

CANDIDATE ASSESSMENT AND LISTING PRIORITY ASSIGNMENT FORM

SCIENTIFIC NAME: *Pediocactus peeblesianus* var. *fickeiseniae*

COMMON NAME: Fickeisen plains cactus

LEAD REGION: Region 2

INFORMATION CURRENT AS OF: January 21, 2003

STATUS/ACTION (Check all that apply):

New candidate

Continuing candidate

Non-petitioned

Petitioned - Date petition received: \_\_\_\_

90-day positive - FR date: \_\_\_\_

12-month warranted but precluded - FR date: \_\_\_\_

Is the petition requesting a reclassification of a listed species?

Listing priority change

Former LP: \_\_\_\_

New LP: \_\_\_\_

Latest date species first became a Candidate: \_\_\_\_\_

Candidate removal: Former LP: \_\_\_\_ (Check only one reason)

A - Taxon more abundant or widespread than previously believed or not subject to a degree of threats sufficient to warrant issuance of a proposed listing or continuance of candidate status.

F - Range is no longer a U.S. territory.

M - Taxon mistakenly included in past notice of review.

N - Taxon may not meet the Act's definition of a species. @

X - Taxon believed to be extinct.

ANIMAL/PLANT GROUP AND FAMILY: Plant, Cactaceae

HISTORICAL STATES/TERRITORIES/COUNTRIES OF OCCURRENCE: Arizona

CURRENT STATES/COUNTIES/TERRITORIES/COUNTRIES OF OCCURRENCE: Pima and Pinal Counties, Arizona

LEAD REGION CONTACT (Name, phone number): Susan Jacobsen (505-248-6641)

LEAD FIELD OFFICE CONTACT (Office, name, phone number): Arizona Ecological Services Field Office, Flagstaff, William Austin, (928) 226-0714

BIOLOGICAL INFORMATION (Describe habitat, historic vs. current range, historic vs. current

population estimates (# populations, #individuals/population), etc.):

This small cactus grows on exposed layers of Kaibab limestone on canyon margins and well-drained hills in Navajoan desert or grasslands from the Gray Mountain vicinity to the Arizona Strip in Coconino and Mohave counties (U.S. Fish and Wildlife Service 1992). The Arizona Game and Fish Department in 1998 noted 23 element occurrences for this cactus including historical ones. Accurate counts on population sizes are unavailable; in surveying plots during demographic monitoring, individual plants in a population are not counted. Accurate counts are also a problem, because in times of drought, this plant has a tendency to disappear by shrinking into the ground.

THREATS (Describe threats in terms of the five factors in section 4 of the ESA providing specific, substantive information. **If this is a removal of a species from candidate status or a change in listing priority, explain reasons for change**):

A. The present or threatened destruction, modification, or curtailment of its habitat or range.

The major potential human induced threats to this cactus are off-road vehicles and trampling associated with livestock grazing. Trampling has been observed in monitoring plots established for this species (Hughes 1996). Vehicular traffic driving across drylands impacts this cactus. This occurs from mining and recreational activities. Although uranium mining is not a threat today, uranium mining booms in the past have impacted this species and could in the future. Of greater concern is that the sites where this cactus occur are located adjacent to scenic canyon overlook areas. This makes impacts from recreational hiking and vehicular traffic a constant threat. Both Mainstreet Road and the Mount Trumbull Road pass next to known populations, so it is likely that road construction has disturbed some historical populations. Mortality data demonstrate some disturbances from trampling by livestock. It is also possible that habitat of the cactus may be modified by livestock grazing.

B. Overutilization for commercial, recreational, scientific, or educational purposes.

Illegal collection is a potential threat for all species of cacti, but is a specific and definite threat for the genus *Pediocactus*. One population was noted in a 1978 file note as being seriously reduced. Patrol of these areas is infrequent, because they are in very remote locations.

C. Disease or predation.

Predation by rodents is a source of mortality for this cactus. Whether the occasional high numbers of cacti eaten by rodents and other herbivores result solely from drought, or from livestock grazing of other plants needed by other herbivores during drought, is unknown (Hughes 1996).

D. The inadequacy of existing regulatory mechanisms.

This cactus is protected from collection by the Arizona Native Plant Law (Arizona Game and Fish Department 1999) and the Convention on International Trade in Endangered

Species of Wild Fauna and Flora (CITES); however, CITES does not regulate take or domestic trade. The Arizona law prohibits collection of members of the genus *Pediocactus* in particular and all members of the family Cactaceae (Phillips et al. 1982).

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

This cactus is a narrow endemic restricted to Kaibab limestone derived soils. It consists of distinct clusters of populations that are often isolated by long distances (Hughes undated). Because of its rare and disjunct occurrence, the cactus is vulnerable to depopulation by damage to areas where it occurs. The plant seems to have a low reproductive capacity (low seed production), so rapid increase in numbers does not occur even after favorable weather. Moderate increase in numbers may occur two to three times every ten years. Given its small population, low reproductive potential, and environment, it is likely that this plant will always be rare.

BRIEF SUMMARY OF REASONS FOR REMOVAL OR LISTING PRIORITY CHANGE: N/A

FOR RECYCLED PETITIONS: N/A

- a. Is listing still warranted?
- b. To date, has publication of a proposal to list been precluded by other higher priority listing actions?
- c. Is a proposal to list the species as threatened or endangered in preparation?
- d. If the answer to c. above is no, provide an explanation of why the action is still precluded.

LAND OWNERSHIP (Estimate proportion Federal/state/local government/private, identify non-private owners): This plains cactus occurs on lands managed by the Bureau of Land Management (BLM), the Navajo Nation, the Arizona State Land Department, possibly the U.S. Forest Service, and possibly on private land.

PRELISTING (Describe status of conservation agreements or other conservation activities): A conservation agreement continues to be under consideration in cooperation with the BLM. However, the proposed conservation strategy and agreement is in need of additional development. At this point, the conservation agreement as proposed has not included landowners beyond BLM.

REFERENCES (Identify primary sources of information (e.g., status reports, petitions, journal publications, unpublished data from species experts) using formal citation format):

Arizona Game and Fish Department. 1999. *Pediocactus peeblesianus* var. *fickeiseniae*. Unpublished abstract compiled and edited by the Heritage Data Management System, Arizona Game and Fish Department, Phoenix, Arizona. 4 p.

Hughes, L. 1996. History, observations and monitoring of *Pediocactus peeblesianus* var. *fickeiseniae* on the Arizona Strip. *Desert Plants* 12:15-22.

Hughes, L.E. Undated. Status report of *Pediocactus peeblesianus* var. *fickeiseniae* on the Arizona Strip District. Bureau of Land Management, St. George. 24 p.

Phillips, A.M. III, B.G. Phillips, L.T. Green III, J Mazzoni, and N. Brian. 1982. Status report:  
*Pediocactus peeblesianus* var. *fickeiseniae* L. Benson. Museum Of Northern Arizona, Flagstaff.  
13 p.

U.S. Fish and Wildlife Service. 1992. Handbook of Arizona's Endangered, Threatened and  
Candidate Plants. U. S. Fish and Wildlife Service, Arizona Ecological Services State Office,  
Phoenix, Arizona.

LISTING PRIORITY (place \* after number)

THREAT
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Magnitude	Immediacy	Taxonomy	Priority
High	Imminent	Monotypic genus	1
		Species	2
		Subspecies/population	3
	Non-imminent	Monotypic genus	4
		Species	5
		Subspecies/population	6 *
Moderate to Low	Imminent	Monotypic genus	7
		Species	8
		Subspecies/population	9
	Non-imminent	Monotypic genus	10
		Species	11
		Subspecies/population	12

**Rationale for listing priority number:**

*Magnitude:* The primary threats appear to be due to livestock grazing and off-road vehicle use. Trampling by livestock has been shown to affect this species. Off-road vehicle use and associated activities have occurred in the habitat of the species. Both of these activities continue to occur in the habitat of this rare species.

*Imminence:* It is not yet known what other impacts livestock grazing may have on the species. It is possible that the activity affects the habitat of the cactus as well as resulting in direct injury and death through trampling.

APPROVAL/CONCURRENCE: Lead Regions must obtain written concurrence from all other Regions within the range of the species before recommending changes to the candidate list, including listing priority changes; the Regional Director must approve all such recommendations. The Director must concur on all additions of species to the candidate list, removal of candidates, and listing priority changes.

Approve: Tom Bauer \_\_\_\_\_ March 14,  
Acting Regional Director, Fish and Wildlife Service 2003  
Date

Concur: \_\_\_\_\_  
Director, Fish and Wildlife Service Date

Do not concur: \_\_\_\_\_  
Director, Fish and Wildlife Service Date

Director's Remarks: \_\_\_\_\_  
\_\_\_\_\_

Date of annual review: Feb. 2003 \_\_\_\_\_

Conducted by: William Austin \_\_\_\_\_

Comments: \_\_\_\_\_  
\_\_\_\_\_