



Questions and Answers: Gentry Indigo Bush Not Warranted for Endangered Species Act Protection

Arizona Ecological Services Field Office <http://arizonaes.fws.gov>

Question 1: What is the Gentry indigo bush?

Answer: The Gentry indigo bush (*Dalea tentaculoides*) occurs in a few isolated canyons in southeastern Arizona and northwest Sonora, Mexico. It is an erect perennial shrub of the pea family that grows up to 3 feet tall. It flowers in rose-purple clusters in spring and may produce a second set of flowers following monsoon rains in late summer and fall. Plants are usually found on floodplain terraces within isolated canyons and are adapted to the periodic, low-intensity flooding that frequents confined canyons.

Question 2: Why was the Fish and Wildlife Service considering adding the Gentry indigo bush to the list of plants protected under the Endangered Species Act?

Answer: On January 7, 2002, the Service received a petition requesting to list the Gentry indigo bush as an endangered species, and to designate critical habitat concurrently with the listing. In a Stipulated Settlement Agreement, signed June 14, 2004, the Service agreed to find whether listing the species is warranted by September 15, 2005 [*Center for Biological Diversity v. Norton*, CV 03-473-TUC-FRZ (D. Az)]. On February 2, 2005, the petition to list the Gentry indigo bush under the Endangered Species Act (ESA) was found to provide sufficient information to warrant further investigation and additional, current information was sought on the plant's status and threats. Information resulting from that request led to the current finding.

Question 3: What are the known threats to the Gentry indigo bush?

Answer: The combination of small population size, reduced reproductive potential, and population isolation are threats to the species. Additional threats include plant community changes, altered fire regimes, and increased erosion and flood-flows resulting from past activities that may have degraded watershed conditions. Sycamore Canyon, the site of an Arizona population, is designated as a Natural Research Area where grazing is not permitted; however undocumented alien and drug smuggler traffic likely degrade Gentry indigo bush habitat there. It is unknown if these threats apply to populations in Mexico.

Question 4: If the Gentry indigo bush is facing threats, why was it not added to the list of plants protected under the Endangered Species Act (ESA)?

Answer: The Service concluded that the Gentry indigo bush does not warrant listing. In order to find that the species needs protection under the ESA, it must, at a minimum, meet the definition of a threatened species. A threatened species is one that is likely to become endangered within the foreseeable future throughout all or a significant portion of its range. Based on all the information gathered and reviewed, this is not the case. Populations have persisted in their known locations. Additionally, a new population was

located in Mexico and offers hope that there may be more populations located elsewhere through additional surveying. There is also evidence to suggest that areas that were previously overlooked as suitable habitat may support Gentry indigo bush. If this proves to be true, then plants may not be as affected by flood events as previously thought. There are ongoing threats, but none of them have caused a permanent decline in the species' overall numbers. The Service will, hopefully, have the opportunity to work cooperatively with the Tohono O'odham Nation to census their populations and address livestock management concerns, if any. The threats of flooding and watershed degradation apply to all populations, but it is unlikely that all populations would be affected simultaneously. Also these populations have, in the past, persisted over time in the face of these potential threats. The known threats are not causing Gentry indigo bush to decline to the point where it is threatened across its range. The population in Sycamore Canyon, west of Nogales, Arizona, has persisted through some dramatic environmental events resulting from watershed condition and flooding and will likely do so again. Other factors discussed in the finding are potential threats, and are not immediate in terms of threatening the species. Continued monitoring, additional survey work, and genetic work should be initiated to allow us to update the conservation status of this species.

While it is true that all the populations have the potential to be affected by the threats addressed in the finding, it is unlikely that the threats would affect all the populations simultaneously. The populations, based on observations of the Sycamore Canyon population, have the ability to recover. Seedlings and plants have also resprouted, alleviating concern regarding the plant's ability to reproduce and recover from flood events and sediment deposition.

Question 5: What new information was found that contributed to the Services finding?

Answer: The continued existence of the Gentry indigo bush population on the Tohono O'odham Nation was confirmed. The population in the Sycamore Canyon bottom that had severely declined during a flood in 1993 is being repopulated by seeds and resprouts, demonstrating that subpopulations can be rejuvenated following flood events. Suitable habitat may exist outside the floodplain – this observation may increase the known area in which Gentry indigo bush can occur and additional work is necessary to confirm if suitable habitat was overlooked in previous survey efforts. There is no indication of immediate decline in two populations in Mexico and an additional third population was recently discovered in Mexico.

Question 6: What is the current status of Gentry indigo bush?

Answer: The Gentry indigo bush population that occurs in Sycamore Canyon and tributary Peñasco Canyon is estimated to be between 450 and 925 plants and has rebounded from losses resulting from the 1993 flood. Plants are also known from the Tohono O'odham Nation, but the Service does not have information on the population size. The Mendoza Canyon population is presumed to be extirpated. In Mexico, there are currently about 400 plants in three known populations – Sierra El Humo, Huásabas, and a newly found population in the Sierra de La Madera.

Question 7: Will the Service continue to monitor the status of the Gentry indigo bush?

Answer: Yes. The Service requests that any new information for this species concerning status and threats, be submitted whenever it becomes available. This information will help in monitoring and will encourage the conservation of this species.

Question 8: Are there other protections in place for the Gentry indigo bush?

Answer: The largest known population in the U.S. is in Sycamore Canyon, on lands managed by the Forest Service. The population is located within a Research Natural Area (RNA) and protected from livestock grazing and other activities. Parts of Sycamore Canyon are designated critical habitat for the Sonora chub, and some previous conservation actions have protected habitat for this species. Populations that may be present on the Tohono O'odham are not protected by any regulation of which the Service is aware. Mexican populations have no protection. The Arizona Native Plant Law (State of Arizona) does consider this species as highly safeguarded (which means a permit is required from the Arizona Department of Agriculture to salvage the plant), but provides no further protection for the species and its habitat.