the Act, as amended, requires U.S. Federal agencies to evaluate their actions with respect to species that are proposed or listed as endangered or threatened. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR Part 402 and are now under revision (see proposal at 48 FR 29990: June 29, 1983). However, based on an August 31, 1981, opinion from the Office of the Solicitor, U.S. Department of the Interior, the jeopardy prohibition of section 7(a)(2) has been determined not to apply within foreign countries. Furthermore, there are no known U.S. Federal activities in the area where this species occurs.

The Act and its implementing regulations at 50 CFR 17.61, 17.62, and 17.63 set forth a series of general trade prohibitions and exceptions that apply to all endangered plant species. With respect to *Jatropha costaricensis*, all trade prohibitions of section 9(a)(2) of the Act, implemented by 50 CFR 17.61, apply. These prohibitions, in part, make it illegal for any person subject to the jurisdiction of the United States to import or export, transport in interstate or foreign commerce in the course of a commercial activity, or sell or offer for sale this species in interstate or foreign commerce. Certain exceptions can apply to agents of the Service under certain circumstances. The Act and 50 CFR 17.62 also provide for the issuance of permits to carry out otherwise prohibited activities involving endangered species under certain circumstances. It is anticipated that few trade permits would ever be sought or issued for this species since it is not common in cultivation or in the wild.

Section 8(a) of the U.S. Act authorizes the Secretary of the Interior, in part, to cooperate with authorities of the country where foreign species are resident to provide limited financial assistance to such species listed as endangered or threatened. Sections 8(b) and 8(c) of the Act authorize the Secretary to encourage foreign conservation and management programs and to provide assistance in the form of personnel and the training of personnel, in order to promote conservation of foreign species.

The United States hereby recommends *Jatropha costaricensis* to Costa Rica for placement upon the Annex of the Convention on Nature Protection and Wildlife Preservation in the Western Hemisphere, to which both countries are party and which is implemented in the United States through section 8A(e) of the U.S. Act, and the Service will review it to determine whether it should be considered under other appropriate international agreements.

National Environmental Policy Act

The U.S. Fish and Wildlife Service has determined that an Environmental Assessment, as defined by the U.S. 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).

Literature Cited

Janzen, D. H., and R. Liesner. 1980. Annotated check-list of plants of lowland Guanacaste

Province, Costa Rica, exclusive of grasses and non-vascular cryptogams. *Brenesia* 18:15-90.

Webster, G. L., and L. J. Poveda. 1978. A phytogeographically significant new species of *Jatropha* (Euphorbiaceae) from Costa Rica. *Brittonia* 30:265-270.

Author

The primary author of this final rule is Dr. Bruce MacBryde of the Service's Washington Office of Endangered Species (telephone 703/235-1975; see Addresses section above).

List of Subjects in 50 CFR Part 17

Endangered and threatened wildlife. Fish. Marine mammals. Plants (agriculture). Treaties.

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 reads as follows:

Authority: Pub. L. 93-205, 87 Stat. 884; Pub. L. 94-359, 90 Stat. 911; Pub. L. 95-632, 92 Stat. 3751; Pub. L. 96-159, 93 Stat. 1225; Pub. L. 97-304, 96 Stat. 1411 (16 U.S.C. 1531 *et seq.*)

2. Amend § 17.12(h) by adding the following, in alphabetical order under the family Euphorbiaceae, to the List of Endangered and Threatened Plants:

§ 17.12 Endangered and threatened plants.

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(h) * * *

Species	Historic range	Status	When listed	Critical habitat	Special rules
Scientific name	Common name				
Euphorbiaceae—Spurge family:					
<i>Jatropha costaricensis</i>	Costa Rican jatropha.....	Costa Rica.....	E.....	154.....	N/A..... N/A.....

Dated: July 13, 1984.
G. Ray Arnett,
Assistant Secretary for Fish and Wildlife and Parks.