

# California Native Plant Society

October 5, 2003

Mr. Jim Bartel, Field Supervisor  
Carlsbad Fish and Wildlife Office  
U.S. Fish and Wildlife Service  
6010 Hidden Valley Road.  
Carlsbad, CA 92009

RE: Comments on Proposed Designation of Critical Habitat for *Astragalus magdalenae* var. *peirsonii* (Peirson's milkvetch)

Dear Mr. Bartel:

The California Native Plant Society (CNPS) is a non-profit organization of more than 10,000 laypersons and professional botanists organized into 32 chapters throughout California. The mission of the California Native Plant Society is to increase understanding and appreciation of California's native plants and to conserve them and their natural habitats, through education, science, advocacy, horticulture and land stewardship. Our members and chapters work closely with the U.S. Fish and Wildlife Service (USFWS) and other State and Federal agencies to manage and conserve rare and common botanical resources in California.

CNPS has reviewed the rule proposing to designate critical habitat for *Astragalus magdalenae* var. *peirsonii* (Peirson's milkvetch). CNPS generally supports the proposed critical habitat, because it is based on the best available science, and has integrated the available data to determine the habitat that is critical for the species survival. Our primary concerns about the proposed critical habitat is fragmentation between Critical Habitat units, lack of connectivity and lack of recovery opportunity as discussed below:

## Fragmentation/Connectivity:

An accepted tenet of conservation biology is to minimize fragmentation and maximize connectivity. With the fragmented design of the critical habitat (especially units C and D), the proposed rule has not applied either 1) the legal direction in the FESA mandating promotion of species recovery or 2) basic scientific understanding of requirements for effective species conservation to the intervening spaces between the habitat units. Connectivity among occurrences, minimization or avoidance of fragmentation, and maximization of reserve size are all fundamental principles of basic reserve design (e.g. Jensen, 1987; Meffe and Carroll, 1994, Schemske et al. 1994). One of the most widely used primers on habitat conservation planning presents several "principles of species composition and reserve design" (Noss et al., p. 92-105). All of the principles underscore the need for reserves to emphasize connectivity among populations of focal species, conservation of large blocks of connected and intact habitat, and minimization of habitat fragmentation. For example principle 4 states that,

*"[h]abitat in contiguous blocks is better than fragmented habitat" (p. 99),*

and principle 5 states that

*"[i]nterconnected blocks of habitat are better than isolated blocks" (p. 102)*



*Dedicated to the preservation of California native flora*

In father support for these principles, Baur and Erhardt (1995) found reduced fecundity among herbaceous plant species occurring in fragmented patches. Interactions between plants and pollinators were also modified by fragmentation, helping to explain the reduced fecundity, and potentially affecting genetic diversity as well.

CNPS agrees with the fact that the proposed Critical Habitat recognizes that occupied habitat can support *A.m. var. peirsonii* in a variety of life stages (seed bank, seedlings, root crowns or mature plants) based on survey results (Romspert and Burk 1979, Willoughby 2000 and 2001, Thomas Olsen and Associates 2001 and that the “intervening areas” are also essential to the conservation of the species because they contain the primary constituent elements. Our concern is that the Critical Habitat units do not have any connectivity between them. Corridors for connectivity are necessary to provide opportunities for dispersal of propagules and pollinators (Haddad 1999). Townsend and Levey (2002) found that fragmentation effects are diminished if fragments are joined by a corridor connecting two or more fragments. Their study conducted on insect-pollinated plants showed a statistically significant increase in successful pollen transfer between fragments when those fragments were connected by corridors versus when they were not connected by corridors. This important information is relevant to *A.m. var. peirsonii*, which is also insect-pollinated. As proposed, the Critical Habitat units are separated by a minimum of a mile (Page 46160), and in the south, the units are separated by 2-3 miles. Decreasing fragmentation by including corridors as part of the Critical Habitat is essential both to species conservation, and, as importantly, to its recovery. Recovery is the fundamental purpose of the FESA (see discussion below).

Furthermore, Thomas Olsen and Associates’ work suggests the northern portion of critical habitat is not responding to rainfall the same as the southern portion of the species habitat making its preservation even more important to the species. For whatever reasons, the potential, as well as the expression, of population levels of Peirson’s milkvetch in the Gecko Road-Glamis area is significantly lower than in the southern dunes. This finding has manifested three times in studies: 2001 censuses, 2001-02 seed bank counts, and 2003 seedling inventories.

Remote weather station information from October 2000 suggested that the amount of precipitation falling in the southern portion of the dunes might have been significantly more than the amount received in the Gecko Road area. Numbers of plants recorded at sites south of the large closure and in the Buttercup area were an order of magnitude greater than the counts from the Gecko Road area. Rates of survival through the next two growing seasons were similar in all three areas. In the winter of 2002-03 (particularly late February), precipitation at Cahuilla Ranger Station on Gecko Road was approximately double that recorded at Buttercup, south of I-8. The number of seedlings at Gecko Road sites, however, compared with southern sites were proportional to the 2001 censuses in the two areas.

The proposed rule recognizes that numbers and locations of individuals of *A.m. var. peirsonii* fluctuate and shift from year to year in response to environmental conditions. The above referenced primer by Noss and colleagues (1997) calls attention (Noss et al., p. 103-4) to the special conservation needs of species whose numbers fluctuate. They conclude that such species require an even more conservative approach to the design and implementation of conservation plans than species whose numbers are more stable. In other words, larger and better-connected reserves are required for such species.

Additionally, another recent approach to identifying the size of plant conservation areas takes into consideration multiple variables including life strategy, disturbance probability, potential habitat, population size, recovery from disturbance, habitat suitability, predation, and competition (Burgman et al. 2001). These types of factors are all critical components when establishing critical habitat needs for species and should be addressed in the final Critical Habitat proposal.

Recovery:

According to Section 3 of the FESA,

*“(5)(A) The term “critical habitat” for a threatened or endangered species means--*

*(i) the specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the provisions of section 4 of this Act, on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection; and*

*(ii) specific areas outside the geographical area occupied by the species at the time it is listed in accordance with the provisions of section 4 of this Act, upon a determination by the Secretary that such areas are essential for the conservation of the species.”*

“Conservation” is defined in FESA Section 3 as

*“(3) The terms “conserve”, “conserving”, and “conservation” mean to use and the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this Act are no longer necessary. Such methods and procedures include, but are not limited to, all activities associated with scientific resources management such as research, census, law enforcement, habitat acquisition and maintenance, propagation, live trapping, and transplantation, and, in the extraordinary case where population pressures within a given ecosystem cannot be otherwise relieved, may include regulated taking.”*

It is clear that the purpose of critical habitat designation is to facilitate recovery of listed species, not merely to ensure the survival of individuals or occurrences within a fragmented and disturbed landscape of unsuitable or destroyed habitat.

These views of the value of critical habitat are supported by case law. In a recent case the 5<sup>th</sup> U.S. circuit court of appeals required critical habitat to be designated because the requirements to designate critical habitat and to consult on federal actions that affect critical habitat are aimed not only at preventing extinction (i.e. jeopardy), but also at promoting recovery of the listed species (Sierra Club v. U.S. Fish & Wildlife Service, 2001 U.S. App. LEXIS 3936 (5<sup>th</sup> Cir. 2001)). Other cases have stressed the requirement for separate consultation regarding adverse modification and jeopardy (e.g. Greenpeace et al. vs. National Marine Fisheries Service et al., 55 F.Supp.2d 1248 July 13, 1999).

While the proposed critical habitat recognizes that significant impacts from OHV use on *A.m. var. peirsonii* have been observed at and near the OHV staging areas (page

46145) this type of activity does not preclude the area from providing potential habitat for the species. The dynamics of sand/wind in areas occupied by *A.m. var. peirsonii* causes the dune landscape to change significantly, including OHV staging areas and disturbed areas. To exclude these types of human-maintained areas from Critical Habitat designation (page 46151), because they do not contain primary constituent elements currently reduces chances for recovery of the species

By providing connectivity between the Critical Habitat units in the final designation, fragmentation would be reduced, and areas for recovery created. The CNPS strongly urges the U.S. Fish and Wildlife Service to continue incorporating the best available science and include these most important areas.

While we commend the U.S. Fish and Wildlife Service for the proposed rule, we appreciate the opportunity to present these comments and we specifically ask that these principles of providing connectivity between Critical Habitat units be re-evaluated before the finalization and publication of the proposed rule. We look forward to the opportunity to continue to work with the US Fish and Wildlife Service in the conservation of these taxa and the rest of California's botanical resources.

Sincerely,

Ileene Anderson  
Southern California Regional Botanist  
California Native Plant Society

cc: CNPS State Office  
David Chipping, CNPS Conservation Director

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