## **Pima pineapple cactus (*Coryphantha scheeri var. robustispina*)**

Status

Endangered (58 FR 49875; September 23, 1993) without critical habitat.

Species Summary Table

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|  | Breeding |
| Adult |
| Habitat | Alluvial basins and hillsides in semi-desert grasslands, desert scrub and the transition area between the two. Often found on flat ridgetops and areas with <10-15% slopes |
| Soil Type | Highly variable - shallow to deep and silty to rocky |
| Cover | Open |
| Lighting | Full |
| Water | Drought Tolerant |
| Tolerance of disturbed conditions | Often found in disturbed conditions; can be destroyed by physical disturbance |
| Sensitivity to herbicides | Very sensitive to soil active herbicide |
| Pollinators | Native bees and honeybees; not self-pollinating |
| Dispersal | Reseeds close to mother plant and dispersed by animals eating fruits. |
| Seasonal Activity | Flowers early July until August  |

Life History

*Species Description and Ecology*

The Pima pineapple cactus (PPC) is a hemispherical cactus up to 18 inches tall and 7 inches in diameter. The spines appear in clusters that are situated on tubercles, with one strong central spine that is usually hooked, and 6-15 straight radial spines. The spines are very stout, and are often straw colored, but can become black with age. The plants can be single-stemmed, multi-headed, or can appear in clusters that are formed when seeds germinate at the base of a mother plant, or when a tubercle of the mother plant roots. PPC are similar in appearance to juvenile barrel cactus (*Ferocactus*); however, the spines and areoles of the PPC are located on the tubercules, rather than ribs (AGFD 2001).

*Reproduction*

The cactus typically flowers in early July until August, and is onset with summer rains. Flowers are yellow, salmon, or occasionally white in color with a relatively narrow floral tube. The PPC is not a self-pollinating plant. Its primary pollinator is a ground nesting, solitary native bee with honeybees also acting as a likely pollinator. Fruits are green, ellipsoid, and succulent (AGFD 2001, USFWS 1993; USFWS 2007). Propagation occurs through seed dispersal and germination or from the rooting of tubercles on the mother plant. Seeds typically establish near the base of the mother plant, and seeds are dispersed by rabbits and rodents (ECOS 2017).

*Suitable Habitat*

PPC can be found in Semidesert grassland and Sonoran desertscrub from 2,300 to 5,000 feet in elevation (AGFD 2001). Most commonly, PPC occur in open areas on flat ridgetops or other areas with less than 10–15 percent slope. Soils range from shallow to deep and silty to rocky, with a preference for silty to gravelly deep alluvial soils (USFWS 1993). Associated plant species include white-thorn acacia (*Acacia constricta),* velvet mesquite (*Prosopis velutina),* triangle-leaf bursage (*Ambrosia deltoidea*), snakeweed (*Gutierrezia microcephala*), and various other cacti and grasses (AGFD 2001).

Threats

Residential and commercial development, road construction and maintenance, and utility corridor construction associated with a rapidly growing human population in southern Arizona continues to be the most significant threat to PPC causing habitat loss and fragmentation throughout the species range. Invasive grass species, such as Lehman's lovegrass and bufflegrass, are also a threat to the existence of PPC by converting previously suitable, open habitats into dense stands of grasses (USFWS 2007). Though, treatment of these invasive grasses also poses a problem for PPC if present within this converted habitat. Herbicides that are directly applied to PPC could result in injury or mortality.

Range and Survey History

In Arizona, PPC may be found between the Baboquivari Mountains and the western foothills of the Santa Rita Mountains from southern Tucson south to the US/Mexico border. PPC are usually sparsely distributed within its habitat. Population density estimates vary between 0.22 and 0.54 plants per acre within suitable habitat (USFWS 1993).

Include information in this section to establish an environmental baseline (i.e. survey data, local status, etc) for PPC within your projects vicinity. The following references and resources may assist in establishing an environmental baseline. Always obtain permission from the ADOT biologist prior to contacting outside agencies about an ADOT project.

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| Arizona Sonoran Desert Museum |
| Mark Fleming | Curator of Botany | 520.833.3069 | mfleming@desertmuseum.org |
| John Wiens | Nursery Horticulturist | 520.833.3010 | jwiens@desertmuseum.org |

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| US Fish and Wildlife Service |
| Julie Crawford | Species Lead |  | Julie\_Crawford@fws.gov |

Additional Resources

* Pima County Geographic Information System for PPC habitat areas

<http://gis.pima.gov/data/contents/>

* SEINet data portal or other herbarium record source

Notes: 1Consultants are NOT to discuss potential effect findings with outside agencies.

2Red text is to be removed prior to placing this evaluation into a Biological Evaluation.

References

Arizona Game and Fish Department. 2001. Coryphantha scheeri var. robustispina. Unpublished abstract compiled and edited by the Heritage Data Management System, Arizona Game and Fish Department,Phoenix, AZ. 4 pp.

Environmental Conservation Online System (ECOS). Accessed April 20, 2017. Species Profile for Pima Pineapple Cactus (Coryphantha scheeri var. robustispina).
< <https://ecos.fws.gov/ecp0/profile/speciesProfile?sId=4919>>

U.S. Fish and Wildlife Service. 1993. Endangered and Threatened Wildlife and Plants; Determination of Endangered Status for the Plant Pima Pineapple Cactus (*Coryphantha scheeri var. robustispina*); Final Rule Federal Register 58(183):49875-49880.

\_\_\_\_\_. 2007. Pima pineapple cactus (*Coryphantha scheeri* var. *robustispina*)*.* 5-year Review. February 8, 2007.