

California Native Plant Society

And

Center for Biological Diversity

February 14, 2005

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 lentiginosus* var. *coachellae* (Coachella Valley 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. The Center for Biological Diversity (CBD) is a non-profit organization with over 11,000 members in CA and across the nation, dedicated to protecting endangered species and wild places through science, policy, education, and environmental law.

The CNPS and CBD have reviewed the rule proposing to designate critical habitat for *Astragalus lentiginosus* var. *coachellae* (*Coachella Valley Milkvetch*). We offer the following comments in two categories 1) general document comments and 2) Critical Habitat subunit specific comments:

General Comments:

The document fails to cite any scientific reason why all of the Essential Habitat is not designated as Critical Habitat. The Primary Constituent Elements point to the necessity of conserving the fluvial and Aeolian processes, yet they are not included in the proposed designation. We request that they be included as part of the final Critical Habitat Designation.

The proposed Critical Habitat Units include only one (Element Occurrence [EO] 10) of twenty-six locations of *Astragalus lentiginosus* var. *coachellae* as documented by the California Natural Diversity Data (2004). This leaves twenty-



Dedicated to the preservation of California native flora

five (96%) of known occurrences without Critical Habitat. Some *appear* to occur within the Essential Habitat, however we could not verify this because the Universal Trans Mercator (UTM) units are not provided in the proposal. This situation clearly calls for the designation of Essential Habitat as Critical Habitat, and therefore would include many of the known occurrences within Critical Habitat. Therefore, our above request of including all Essential Habitat as Critical Habitat is clearly necessary.

The document fails to designate Critical Habitat for any of the locations north of Desert Center along Highway 177. These locations represent important peripheral populations (Lesica and Allendorf 1995). Other peripheral populations have also not been included, such as EO 28, 24, 25 that are the most northerly occurrences, and the occurrences in the southern part of the Coachella Valley (EO16, 18 and 21). We request that Critical Habitat be included for these locations, including the sand sources and Aeolian processes upon which the plants depend.

While we recognize that *Astragalus lentiginosus* var. *coachellae* 's habitat is partially fragmented, we remain concerned about fragmentation between Critical/Essential 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 Critical Habitat under this proposal, 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)

In further 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.

Our concern is that the Critical Habitat units and even the Essential Habitat do not have any connectivity between them. Corridors for connectivity are necessary to provide opportunities for dispersal of propagules and pollinators (Haddad 1999). Isolated populations will lose genetic variation, and therein the ability to adapt to inevitable environmental variation (Noss et al 1997). Coupled with that is the toll that inbreeding takes: reduction in survivorship, fecundity and longevity (Noss et al 1997). 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 *Astragalus lentiginosus* var. *coachellae*, whose pollinators appear to be unknown, as their pollination biology is not even mentioned in the proposal. As proposed, the Critical/Essential Habitat units are typically separated often by miles. We recognize that the Essential Habitat brings the units in closer context, and therefore request that by including all of the Essential Habitat as Critical Habitat, it will help to guarantee that connectivity will remain. Minimizing 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).

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. The CNPS proposed using this methodology to identify adequate plant conservation areas repeatedly for Critical Habitat designations, and Habitat Conservation Plans (HCP's), but this scientifically based methodology has yet to be considered, much less implemented. We request that this approach be incorporated into the final designation.

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. This is the goal of our groups, too - to assure adequate areas of protected landscapes to get rare species numbers high enough to remove them from the ESA list whenever possible, as well as proactive prevention of future species from needing ESA protection. As proposed the Critical/Essential Habitat does not include all of the known extant occurrences of *Astragalus lentiginosus var. coachellae*, and therefore, we contend, limits the opportunity for recovery. Even when the Essential Habitat is included in the critical habitat designation, it may not be adequate to ensure the long term survival of the species, much less its recovery. Critical habitat designations should provide species the opportunity for genetic exchange, migration in response to climate change or recruitment events, and other adaptations over time. Designation of unoccupied suitable habitat is essential to giving species a chance to recover and thus is one of the most important benefits offered by critical habitat.

Lastly, the document does not clearly identify that Critical Habitat designation means nothing on non-federal lands absent a federal nexus. Therefore, its designation on tribal, private, state and other lands is essentially meaningless unless those entities proceed with a project that is federally funded or regulated.

Document specific comments:

Page 74469: Designation of Critical Habitat Provides Little Additional Protection to Species. While the proposed rule indicates that “the designation of critical habitat provides little additional protection to most listed species...”, actual data show otherwise. Research by Cornell University, using FWS's own data, shows that species with designated critical habitat are less likely to be declining, and twice as likely to be recovering, than species without critical habitat. see: <http://www.biologicaldiversity.org/swcbd/programs/policy/ch/CHSEER9-2003.pdf>. Scientifically based Critical Habitat is therefore essential for protecting rare species, because it works.

Page 74472: Primary Constituent Elements (PCE's). While we see value in the five PCE's as proposed, we also request that a sixth PCE be included. The sixth PCE is – extant locations of *A. lentiginosus var. coachellae*. While we have previously stressed the importance of unoccupied habitat to species recovery, the basic fact is without propagules (seeds in this case), the Critical/Essential Habitat will never allow for species recovery if plants are not able to get to it and colonize it, no matter how high quality of habitat it is. Clearly the failure to include extant populations of *A. lentiginosus var. coachellae* is an oversight. To dismiss 96% of the known occurrences from the designation of Critical Habitat is untenable and capricious at best.

Page 74473: **Criteria Used to Identify Critical Habitat.** 2nd column, 2nd paragraph. The document fails to explain the reason why the major channels that support the fluvial systems that the PCE's identify as being crucial to *A. lentiginosus var. coachellae* are not proposed for Critical Habitat at this time. We request that they be included.

Page 74473: **Criteria Used to Identify Critical Habitat.** 3rd column, 1st complete paragraph. With regards to the suitable habitat outside of the preferred alternative reserve design for the draft Coachella Valley MSHCP, we have three comments. First, the failure to designate Critical Habitat outside these areas is not based on the best available science because it fails to include important peripheral extant populations (see above comments). Secondly, the draft Coachella Valley MSHCP is just that – a draft document still out for public comment until March 7, 2005. There is no guarantee that the boundaries of the conservation areas and conservation strategies will remain the same in the final document. We contend that reliance on Essential Habitat instead of including it in the Critical Habitat designation is speculative at this time. Lastly, while the MSHCP, when final, is proposed to remain in place for years, the reality is that a failure of compliance with the document will be in violation of the Biological Opinion on the document, and therefore, the permit would be “pulled”. Absent a

science based, Critical Habitat, including “Essential Habitat”, *A. lentiginosus var. coachellae* would continue to decline as it has since being listed in 1998.

Page 74474. First column, first complete paragraph. The inclusion of a pre-decisional document (the Coachella Valley MSHCP) is clearly inappropriate in this designation. The Critical Habitat needs to include all of the drainages that provide the sand source, fluvial and Aeolian processes upon which *A. lentiginosus var. coachellae* depends, regardless of the ecologically arbitrary boundaries of plans.

Page 74474. Third column, second complete paragraph. Development of wind energy, pipelines, water treatment facilities, flood control (levees), trash dumping and fire are also documented threats to the species and its habitat (CNDDDB 2004).

Page 74474 Table 1. We request that all Essential Habitat be included in the Final Critical Habitat Designation, because technically the Coachella Valley MSHCP is a draft document out for public review. Therefore relying on proposed conservation of the Essential Habitat is pre-decisional.

Page 74478 **Relationship of Critical Habitat to the Pending Coachella Valley Multiple Species Habitat Conservation Plan (MSHCP)**. While we recognize the potential benefits to *A. lentiginosus var. coachellae* from the MSHCP, as stated previously, it is currently a draft document, and therefore we contend its inclusion in this Critical Habitat proposal is pre-decisional at best. Additionally, as stated before, the MSHCP must be complied with, in order to retain permits. In the case of permit withdrawal, you must now fully comply with the Endangered Species Act, and designate final Critical Habitat to include all of the areas as identified by the PCE’s, regardless of future jurisdictional issues and plans.

Page 74479. (2) *Benefits of Exclusion*. While we read your *political* reasons excluding lands within the MSHCP’s reserve design, no mention is made of any scientific reasons for not including the designation within the boundaries of the Habitat Conservation Plans. Therefore, we request that you include all of the necessary PCE-determined areas in the final Critical Habitat designation.

Page 74479 (3) *The Benefits of Exclusion Outweigh the Benefits of Inclusion*. The document fails to provide a science-based cost/benefit analysis of Critical Habitat. This section needs some significant science-based documentation to support its conclusions. In the absence of scientific documentation, we contend the conclusions are political, not science-based.

Page 74480 – Possible Additions. We support all of these “additions” because they all meet the PCE’s. In fact, additional areas may be necessary to ensure sand sources and Aeolian processes remain in tact.

Page 74485. Critical Habitat Unit 1 as proposed does not include EO 12, 9, 13, 15, 27, 8, 26, 23 or 1, even though these are adjacent to parts of Unit 1.

Page 74487. Critical Habitat Unit 2 as proposed does not include EO 14, 2, 3, 4, 5 and 6. Also one “part” of this Critical Habitat Unit is identically redundant with one “part” of Critical Habitat Unit 1 as follows: 11S,545300,3748500, 11S,545500,3748500, 11S,545500,3748400, 11S,545600,3748400, 11S,545600,3748300, 11S,545700,3748300, 11S,545700,3748200, 11S,545800,3748200, 11S,545800,3748000, 11S,545300,3748000.

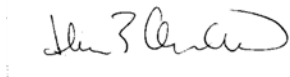
Page 74489. Critical Habitat Unit 3 as proposed does not include EO 17.

In summary, we request that all extant occurrences of *A. lentiginosus var. coachellae* be included in the designation of Critical Habitat despite their jurisdictions. Additionally, we request that all Essential Habitat also be included as Critical Habitat. Lastly, we request that all areas regardless of jurisdictions be included that provide the PCE’s. A more comprehensive Critical Habitat designation will help to recover *Astragalus lentiginosus var. coachellae*.

We look forward to the opportunities to continue to work with the US Fish and Wildlife Service in the conservation of this species and the rest of California’s botanical resources.

Thank you for the opportunity to submit these comments.

Sincerely,



Ileene Anderson
Southern California Regional Botanist
California Native Plant Society

/s/

Daniel Patterson
Desert Ecologist
Center for Biological Diversity

cc: CNPS State Office
David Chipping, CNPS Conservation Director
Riverside- San Bernardino Chapter – CNPS
CDFG

References

Baur, B. and A. Erhardt. 1995. Habitat Fragmentation and Habitat Alterations: Principal Threats to Most Animal and Plant Species. *GAIA* 4: 221-226.

Burgman, M.A., H.P. Possingham, A. Jasmyn, J. Lynch, D.A. Keith, M.A. McCarthy, S. D. Hopper, W. L. Drury, J.A. Passioura and R.J. Devriess. 2001. A Method for Setting the Size of Plant Conservation Target Areas. *Conservation Biology* 15 (3): 603-616.

Debinski, D.M. and R. D. Holt. 2000. A Survey and Overview of Habitat Fragmentation Experiments. *Conservation Biology* 14 (2): 342-355.

Haddad, N.M. 1999. Corridor and Distance Effects on Interpatch Movements: a Landscape Experiment with Butterflies. *Ecological Applications* 9: 612-622.

Jensen, D.B. 1987. Concepts of Preserve Design: What We Have Learned. In: T. Elias. Ed. Conservation and Management of Rare and Endangered Plants. Proceedings from a Conference of the California Native Plant Society. California Native Plant Society, Sacramento, CA.

Kruess A. and T. Tscharntke. 1994. Habitat Fragmentation, Species Loss and Biological Control. *Science* 264: 1581-1584.

Lesica, P. and F.W. Allendorf. 1995. When Are Peripheral Populations Valuable for Conservation? *Conservation Biology* 9(4):753-760.

Meffe, G.K. and C.R. Carroll. 1994. Principles of Conservation Biology. Sinauer Associates, Inc. Sunderland, MA.

Noss. R., M.A. O'Connell and D.D. Murphy. 1997. The Science of Conservation Planning. Habitat Conservation under the Endangered Species Act. Island Press, Washington DC.

Saunders, D.A, R.J. Hobbs, and C.R. Margules. 1991. Biological Consequences of Ecosystem Fragmentation: A Review. *Conservation Biology* 5: 18-32

Schemske, D.W., B.C Husband, M. H. Ruckelshaus, C. Goodwillie, I.M. Parker and J.G. Bishop. 1994. Evaluating Approaches to the Conservation of Rare and Endangered Plants. *Ecology* 75: 584-606.

Townsend, Patricia A. and Douglas J. Levey. 2002. Effect Of Habitat Corridors On Plant-Pollinator Interactions. Society for Conservation Biology 16th Annual Meeting – Planning and Reserve Design Session. July 18 2002