

**PETITION  
TO REMOVE THE PEIRSON'S MILKVETCH  
(*Astragalus magdalenae* var. *personii*)  
FROM THE FEDERAL LIST  
OF THREATENED AND ENDANGERED SPECIES**

Submitted to the United States Secretary of the Interior by  
the American Sand Association, the San Diego Off-Road Coalition  
and the Off-Road Business Association

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## **I. INTRODUCTION**

Pursuant to Section 4(b)(3) of the Endangered Species Act<sup>1</sup> and Title 5, Section 553(e) of Administrative Procedures Act,<sup>2</sup> the American Sand Association, San Diego Off-Road Coalition and the Off-Road Business Association hereby submit this petition to remove the Peirson's milkvetch (*Astragalus Magdalanae* var. *peirsonii*) from the Federal list of threatened and endangered species. The Peirson's milkvetch ("PMV") is a perennial desert plant that resides in the Imperial Sand Dunes of south-eastern California, on lands under the control of the Bureau of Land Management ("BLM"), an agency within the Department of the Interior ("DOI").

On October 6, 1998, the DOI listed PMV as a "threatened" plant species. The listing identified off-highway vehicle ("OHV") use in the Imperial Sand Dunes as the primary threat to the PMV's survival. However, data developed since the 1998 listing decision indicate that: (1) the PMV population is thriving in its traditional range, despite continued OHV use; (2) the PMV population consists of more than 100,000 individual plants and a healthy seed bank; and (3) the original listing was in error. These recent findings demonstrate that the PMV is *not* threatened and should be removed from the Federal list of threatened and endangered species.

## **II. SUMMARY OF ARGUMENT**

Petitioners' argument in support of this request to remove the PMV from the list of "threatened" species can be summarized as follows:

### **A. The Original Listing Was Made Without an Actual Plant Count**

When the DOI adopted the Final Rule listing the PMV as threatened, it did so without benefit of "abundance data" showing how many PMV plants actually exist. In various

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<sup>1</sup> 16 U.S.C. § 1533(b)(3).

<sup>2</sup> 5 U.S.C. § 553(e).

letters and memoranda, staff from both BLM and the United States Fish & Wildlife Service (“USFWS”) expressed concern over this critical shortcoming and stressed the need for abundance data when making a listing decision.

**B. The Original Listing Relied On Data Developed Prior to Implementation of the California Desert Protection Act**

The Final Rule listing the PMV as threatened — though not issued until October 6, 1998 — relied entirely on data developed between 1976 and 1990, all of which predated the implementation of the California Desert Protection Act (the “CDPA”). The CDPA designated more than 32,000 acres of the Imperial Sand Dunes as a Wilderness Area where roads and motor vehicles are not allowed. Many of the densest PMV colonies are located within this Wilderness Area. The protected status of these PMV colonies was not accounted for in the plant studies DOI relied on when making the listing decision.

**C. The Original Listing Relied On Field Studies Which the BLM Has Since Determined Were Biased and Scientifically Unsound**

Of the technical material used in the PMV listing decision, DOI relied most heavily on a 1990 study by ECOS, Inc. (the “1990 ECOS Study”), which concluded that the PMV was in sharp decline as a result of OHV use in the Imperial Sand Dunes. However, in a report published in November 2000, the BLM determined that the 1990 ECOS Study (which BLM had commissioned and paid for) was biased in its methodology and flawed in its analysis and conclusions. For this reason, BLM abandoned the 1990 ECOS study and the monitoring protocol it had recommended. BLM’s decision in this regard demonstrates that the 1990 ECOS study provides an insufficient basis for listing the PMV as a threatened species.

**D. Monitoring Studies Published by BLM in 2000 and 2001 Indicate That the PMV Is Abundant and Thriving, But Becomes Dormant During Periods of Drought**

After discarding the 1990 ECOS Study, BLM in 1998 embarked on a new survey program for the PMV and other special status plants in the Imperial Sand Dunes. The results of the surveys were published in November 2000 and again in June 2001. In both instances, BLM concluded that the PMV is (1) at least as abundant and widespread as it was in 1977; (2) at least as abundant in the areas *open* to OHV use as in the areas *closed* to OHV use; (3) capable of lying dormant for years in “seed-state” until sufficient rainfall triggers germination; and (4) affected more by climatic fluctuations than by human activities.

**E. Plant Counts Conducted in Spring 2001 Confirm That the Imperial Sand Dunes Support More Than 100,000 Individual PMV Plants and a Healthy Seed Bank**

In November 2000, BLM “temporarily” closed approximately 49,000 acres of the Imperial Sand Dunes to OHV recreation pursuant to a settlement agreement with the Center for Biological Diversity. In response to the “temporary closure,” the American Sand Association, in the spring of 2001, retained biologists from Thomas Olsen Associates (“TOA”) to conduct a comprehensive census of all PMV plants in the Imperial Sand Dunes. In the areas open to OHV use, TOA counted more than 71,000 PMV. TOA also conducted low-altitude helicopter surveys of the *closed* areas and found that they supported PMV plants in numbers similar to those observed in the open areas. These data reflect a thriving plant species with more than 100,000 individuals, ample seed stores, and a high probability of continued reproductive success.

**F. The PMV No Longer Meets The Five Criteria For Listing**

To be placed on the threatened or endangered species list — or to remain on that list — an animal or plant must be threatened by (1) the present or threatened destruction, modification, or curtailment of its habitat or range; (2) overutilization for commercial,

recreational, scientific, or educational purposes; (3) disease or predation; (4) the inadequacy of existing regulatory mechanisms; or (5) other natural or manmade factors affecting its continued existence. In this case, the PMV no longer meets any of these five listing criteria. It thrives in sufficient number (100,000+) throughout its range and, despite misinformation to the contrary, is not threatened by OHV use or alleged habitat alteration. Nor is it threatened by overutilization for recreational purposes or by disease. Further, the regulatory mechanisms in place since 1977, as modified over time, clearly have been adequate to protect the species. Finally, no other manmade or natural factor threatens the PMV's continued existence.

### **III. FACTUAL BACKGROUND**

#### **A. The PMV and Its Habitat**

The PMV is a “stout, short-lived perennial reaching 20 to 70 cm (8 to 27 inches) high.”<sup>3</sup> Its stems and leaves are covered with fine silky hairs, and the leaves themselves are 5 to 15 cm (2 to 6 inches) long, with 8 to 12 oblong leaflets.<sup>4</sup> When the PMV blooms in late spring, its flowers are a dull purple, arranged in 10 to 17-flowered racemes.<sup>5</sup> The seed pods of the PMV are 2 to 3.5 cm (0.8 to 1.4 inches) long, inflated, with a triangular beak.<sup>6</sup> Among the various *Astragalus* species that inhabit the deserts of the southwest United States, the PMV has the largest seeds, each measuring 4.5 to 5.5 mm in length.<sup>7</sup>

The PMV occurs on slopes and hollows of windblown dunes in the Sonoran Desert, which includes the Imperial Sand Dunes of southeastern California, also known as the

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<sup>3</sup> Final Rule, October 6, 1998, *Federal Register*, Vol. 63, No. 193, at p. 53599. A true and correct copy of the Final Rule is Attached As Exhibit 1 to this Petition.

<sup>4</sup> *Ibid.*

<sup>5</sup> *Ibid.*

<sup>6</sup> *Ibid.*

<sup>7</sup> *Ibid.*

Algodones Dunes.<sup>8</sup> The Imperial Sand Dunes form a dune “belt” some 40 miles long and 3 to 6 miles wide.<sup>9</sup> The same winds that rake the dunes and create the habitat necessary for the PMV also scatter the plant’s seed pods and seeds, depositing them in the sand, where they will lie dormant until sufficient precipitation causes them to germinate.<sup>10</sup> Although no one has determined how long a PMV seed can remain dormant and still reproduce when favorable conditions arise, circumstantial evidence — *e.g.*, an explosive germination event following years of drought — suggest that the plant’s seeds can remain dormant for three to ten seasons without loss of reproductive potential.<sup>11</sup>

The PMV is a so-called “short-lived” perennial which germinates and blossoms in the spring and then largely dies off by the beginning of the hot summer months.<sup>12</sup> In a given year, tens of thousands of plants may be visible during April and May, but nearly all of them will be gone by July.<sup>13</sup> However, the disappearance of the plants does not occur until *after* seed pods have developed and been dropped to the ground, guaranteeing another generational cycle for the PMV.<sup>14</sup>

In the Imperial Sand Dunes, the PMV shares vast tracts of land with OHV recreationists. However, some of the densest PMV colonies in the Imperial Sand Dunes are found in the designated Wilderness Area north of State Highway 78 (“SR-78”), where motor

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<sup>8</sup> Thomas Olsen Associates, *Biology, Distribution, and Abundance of Peirson’s Milkvetch and Other Special Status Plants of the Algodones Dunes, California*, 2 July 2001 (the “TOA Report”), at p. 1. A true and correct copy of the TOA Report is attached as Exhibit 2 to this Petition.

<sup>9</sup> *Ibid.*

<sup>10</sup> *Id.*, at pp. 10-11.

<sup>11</sup> *Id.*, at pp. 10-11.

<sup>12</sup> *Ibid.*

<sup>13</sup> *Ibid.*

<sup>14</sup> *Ibid.*

vehicles are prohibited.<sup>15</sup> As to the *open* dune areas, OHV travel patterns rarely intrude into PMV colonies. The BLM acknowledged this fact in a November 2000 report entitled, *Monitoring of Special Status Plants in the Algodones Dunes, Imperial County, California* (the “November 2000 Monitoring Study”):

“Although all 6 species [including the PMV] appear to be at least as widespread and abundant in the entire open area in 1998 as they were in 1977, *this likely results from the fact that OHV use in the open areas does not encroach — at least very intensively — on much of the habitat of the plants in relatively large portions of the open area away from OHV staging areas.*” (November 2000 Monitoring Study, BLM, at p. v.)<sup>16</sup> (*Emphasis added.*)

Note that the PMV, while widespread throughout the dune system, is highly habitat specific, growing in identifiable colonies where conditions are suitable.<sup>17</sup> The plant is not randomly distributed, except to the extent that appropriate habitat for PMV colonies occurs in a large number of areas in both the open and closed portions of the dunes.<sup>18</sup>

## **B. Attempts to List the PMV as “Threatened”**

### **1. Proposed Listing in 1992**

On May 8, 1992, the USFWS issued a proposed rule for listing seven desert plants of the taxa *Astragalus* — including the PMV — as either threatened or endangered. In the proposed rule, USFWS asserted that the PMV is “[threatened by] the alteration of habitat from off-road vehicle activity.”<sup>19</sup> The proposed rule also concluded that the plant is “threatened

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<sup>15</sup> Memorandum from BLM State Director to USFWS Field Supervisor, dated November 1, 1996, at p. 1. A true and correct copy of this memorandum is attached as Exhibit 3 to this Petition.

<sup>16</sup> A true and correct copy of the November 2000 Monitoring Study is attached as Exhibit 4 to this Petition.

<sup>17</sup> TOA Report, at pp. 3-5.

<sup>18</sup> *Ibid.*

<sup>19</sup> Proposed Rule, May 8, 1992, Federal Register, Vol. 57, No. 90, at p. 19846. A true and correct copy of the Proposed Rule is attached as Exhibit 5 to this Petition.

with stochastic extinction due to the limited size of its population.”<sup>20</sup> However, the proposed rule did not indicate how many PMV plants existed in the Imperial Sand Dunes or elsewhere in the Sonoran Desert. Nor did the proposed rule refer to any studies that could provide such abundance data. However, before the proposed listing became final, the Federal government issued a moratorium on all species listings, halting efforts to designate the PMV as threatened. This moratorium remained in effect until approximately 1996.

## 2. Final Approved Listing in 1998

When the listing moratorium was lifted, USFWS restarted its efforts to list the PMV and four other milkvetch plants as threatened or endangered. As in 1992, the USFWS had no actual plant counts for the PMV. Despite requests to BLM and others for “abundance data,” neither BLM nor any other source had the kind of information USFWS was looking for. Nevertheless, on October 6, 1998, USFWS issued a Final Rule designating the PMV as threatened, and identifying OHV use as the primary cause of PMV population declines.<sup>21</sup>

## C. **The Center For Biological Diversity v. BLM Lawsuit — March 2000**

In March 2000, the Center for Biological Diversity (“CBD”) filed suit against the BLM alleging that BLM had failed to consult with USFWS regarding the effects of the California Desert Conservation Area Plan (“CDCA Plan”) on species that have been listed as threatened or endangered since the plan’s adoption in 1980. According to CBD, this failure to consult constituted a violation of Section 7 of the federal Endangered Species Act. The lawsuit involved nearly all lands in the California desert under BLM control, including the Imperial Sand Dunes. To resolve the litigation, BLM entered into five separate stipulations, one of which related to the PMV and the dunes. Specifically, on November 3, 2000, BLM agreed to

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<sup>20</sup> *Ibid.*

<sup>21</sup> Final Rule, October 6, 1998, Federal Register, vol. 63, No. 193, at p. 53606.

(1) initiate formal Section 7 consultation with USFWS regarding impacts on the PMV, and (2) temporarily close more than 49,000 acres of the dunes to OHV use until the Section 7 process was concluded. The new “interim” closure zones were in addition to the North Algodones Wilderness Area, where motor vehicles are strictly prohibited. The North Algodones Wilderness Area consists of approximately 32,000 acres and was established in 1994 as part of the CDPA. It is located immediately north of SR-78 and supports approximately 25% of all PMV stands known to exist in BLM’s jurisdiction.<sup>22</sup> Combined, the “interim” closure area and the Wilderness Area constitute approximately 81,000 acres of dune habitat.

It is important to note, however, that neither BLM nor CBD submitted evidence to the Court showing that the PMV was in jeopardy and required an “emergency” closure.<sup>23</sup> On the contrary, just when BLM and CBD were executing the “closure and consultation” stipulation regarding the PMV, BLM was poised to publish its November 2000 Monitoring Study, which concluded that the PMV had “increased significantly” in both abundance and frequency between 1977 and 1998, and that the plant actually fared better in the OHV-open area than it did in the Wilderness Area that is closed to all OHV use.<sup>24</sup> As explained below in Section IV. B., this November 2000 Monitoring Study dismantles the key assumptions and findings set forth in the October 6, 1998 Final Rule listing the PMV as threatened.

**D. American Sand Association Commissions PMV Plant Count (Spring 2001)**

In response to the BLM’s decision to “temporarily” close an additional 49,000 acres of the Imperial Sand Dunes, the American Sand Association retained Thomas Olsen

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<sup>22</sup> See, BLM Memorandum, November 1, 1996. (Exhibit 3.)

<sup>23</sup> See, “Order Approving Final Consent Decrees Re Bighorn Sheep and Re All Further Injunctive Relief,” March 20, 2001, at p. 13. See also, “Amendment to Final Judgment,” April 20, 2001. True and correct copies of both court documents are attached as Exhibits 6 and 7, respectively, to this Petition.

<sup>24</sup> The November 2000 Monitoring Study, at pp. v, 14, 30-31, 35-36. (Exhibit 4.)

Associates, a consulting firm with desert biologists on staff, to conduct a census of the PMV in both the open and closed areas of the dunes. TOA's report, issued on July 2, 2001 under the title *Biology, Distribution and Abundance of Peirson's Milkvetch and Other Special Status Plants of the Algodones Dunes, California* (the "TOA Report"), indicated that 71,926 individual PMV plants had been observed in the OHV-open area alone.<sup>25</sup> And although TOA staff could not perform actual ground counts in the closed areas, they did conduct low-altitude fly-overs in a helicopter to identify PMV colonies in these portions of the dunes.<sup>26</sup> According to the TOA Report, the PMV colonies in the closed areas — as observed from the air — were similar in size, number and density to the PMV colonies in the open areas.<sup>27</sup>

#### **IV. ARGUMENT: THE PMV SHOULD BE REMOVED FROM THE LIST OF THREATENED SPECIES**

##### **A. Legal Standard and Procedure for Delisting**

Under the Endangered Species Act and its implementing regulations, interested persons may petition the DOI to have plants and animals removed from the list of threatened and endangered species. 16 U.S.C. § 1533(b)(3)(A). Moreover, an individual's right to challenge a final rule by a federal agency — such as an endangered species listing by the DOI — is guaranteed under the Administrative Procedures Act. 5 U.S.C. § 553(e).

In most respects, DOI must process a petition to *remove* a species from the threatened and endangered list in the same way it processes a petition to *add* a species to that list. Within 90 days of receiving a petition to list or "delist" a particular species, the Secretary of the Interior (the "Secretary") "shall make a finding as to whether the petition presents substantial scientific or commercial information indicating that the petitioned action may be warranted." 16

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<sup>25</sup> TOA Report at 6. (Exhibit 2.)

<sup>26</sup> *Ibid.*

<sup>27</sup> *Id.*, at 13.

U.S.C. § 1533(b)(3)(A). If the Secretary determines that the petition does, in fact, present such information, “the Secretary shall promptly commence a review of the status of the species concerned.” *Ibid.* Note that both findings by the Secretary must be published in the *Federal Register*. *Ibid.*

Within 12 months after the petition is filed, the Secretary must determine that either (1) the petitioned action is warranted, in which case she must publish a proposed rule designating the species for protection or, in the case of delisting, recommending removal of the species’ protective designation; (2) the petition action is not warranted; or (3) the petitioned action is warranted but immediate promulgation of a rule is precluded by other pending proposals. 16 U.S.C. § 1533(b)(3)(B); *Center for Biological Diversity v. Norton (Sec. Of Interior)* 254 F.3d 833, 835 (9<sup>th</sup> Cir. 2001). If the Secretary finds that the action is “warranted but precluded,” she must promptly publish that finding along with a “description and evaluation of the reasons and data on which the finding is based.” *Ibid.* A finding that a petitioned action is not warranted or is “warranted but precluded” is subject to judicial review. 16 U.S.C. § 1533(b)(3)(C)(ii).

Under 50 CFR Part 424.11, five factors must be considered before a species can be listed, reclassified, or delisted:

1. The present or threatened destruction, modification, or curtailment of its habitat or range.
2. Overutilization for commercial, recreational, scientific, or educational purposes.
3. Disease or predation.
4. The inadequacy of existing regulatory mechanisms.
5. Other natural or manmade factors affecting the continued existence of the species.

As with *listing* a species, the decision to *delist* a species must be “supported by the best scientific and commercial data available to the Secretary after conducting a review of the status of the species.” 40 CFR Part 424.11(d). A species may be delisted “if such data substantiate that the species is neither endangered nor threatened” for one or more of the following three reasons: (1) the species is extinct; (2) the species has recovered to such a point that federal protection is no longer necessary to guarantee its survival; or (3) the original listing was in error. *Ibid.*

### **B. The Original Decision to List the PMV Was in Error**

In the case of the PMV, “de-listing” is warranted under ground (3) — *i.e.*, the original listing was in error. Not only was the initial listing decision based on inadequate “plant abundance data” and defective technical studies, recent plant surveys demonstrate that the PMV was not threatened in 1998 and is not threatened now. Although the 1998 Final Rule claimed the PMV was declining in population due to OHV use in the dunes, data developed since publication of the Final Rule have proved this claim false. The PMV is thriving. Its population is large and constantly replenished by a well-stocked seed bank. Moreover, the PMV colonies in the OHV-open area are just as healthy as the PMV colonies in the OHV-closed area. As demonstrated below, the PMV does not meet — and has never met — the five “listing” criteria necessary to qualify as “threatened,” and the plant should be removed from the federal list.

#### 1. The Original Listing Decision Was Made Without Adequate Plant “Abundance Data”

The fundamental defect of the October 6, 1998 Final Rule listing the PMV as “threatened,” is that it was issued without benefit of census data showing how many PMV plants actually exist in the Imperial Sand Dunes. The USFWS knew about this “data gap” in 1996, when the four-year moratorium on listings was lifted and efforts to list the PMV were reinitiated. For example, on September 3, 1996, USFWS officially reopened the public comment

period on the proposed rule by publishing a notice in the Federal Register.<sup>28</sup> The notice specifically requested updated information regarding threats to the PMV and other *Astragalus* taxa, as well as data on the size, number and distribution of each plant's respective population. According to the notice, this information was necessary to fill data gaps that may have developed during the four-year moratorium on listings:

“Due to the length of time that has elapsed since the close of the initial comment period, changing procedural and biological circumstances and the need to review the best scientific and commercial information available during the decision-making process, the comment period is being reopened. The Service particularly seeks information that has become available in the last four years, concerning:

- (1) Biological, commercial or other relevant data on any threat (or lack thereof) to these species;
- (2) Additional information on the size, number or distributions of populations; and
- (3) Whether one or more of these plant species are subject to conservation agreements or other protection instruments, and their possible impacts to such species.”<sup>29</sup>

With respect to the PMV, one of the “changed circumstances” bearing on the listing question was passage of the 1994 California Desert Protection Act (“CDPA”), which, among other things, designated the North Algodones Dunes (appx. 32,000 acres) as a Wilderness Area, forever making it “off-limits” to motorized vehicles. BLM staff estimated that some of the richest PMV

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<sup>28</sup> Proposed Rule, Reopening of Public Comment Period on Proposed Threatened and Endangered Status for Seven Desert Milk-Vetch Taxa from California and Nevada, September 3, 1996, *Federal Register*, Vol. 61, No. 171, at p. 46431. A true and correct copy of this Proposed Rule Reopening Public Comment Period is attached as Exhibit 8 to this Petition.

<sup>29</sup> *Ibid.*

habitat and the densest PMV colonies were (and are) located in the newly-designated Wilderness Area.<sup>30</sup>

Accounting for the protective benefits of the CDPA, however, was only a small part of USFWS's reevaluation process. The larger and more difficult task was obtaining updated, credible abundance data for the seven plants. This proved especially daunting with respect to the PMV, as evidenced by memoranda and correspondence from USFWS staff desperately searching for plant counts on the PMV. For example, in a memorandum to the BLM Area Manager in El Centro, dated November 14, 1996, USFWS Field Supervisor, Diane K. Noda, made the following statement:

We have reviewed the information we have received on Peirson's milk-vetch (*Astragalus magdalенаe* var. *peirsonii*) following the proposed listing. There appears to be a lack of data on the abundance of this taxon in the *Imperial San Dunes, an area managed by the Bureau of Land Management (BLM)*. Because a large part of the habitat of the milk-vetch is open to off-highway vehicles, population trend and abundance data is particularly important; *the lack of such data severely impairs the ability of the Fish and Wildlife Service (Service) to assess whether the milk-vetch warrants listing under the Endangered Species Act.* We request clarification on whether or not there exists additional information on the abundance of Peirson's milk-vetch on BLM lands. (*Emphasis added.*)<sup>31</sup>

Ms. Noda, in her memorandum, went on to say that she and her staff had reviewed the 1977 WESTEC survey maps, the 1990 ECOS report, and the 1993 survey performed by USFWS for the All-American Canal Project, but had found them inadequate to her purpose, which was to determine with some specificity the number of PMV plants inhabiting the Imperial Sand Dune system.<sup>32</sup> She then directed four questions to the BLM Area Manager in El Centro:

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<sup>30</sup> Memorandum from BLM State Director to USFWS Field Supervisor, dated November 1, 1996, at p. 1 ("Using results from the *Survey of Sensitive Plants of the Algodones Dunes* (WESTEC, 1977), we concluded that approximately 25% of the highest relative abundance patches of Peirson's milkvetch occur in the Wilderness Area.") See, Exhibit 3 to this Petition.

<sup>31</sup> A true and correct copy of Ms. Noda's memorandum is attached to this Petition as Exhibit 9.

<sup>32</sup> Noda Memorandum.

- “(1) The key to the relative abundance symbols for the 1977 WESTEC map uses terms such as ‘moderate numbers...’ and ‘moderately high numbers...’, without indicating what these numbers might be. Does the BLM have information that defines these terms more explicitly?
- “(2) Did ECOS provide any field notes on population sizes or make any counts of plant numbers other than those that are included in their report?
- “(3) The ECOS report contains a reference to a 1978-1979 report by Romspert and Burk titled ‘Algodones Dunes Sensitive Plant Project.’ Does this report provide data on abundance/population size for Peirson’s milkvetch?
- “(4) Does BLM have documents, other than those cited above, that provide estimates of abundance for this species, either recently or in the past 30 years?”<sup>33</sup>

The PMV listing file (maintained at the USFWS Field Office in Ventura, California) includes no written response from BLM to Ms. Noda’s four questions. However, we have reviewed the 1977 WESTEC report, the 1990 ECOS report, and the 1978-1979 Romspert and Burk article, and none of the three studies provides the kind of abundance data USFWS felt it needed in order to determine whether the PMV should or should not be listed as threatened.

As for question (1), regarding quantitative definitions of certain “relative abundance” terms used in the WESTEC study, no such definitions exist. WESTEC did not perform – or at least did not report – actual plant counts throughout the dune system. Instead, WESTEC developed “relative abundance units” to distinguish dense plant colonies from sparse plant colonies; but no definitive plant numbers were given.<sup>34</sup>

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<sup>33</sup> *Ibid.*

<sup>34</sup> A true and correct copy of the 1977 WESTEC Study is attached as Exhibit 10 to this Petition. WESTEC performed its survey by running transects and then mapping the distribution and relative density of each plant species. (WESTEC 1977, at p. 1, 41-45.) Within each survey quadrant, WESTEC staff estimated the density of the particular taxa using a ranking system of 1 to 4. (*Id.*, at 44.) According to WESTEC’s report: “It should be emphasized that no absolute number is intended by this ranking system.” (*Id.*, at 44.)

With respect to question (2), regarding plant counts that may have been performed as part of the 1990 ECOS study, the answer again is that no such census data were compiled.<sup>35</sup> To make matters worse, the 1990 ECOS surveys were not in any way comprehensive. The ECOS biologists only ran transects that were close to established roads so that observers could conduct the survey quickly and easily.<sup>36</sup> As a result, ECOS did not survey large areas of PMV habitat in the more remote regions of the open area.<sup>37</sup>

As to Ms. Noda's question (3), regarding the 1978-1979 Romsper/Burk report and *its* PMV abundance data, this study also did not involve dune-wide plant counts. Indeed, the Romsper and Burk report – in addition to being almost 20 years old – appears to have been more limited in geographical scope than was the 1990 ECOS study.<sup>38</sup>

Finally, with respect to question (4), regarding additional BLM documents that might provide abundance data on the PMV, nothing in the PMV listing file suggests that such documents existed in 1996 or at any time prior to the October 1998 listing decision. It appears that BLM did not develop and publish new abundance data on the PMV until November 2000 – two years *after* adoption of the Final Rule listing the PMV as threatened.

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The four “abundance units” that corresponded to the “density ranking system” provided only the barest outline of the actual plant populations in the dunes. For example, the abundance units were broken down as follows:

- Abundance unit one: One to five inflorescences were observed, with most being dried up;
- Abundance unit two: Six to twenty inflorescence were observed, some still with flowers;
- Abundance unit three: Over twenty inflorescences in stand, but localized;
- Abundance unit four: Over thirty inflorescences in stand, many in flower state and well distributed in depression or vegetation habitat zone. (*Id.*, at 45.)

<sup>35</sup> A true and correct copy of the 1990 ECOS Study is attached as Exhibit 11 to this Petition.

<sup>36</sup> November 2000 Monitoring Study (BLM) and pp. 4-5. (Exhibit 4.)

<sup>37</sup> *Ibid.*

<sup>38</sup> The copy of the Romsper/Burk report maintained in the USFWS listing file for the PMV is incomplete, so it has not been reproduced here or attached as an exhibit to this Petition.

The absence of abundance data did not, however, prevent BLM from taking a position on whether the PMV should be listed. In fact, BLM felt the creation of the North Algodones Dunes Wilderness Area, along with BLM's adaptive management strategies in the open dune area south of Highway 78, would adequately protect large tracts of high-grade PMV habitat. In a memorandum dated November 1, 1996, BLM's State Director stated that BLM had reversed its initial position regarding the PMV's status, and was now recommending that the plant *not* be listed at all:

“This responds to the subject proposed rule, published September 3, 1996, in the *Federal Register*. We commented previously on this listing package. Our previous comments still hold, *except for Peirson's milk-vetch, for which the comments below should be substituted . . .*

“With the North Algodones Dunes Wilderness Area, resulting in the protection of a substantial portion of the species distribution, and BLM's commitment to monitor the population of this species in the south dunes and respond accordingly to proposed projects, *we believe listing of the species is not necessary at this time.*” (*Emphasis added.*)<sup>39</sup>

But then a curious thing happened. Despite the lack of data showing how many or how few PMV plants actually inhabit the dunes, despite having no seed bank data by which to judge the PMV's latent reproductive potential, and despite BLM's recommendation that the species not be listed as threatened, USFWS decided to list the PMV anyway.

2. The 1998 Listing Decision Was Based on Studies Later Found to Be Biased and Technically Unsupportable

In making its 1998 listing decision, USFWS relied heavily on the 1990 ECOS study. For example, the Final Rule cites the 1990 ECOS study in support of the following assertions: (1) PMV populations have declined sharply since 1977; and (2) OHV use is the primary threat to the continued survival of the PMV.<sup>40</sup> Ultimately, these two critical findings

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<sup>39</sup> BLM Memorandum, November 1, 1996. See Exhibit 3 to this Petition.

<sup>40</sup> Final Rule, FR Vol. 63, No. 193, at p. 53606. (Exhibit 1.)

formed the basis for USFWS's decision to list the PMV. However, as we will demonstrate below, BLM later concluded that the 1990 ECOS study was biased and scientifically unsound.

This key development requires some elaboration.

In the spring and summer of 1998, BLM embarked on a monitoring program for sensitive plant species in the Imperial Sand Dunes (Algodones). BLM staff ran transects throughout the open and closed areas of the dunes and gathered abundance and distribution data on six desert plants, including the PMV. The results of this monitoring effort were published in a November 2000 report entitled *Monitoring of Special Status Plants in the Algodones Dunes, Imperial County, California* (the "November 2000 Monitoring Study").<sup>41</sup>

As the first technical report to provide dune-wide abundance data on the PMV since 1977, the November 2000 Monitoring Study allowed BLM to detect long-term trends in the population stability of the plant. Ironically, whereas the Final Rule listing the PMV as threatened stated the plant was in decline, the November 2000 Monitoring Study drew the opposite conclusion. For example, in the open areas, the number of PMV jumped sharply in the twenty years since the 1977 WESTEC surveys.<sup>42</sup> According to the November 2000 Study, "[m]ean transect abundance class values [in the open area] **increased significantly** between 1977 and 1998 for *Astragalus magdelanae* var. *peirsonii*, *Croton wigginsii*, *Helianthus niveus* ssp. *Tephrodes*, and *Palafoxia arida* var. *gigantea*."<sup>43</sup> The report also determined that the PMV's "frequency rating" in the open area had improved over the last twenty-one years: "Mean transect frequency **increased significantly** in the open area between 1977 and 1998 for *Astragalus magdelanae* var. *peirsonii*, *Croton wigginsii*, *Helianthus niveus* ssp. *Tephrodes*, and *Palafoxia*

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<sup>41</sup> See Exhibit 4 to this Petition.

<sup>42</sup> November 2000 Monitoring Study, at 14, 30-31.

<sup>43</sup> *Id.*, at 30.

*arida* var. *gigantea*.”<sup>44</sup> However, the surveys also detected a decline — albeit statistically insignificant — in the PMV populations in the *closed* area.<sup>45</sup> In other words, the plant was doing better in the OHV-open area than it was in the OHV-closed area. This finding runs directly counter to the conclusions set forth in the 1998 Final Rule and the 1990 ECOS study on which it relied.<sup>46</sup>

What accounts for this radical discrepancy? The answer lies in the methodology employed by ECOS when it performed its plant survey in 1990. BLM, which had originally commissioned the ECOS study, later determined that ECOS’s analytical approach was technically unsound and incapable of producing credible data on the health of sensitive plants throughout the entire dune system. In the November 2000 Monitoring Study, BLM described the defects of the 1990 ECOS study as follows:

“In 1990 BLM contracted with the consulting firm ECOS to design a monitoring study that could be used to regularly monitor the effects of the OHVs on the special status plants in the dunes. The idea was for the contractor to design the study and collect the first year’s data, which would then serve as a baseline. BLM personnel would then continue the monitoring in future years.

“The contractor designed and implemented the monitoring study and presented BLM with a report (ECOS 1990). *Unfortunately, the study design was flawed in several ways. As a result it was not continued. The most serious flaw involved the selection of study sites. Study sites were subjectively located near roads to make them readily accessible by observers. This does not allow inferences to be made to the entire dune system. The study also did not adequately sample the open area. Although the study purported to make inferences to the entire open area, the four study sites chosen for this purpose were all within 1 mile of potential OHV access sites. Because these areas are close to potential staging areas for OHVs, results from these sites will be biased toward relatively heavy OHV use (as opposed to the situation if at least some of the sites had been located in the more interior portions of the open area).*

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<sup>44</sup> *Id.*, at 31.

<sup>45</sup> *Id.*, at 12, 14, 30.

<sup>46</sup> *See*, FR Vol. 63, No. 193, at 53606. (Exhibit 1.)

*Moreover, there was very poor dispersion of study sites throughout the open area: **the entire southern and eastern portion of the open area were unsampled.***” (BLM, November 2000 Monitoring Study, at pp. 4-5.) (Emphasis added.)

As a result of the flaws discovered in the 1990 ECOS study, BLM abandoned the ECOS monitoring protocol and worked with USFWS and the California Native Plant Society to develop a new one. It was this new monitoring method that produced the results set forth in the November 2000 Monitoring Study.

3. BLM’s November 2000 Monitoring Study Documents Healthy PMV Populations Throughout Dune System

BLM’s 1998 survey method differed from ECOS approach in two key respects. First, BLM did not limit its survey to areas near roads and trails where sampling could be conducted easily by the paid observer. Instead, BLM ran transects over wide areas of the dunes, including areas that are relatively remote. Second, BLM conducted its survey following a winter of average rainfall, whereas the 1990 ECOS study had been conducted following years of drought. The importance of this distinction was explained by BLM in the November 2000 Monitoring Study:

“Another problem with the ECOS study was that it was conducted during a poor rainfall year. Precipitation at gold Rock Ranch, just east of the southern half of the dunes (see Map 4), was 1.86 inches between July 1989 and June 1990, less than half of the average of 3.89 inches. Moreover, 1.3 inches of that total fell in July 1989; only 0.56 inches fell between August 1989 and June 1990. Six of the seven months between September 1989 and April 1990 were completely dry; only January, with 0.23 inches, had any effective precipitation (Figure 2). As a result, few of the target plant species [including the PMV] were found. Although all special status plants are perennials, few to no above-ground plants will be found if there has been no rainfall.”<sup>47</sup>

That great numbers of PMV and other desert perennials will not germinate and grow above-ground during drought conditions should have been known to ECOS in 1990 and to USFWS in

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<sup>47</sup> *Id.*, at 5.

1998. Yet neither group of professionals gave proper weight to this critical factor in the PMV's reproductive cycle.

However, by November 2000, it was clear to BLM and other specialists in desert botany that precipitation — more than any other factor — dictates how many PMV plants will germinate and break into flower in a given season. During drought conditions, the PMV seeds simply lie dormant beneath the sand, awaiting the storms that periodically drop heavy rain on the Imperial Sand Dunes (Algodones).<sup>48</sup> Only when there is adequate precipitation will the plants grow above the ground where they can be observed.<sup>49</sup>

However, the most startling finding in the November 2000 Monitoring Study is that OHV use does not pose a serious threat to the PMV or the other plants surveyed by BLM. Though the number of people engaged in OHV recreation during holiday weekends (when attendance is highest) increased from 15,000 in 1977 to 90,000 in 1998, the PMV nevertheless showed “significant” increases in both abundance and frequency during that 21-year period.<sup>50</sup> BLM explained this phenomenon as follows:

“Although all 6 species [including the PMV] appear to be at least as widespread and abundant in the entire open area in 1998 as they were in 1977, this likely results from the fact that OHV use in the open area does not encroach — at least very intensively — on much of the habitat of the plants in relatively large portions of the open area away from OHV staging areas.”<sup>51</sup>

The November 2000 Monitoring Study also included a “vehicle track” map (Map 24) showing the OHV travel patterns in the Imperial Sand Dunes (Algodones).<sup>52</sup> According to this vehicle

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<sup>48</sup> *Ibid.*

<sup>49</sup> *Ibid.*

<sup>50</sup> *Id.*, at 2, 30-31.

<sup>51</sup> November 2000 Monitoring Study, at 35-36.

<sup>52</sup> *Id.*, at 36.

track map, many of the interior portions of the open area — where there are impressive stands of PMV — receive very little OHV traffic.<sup>53</sup>

4. BLM’s June 2001 Monitoring Study Confirms that the PMV is Abundant in the Algodones Dunes

BLM’s second monitoring study, published in June 2001 (the “June 2001 Monitoring Study”), built upon the November 2000 survey by including plant abundance data gathered during the 1999 and 2000 growing seasons.<sup>54</sup> Although 1999 and 2000 were much drier than 1998 had been, the June 2001 Monitoring Study still concluded that most of the plant species under review, including the PMV, were at least as abundant in 1999 and 2000 as they were in 1977.<sup>55</sup> The June 2001 Monitoring Study also reiterated BLM’s earlier finding that OHVs rarely have contact with sensitive plants, because most of the plant colonies are located in areas where OHV use is quite light.<sup>56</sup> Ultimately, the June 2001 Monitoring Study concluded as follows:

“The response of *Astragalus magdalenae* var. *peirsonii*, a short-lived perennial, is closely tied to precipitation. It was most abundant in 198, the highest rainfall year, and least abundant in 2000, the lowest rainfall year. Responses of the species were similar in both the closed and open areas across all four years of monitoring.”<sup>57</sup>

In other words, fluctuations in the PMV population were driven by precipitation, not by alleged “habitat alteration” from OHV activity.

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<sup>53</sup> *Id.*, at 36.

<sup>54</sup> This study, entitled Monitoring of Special Status Plants in the Algodones Dunes, Imperial County, California, 1977, 1998, 1999, and 2000, is attached to this Petition as Exhibit 12

<sup>55</sup> June 2001 Monitoring Study, at v-vi, 20-27, 30.

<sup>56</sup> *Id.*, at 31.

<sup>57</sup> *Id.*, at 30.

5. Spring 2001 Plant Counts Further Confirm That the PMV is Abundant and Thriving Throughout the Imperial Sand Dunes

In the November 2000 Monitoring Study, BLM acknowledged that its 1998 surveys, while providing an important gauge for assessing general trends in plant populations, could not give a full accounting of actual plant numbers:

“One of the limitations of both the WESTEC study and the current study is that the results give only an index of abundance of the 6 species. ***Monitoring that results in estimates of actual population size would be better.*** Given current funding and personnel capabilities, however, the WESTEC methodology of using abundance classes was chosen for the current study because it allows more complete coverage of the dunes than would be possible if actual density estimation was attempted.” (*Emphasis added.*)<sup>58</sup>

BLM’s June 2001 Monitoring Study expressed the same opinion regarding the WESTEC methodology.<sup>59</sup>

Then, in the spring of 2001, the American Sand Association retained the consulting firm of Thomas Olsen Associates, Inc. (“TOA”) to eliminate the “plant count” data gap identified by BLM in its two survey reports — at least with respect to the PMV.<sup>60</sup>

It is important to stress that TOA purposely abandoned the “relative abundance” survey method used by WESTEC in 1977 and by BLM in 1998, 1999 and 2000. Instead, the TOA biologists conducted a “multi-stage non-probabilistic survey” of the PMV, counting every plant they encountered.<sup>61</sup> This eliminated the need for a sampling methodology and statistical extrapolations: “Sampling methodology was not included in the survey design, since the purpose of the investigation was to locate as many occurrences of the subject plants as

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<sup>58</sup> November 2000 Monitoring Study, at 36-37.

<sup>59</sup> June 2001 Monitoring Study, at 28.

<sup>60</sup> The “TOA Report”, is attached to this petition as Exhibit 2

<sup>61</sup> TOA Report, at p. 3.

possible, and to completely census every area in which they were discovered.”<sup>62</sup> This survey approach made sense because:

“Peirson’s milk-vetch occurs in highly clustered, specialized habitats within the dunes, and a large portion of the Algodones Dunes does not contain habitat suitable for these plants. For the study of this type of population, many researchers (Redman 1974; Schiffer and House 1977; Schiffer et al. 1978; Plog et al. 1978; Wilson 1996) have determined that non-probabilistic research strategies are preferable to random or stratified random methods (which are generally more effective for the study of normally distributed populations). Schiffer et al. have argued that ‘[random] sampling techniques . . . do not facilitate . . . population estimation of rare or highly clustered elements.’”<sup>63</sup>

TOA had hoped to conduct this on-the-ground plant census in both the open and closed areas of the dunes, but BLM twice denied TOA’s request for vehicle access into the five closed parcels.<sup>64</sup>

As a result, TOA biologists surveyed the closed areas by helicopter, noting the GPS coordinates of each PMV colony they observed.<sup>65</sup>

The heavy rains in the fall of 2000, and cooler, wet weather in the winter of 2001, gave TOA the opportunity to survey the PMV during an especially productive germination period.<sup>66</sup> As a result of these favorable weather conditions, the number of PMV plants observed was startling. In the open areas, TOA counted 71,926 PMV individuals, the vast majority of which had already produced seeds to be dropped or scattered in the dunes when the summer heat dries (and often kills) the plants.<sup>67</sup>

As for the closed areas, TOA determined from helicopter overflights that PMV colonies in the closed dunes also support large numbers of individual plants:

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<sup>62</sup> TOA Report, at p. 3.

<sup>63</sup> *Ibid.*

<sup>64</sup> TOA Report, at 4.

<sup>65</sup> TOA Report, at 4-5.

<sup>66</sup> TOA Report, at 1, 10.

<sup>67</sup> TOA Report, at 10-11.

“A helicopter survey of the closed areas revealed many occurrences, especially within the southern portion of the large central closure. These sites could not be censused, but they appeared to be similar in number and abundance of plants to adjacent open areas.”<sup>68</sup>

Apart from the extremely large number of PMV individuals observed by TOA — approximately 72,000 in the open area and similar numbers in the closed area — the TOA report includes three other important findings. First, TOA confirmed what other researchers had suspected in the past — that the PMV, although technically a perennial, behaves more like an annual plant and is extremely susceptible to fluctuations in rainfall. According to TOA:

“The vast majority of Peirson’s milkvetch plants observed were of a uniform age and in their first year. Peirson’s milkvetch is a short-lived perennial that explosively germinates when favorable moisture conditions occur (Barneby, 1964; Bowers, 1986), in this case an abundance of fall moisture in October 2000. Only five individuals were found that appeared to be older than the current growing season.” (TOA, at p. 10.)<sup>69</sup>

The second finding, tied closely to the first, is that the PMV’s reproductive success is not dependent on the longevity of individual plants, but on each plant’s ability to produce and drop seeds in their first year of life. In other words, it is the PMV’s collective seed bank that determines its overall viability as a species:

“Although the Peirson’s milkvetch is potentially a perennial, most plants that germinated in October 2000 were flowering in March 2001 and setting fruit by May. This means that they contributed to the replenishment and enhancement of the seed bank during their initial growing season; many may not survive if dry conditions occur during the following winter, but their survival is not necessary for the preservation of the species since they have already reproduced . . . .

“The potential for a desert annual or short-lived perennial rests not in the plants that are actively growing at any particular time but in the seed bank, the dormant seeds resting in the soil awaiting the return of brief, favorable conditions for their germination (Pavlik and Barbour, 1988; Venable and Pake, 1999). Dormant seeds in the soil allow plants to survive long periods

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<sup>68</sup> TOA Report, at p. 13.

<sup>69</sup> *Id.*, at 10. This finding is consistent with similar findings set forth in BLM’s June 2001 Monitoring Study. (June 2001 Monitoring Study, at v, 21, 30.)

of unfavorable growing conditions, both seasonal and annual. The contribution of the 2000-2001 cohort of Peirson's milkvetch to replenishing the seed bank is impressive."<sup>70</sup>

Ultimately, the TOA biologists concluded that, with respect to the PMV and other desert-dwelling perennials, "it is impossible to ascertain the status of such plants without either studying them during a rare germination event, or by analyzing the seed bank."<sup>71</sup>

TOA's discussion on the PMV seed bank warrants a full quotation:

"The potential for a desert annual or short-lived perennial rests not in the plants that are actively growing at any particular time but in the seed bank, the dormant seeds resting in the soil awaiting the return of brief, favorable conditions for their germination (Pavlik and Barbour 1988; Venable and Pake 1999). Dormant seeds in the soil allow plants to survive long periods of unfavorable growing conditions, both seasonal and annual. The contribution of the 2000-2001 cohort of Peirson's milkvetch to replenishing the seed bank is impressive. The largest site censused in March 2001, before the secondary germination event, contained 3,738 plants, 90% of which were noted as reproductive. If each plant produced 5 pods, and each pod contained 14 seeds, the contribution to the seed bank at that site alone would be more than 235,000 seeds. The largest site counted was 3,994 plants in early April. The proportion of plants estimated to be reproductive when this site was censused was only 20%, reflecting the March germination event. Making the same assumptions as above, the 2001 seed bank contribution of this site would be nearly 56,000 seeds. By the time of our April trip, many plants had shed their pods, and seeds were plainly visible on the sand surface. The large, flat black seeds contrast strongly with the light-colored sand, and at several sites observers noted that seeds were 'all over the place.' In these cases the pods had not been dispersed far before they broke open and shed their seeds."<sup>72</sup>

The third finding, which relates directly to the "threats" identified in USFWS's 1998 listing decision, is that less than 1% of the 71,926 PMV plants observed in the open areas showed signs of contact with OHVs, and most of these plants suffered no permanent damage.

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<sup>70</sup> TOA, at pp. 10-11.

<sup>71</sup> *Id.*, at 12. On behalf of ASA, TOA is in the process of conducting a PMV seed bank survey in the Imperial Sand Dunes. The results should be available by January 2002.

<sup>72</sup> *Id.*, at 11.

“The total number of plants that showed any evidence of having been affected by OHVs was 667, or 0.93% of all Peirson’s milkvetch plants counted. It was apparent that nearly all plants that were run over were resilient, and popped back up with no damage to the stems or the flowers. As soon as wind obliterated the tracks there was no sign of any effect. The proportion of plants that had been affected by OHVs was small primarily because drivers avoid vegetated basins due to the potential tire damage from woody stems of shrubs, and wood scattered on the ground from dead plants. Even though tire damage would not occur from running over a first-year milkvetch, they are protected by their location in general proximity with shrubs.”<sup>73</sup>

Ultimately, TOA determined that “[t]he occurrence of dune plants and heavy use areas for vehicles is to a large extent mutually exclusive.”<sup>74</sup> This conclusion is consistent with similar statements in BLM’s monitoring reports from November 2000 and June 2001:

“Although all 6 species [including the PMV] appear to be at least as widespread and abundant in the entire open area in 1998 as they were in 1977, this likely results from the fact that OHV use in the open area does not encroach – at least very intensively – on much of the habitat of the plants in relatively large portions of the open area away from OHV staging areas.”<sup>75</sup>

“Although all six species [including the PMV] . . . appear to be responding similarly in both the closed and open areas, this likely results from the fact that OHV use in the open areas does not encroach – at least very intensively – on much of the habitat of the plants in relatively large portions of the open area away from OHV staging areas.”<sup>76</sup>

When read together, the BLM monitoring studies and the TOA Report demonstrate that the PMV is thriving in the open and closed portions of the Imperial Sand Dunes (Algodones), and will continue to do so regardless of OHV use in these areas. There is, in short, no scientific basis for continuing to list the PMV as threatened.

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<sup>73</sup> *Id.*, at 12.

<sup>74</sup> *Ibid.*

<sup>75</sup> November 2000 Monitoring Report, at p. v

<sup>76</sup> June 2001 Monitoring Report, at p. vii.

6. Data Developed Since 1998 Demonstrate that the PMV No Longer Satisfies Listing Criteria

When reviewing this delisting Petition, the Secretary of the Interior must evaluate the “best scientific and commercial data available” on the PMV. 50 CFR Part 424.11. In doing so, the Secretary must then consider whether the PMV is still vulnerable to the five “threats” identified by 16 U.S.C. § 1533 (a)(1) and 50 CFR Part 424.11:

- (1) the present or threatened destruction, modification, or curtailment of its habitat or range;
- (2) overutilization for commercial, recreational, scientific, or educational purposes;
- (3) disease or predation;
- (4) the inadequacy of existing regulatory mechanisms; or
- (5) other natural or manmade factors affecting its continued existence.

As shown by the November 2000 Monitory Study, the June 2001 Monitoring Study, and the July 2001 TOA Report, the PMV is abundant throughout its range. Any perceived threats to the plant’s habitat have not materialized. Despite increases in OHV use between 1977 and 2001, PMV abundance has “increased significantly” during this 24-year period. More important, these increases have been more dramatic in the open areas than in the closed areas. All three of the most recent PMV surveys have concluded that OHVs do not play a major role in PMV population fluctuations. In short, OHV use does not threaten the PMV or its habitat.

There also is no evidence that the PMV is threatened with “overutilization” for commercial, recreational, or scientific purposes. The plant data set forth in the TOA Report indicates that more than 71,000 PMV individuals inhabit the open dune area,

with similar numbers of individuals inhabiting the closed areas. The seed bank is also well-stocked. Clearly, the plant is not being overutilized or over-consumed.

As for “disease and predation,” the PMV is largely free of these threats. Although the PMV will lie dormant during drought years — thus giving the appearance of poor species health — this is, in fact, a normal part of the PMV’s reproductive cycle. The PMV seeds will lie in a protective state below the sand, and then germinate when there is sufficient rainfall. Note also that OHV use apparently does not interfere with this process.

The data also suggest that the PMV has received adequate regulatory protection from BLM since 1977. BLM can only govern human activities, and these have not been a major factor in the reproductive success of the PMV. Precipitation is the primary determinant; and precipitation cannot be “regulated.”

Finally, as to other “natural or manmade” threats to the PMV, there simply are none. Even drought is not so much a threat to the PMV’s “continued existence” as it is a natural phenomena “built into” the PMV’s reproductive process. The PMV’s seeds are designed to conserve their reproductive potential during dry years and to release that potential when more favorable (*i.e.*, wet) conditions arise. The number of PMV plants and seeds observed in March/May 2001 demonstrate that no manmade or natural “agent” is interfering with the “continued existence” of the PMV. Therefore, the plant is not threatened and should be removed from the federal list.

**V. CONCLUSION**

For the foregoing reasons, the American Sand Association, the San Diego Off-Road Coalition, and the Off-Road Business Association request that the Secretary of the Interior publish findings in support of removing the PMV from the federal list of threatened and endangered species.

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