

DEPARTMENT OF THE INTERIOR**Fish and Wildlife Service****50 CFR Part 17**

[FWS–R8–ES–2010–0097; 92210–1111–0000–B2]

Endangered and Threatened Wildlife and Plants; 90-Day Finding on a Petition To List 10 Subspecies of Great Basin Butterflies as Threatened or Endangered With Critical Habitat**AGENCY:** Fish and Wildlife Service, Interior.**ACTION:** Notice of petition finding and initiation of status review.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), announce a 90-day finding on a petition to list 10 subspecies of Great Basin butterflies in Nevada and California as threatened or endangered under the Endangered Species Act of 1973, as amended (Act), and designate critical habitat. Based on our review, we find that the petition presents substantial scientific or commercial information indicating that listing the following 4 of the 10 subspecies as threatened or endangered may be warranted: Baking Powder Flat blue butterfly, bleached sandhill skipper, Steptoe Valley crescent spot, and White River Valley skipper. Therefore, with the publication of this notice, we are initiating a review of the status of these four subspecies to determine if listing these subspecies is warranted. To ensure that this status review is comprehensive, we are requesting scientific and commercial data and other information regarding these four subspecies. Based on the status review, we will issue a 12-month finding on these four subspecies, which will address whether the petitioned action is warranted under the Act.

We find that the petition does not present substantial scientific or commercial information indicating that listing the remaining 6 of the 10 subspecies as threatened or endangered may be warranted: Carson Valley silverspot, Carson Valley wood nymph, Mattoni's blue butterfly, Mono Basin skipper, and the two Railroad Valley skipper subspecies. However, we ask the public to submit to us any new information that becomes available concerning the status of, or threats to, these four subspecies or their habitat at any time.

DATES: To allow us adequate time to conduct this review, we request that we receive information on or before December 5, 2011. Please note that if you are using the Federal eRulemaking

Portal (see **ADDRESSES** section, below), the deadline for submitting an electronic comment is 11:59 p.m. Eastern Standard Time on this date. After December 5, 2011, you must submit information directly to the Field Office (see **FOR FURTHER INFORMATION CONTACT** section below). Please note that we might not be able to address or incorporate information that we receive after the above requested date.

ADDRESSES: You may submit information by one of the following methods:

- *Federal eRulemaking Portal:* <http://www.regulations.gov>. Follow the instructions for submitting comments to Docket No. FWS–R8–ES–2010–0097. Check the box that reads “Open for Comment/Submission,” and then click the Search button. You should then see an icon that reads “Submit a Comment.” Please ensure that you have found the correct rulemaking before submitting your comment.

- *U.S. mail or hand-delivery:* Public Comments Processing, Attn: Docket No. FWS–R8–ES–2010–0097; Division of Policy and Directives Management; U.S. Fish and Wildlife Service; 4401 N. Fairfax Drive, MS 2042–PDM; Arlington, VA 22203.

We will post all information we receive on <http://www.regulations.gov>. This generally means that we will post any personal information you provide us (see the Request for Information section below for more details).

FOR FURTHER INFORMATION CONTACT: Jill A. Ralston, Acting State Supervisor, Nevada Fish and Wildlife Office, U.S. Fish and Wildlife Service, 1340 Financial Blvd., Suite 234, Reno, NV 89502, by telephone (775–861–6300), or by facsimile (775–861–6301). If you use a telecommunications device for the deaf (TDD), please call the Federal Information Relay Service (FIRS) at 800–877–8339.

SUPPLEMENTARY INFORMATION: We announce a 90-day finding on a petition to list 10 subspecies of Great Basin butterflies in Nevada and California as threatened or endangered under the Act and designate critical habitat. The petitioners had requested that we list following 10 subspecies of Great Basin butterflies in Nevada and California as threatened or endangered under the Act and designate critical habitat: Baking Powder Flat blue butterfly (*Euphilotes bernardino minuta*), Mono Basin skipper (*Hesperia uncas giulianii*), bleached sandhill skipper (*Polites sabuleti sinemaculata*), Railroad Valley skipper (*Hesperia uncas fulvapalla*), Carson Valley silverspot (*Speyeria nokomis carsonensis*), Railroad Valley

skipper (*Hesperia uncas reeseorum*), Carson Valley wood nymph (*Cercyonis pegala carsonensis*), Steptoe Valley crescent spot (*Phyciodes cocyta arenacolor*), Mattoni's blue butterfly (*Euphilotes pallescens mattonii*), and White River Valley skipper (*Hesperia uncas grandiose*).

Based on our review, we find that the petition presents substantial scientific or commercial information indicating that listing 4 of the 10 subspecies as threatened or endangered may be warranted, and we find that the petition does not present substantial scientific or commercial information indicating that listing the remaining 6 of the 10 subspecies as threatened or endangered may be warranted.

Request for Information

When we make a finding that a petition presents substantial information indicating that listing a species may be warranted, we are required to promptly review the status of the species (status review). For the status review to be complete and based on the best available scientific and commercial information, we request information on the four subspecies of butterflies from governmental agencies, Native American Tribes, the scientific community, industry, and any other interested parties. We seek information on:

- (1) The species' biology, range, and population trends, including:
 - (a) Habitat requirements for feeding, breeding, and sheltering;
 - (b) Genetics and taxonomy;
 - (c) Historical and current range including distribution patterns;
 - (d) Historical and current population levels, and current and projected trends; and
 - (e) Past and ongoing conservation measures for the species, its habitat or both.
- (2) The factors that are the basis for making a listing determination for a species under section 4(a) of the Act (16 U.S.C. 1531 *et seq.*), which are:
 - (a) The present or threatened destruction, modification, or curtailment of its habitat or range;
 - (b) Overutilization for commercial, recreational, scientific, or educational purposes;
 - (c) Disease or predation;
 - (d) The inadequacy of existing regulatory mechanisms; or
 - (e) Other natural or manmade factors affecting its continued existence.

If, after the status review, we determine that listing any of the six subspecies is warranted, we will propose critical habitat (see definition in section 3(5)(A) of the Act), under

section 4 of the Act, to the maximum extent prudent and determinable at the time we propose to list the species. Therefore, within the geographical range currently occupied by the six subspecies, we request data and information on:

(1) What may constitute “physical or biological features essential to the conservation of the species”;

(2) Where these features are currently found; and

(3) Whether any of these features may require special management considerations or protection.

In addition, we request data and information on “specific areas outside the geographical area occupied by the species” that are “essential to the conservation of the species.” Please provide specific comments and information as to what, if any, critical habitat you think we should propose for designation if any of the six subspecies are proposed for listing, and why such habitat meets the requirements of section 4 of the Act.

Please include sufficient information with your submission (such as scientific journal articles or other publications) to allow us to verify any scientific or commercial information you include.

Submissions merely stating support for or opposition to the action under consideration without providing supporting information, although noted, will not be considered in making a determination. Section 4(b)(1)(A) of the Act directs that determinations as to whether any species is an endangered or threatened species must be made “solely on the basis of the best scientific and commercial data available.”

You may submit your information concerning this status review by one of the methods listed in the **ADDRESSES** section. If you submit information via <http://www.regulations.gov>, your entire submission—including any personal identifying information—will be posted on the Web site. If you submit a hardcopy that includes personal identifying information, you may request at the top of your document that we withhold this personal identifying information from public review. However, we cannot guarantee that we will be able to do so. We will post all hardcopy submissions on <http://www.regulations.gov>.

Information and supporting documentation that we received and used in preparing this finding is

available for you to review at <http://www.regulations.gov>, or you may make an appointment during normal business hours at the U.S. Fish and Wildlife Service, Nevada Fish and Wildlife Office (see **FOR FURTHER INFORMATION CONTACT**).

Background

Section 4(b)(3)(A) of the Act requires that we make a finding on whether a petition to list, delist, or reclassify a species presents substantial scientific or commercial information indicating that the petitioned action may be warranted. We are to base this finding on information provided in the petition, supporting information submitted with the petition, and information otherwise available in our files. To the maximum extent practicable, we are to make this finding within 90 days of our receipt of the petition and publish our notice of the finding promptly in the **Federal Register**.

Our standard for substantial scientific or commercial information within the Code of Federal Regulations (CFR) with regard to a 90-day petition finding is “that amount of information that would lead a reasonable person to believe that the measure proposed in the petition may be warranted” (50 CFR 424.14(b)). If we find that substantial scientific or commercial information was presented, we are required to promptly review the status of the species, which is subsequently summarized in our 12-month finding.

Petition History

On January 29, 2010, we received a petition dated January 25, 2010, from WildEarth Guardians, requesting that 10 subspecies of Great Basin butterflies in Nevada and California be listed as threatened or endangered and critical habitat be designated under the Act. The petition clearly identified itself as such and included the requisite identification information for the petitioner, as required by 50 CFR 424.14(a). In a March 26, 2010, letter to the petitioner, WildEarth Guardians, we responded that we had reviewed the information presented in the petition and determined that issuing an emergency regulation temporarily listing the 10 subspecies as per section 4(b)(7) of the Act was not warranted although this was not requested in the petition. We also stated that while we are required to complete a significant number of listing

and critical habitat actions in Fiscal Year 2010 pursuant to court orders, judicially approved settlement agreements, and other statutory deadlines, we were able to secure funding in Fiscal Year 2010 to begin work on the initial finding to determine whether the petition provides substantial information indicating that the action may be warranted. This finding addresses the petition.

Previous Federal Actions

On May 22, 1984, we added Mattoni’s blue butterfly as *Euphilotes* (= *Shijimiaeoides*) *rita mattonii* to our list of candidate species as a Category 2 candidate species (49 FR 21664). This subspecies is currently known as *Euphilotes pallescens mattonii*. This subspecies was again included in our Category 2 candidate list for November 21, 1991 (56 FR 58804), at which time we added the remaining nine petitioned subspecies as Category 2 candidate species. A Category 2 candidate species was a species for which we had information indicating that a proposal to list it as threatened or endangered under the Act may be appropriate, but for which additional information on biological vulnerability and threat was needed to support the preparation of a proposed rule. These nine subspecies included the Carson Valley wood nymph (*Cercyonis pegala* ssp.), now known as *Cercyonis pegala carsonensis*. The Baking Powder Flat blue butterfly was added as *Euphilotes battoides* ssp., now known as *Euphilotes bernardino minuta*. The two Railroad Valley skippers, the White River Valley skipper, and the Mono Basin skipper were added as *Hesperia uncas* ssp. and are now known as *Hesperia uncas fulvapalla*, *Hesperia uncas reeseorum*, *Hesperia uncas grandiosa*, and *Hesperia uncas giulianii*, respectively. The Steptoe Valley crescent-spot was added as *Phyciodes pascoensis* ssp. and is now known as *Phyciodes cocyta arenacolor*. The bleached sandhill skipper was added under a different common name, Denio sandhill skipper (*Polites sabuleti sinemaculata*). The Carson Valley silverspot was added as *Speyeria nokomis* ssp. and is now known as *Speyeria nokomis carsonensis*. All of these subspecies were maintained as Category 2 candidates in our November 15, 1994 list (59 FR 58982). Please see Table 1.

TABLE 1—PETITIONED GREAT BASIN BUTTERFLIES, WITH THEIR PREVIOUS AND CURRENT COMMON AND SCIENTIFIC NAMES

Previous common name	Current common name	Previous scientific name	Current scientific name
Mattoni's blue butterfly	Mattoni's blue butterfly	<i>Euphilotes</i> (=Shijimiaeoides) <i>rita mattonii</i> .	<i>Euphilotes pallescens mattonii</i> .
Carson Valley wood nymph	Carson Valley wood nymph	<i>Cercyonis pegala</i> ssp.	<i>Cercyonis pegala carsonensis</i> .
Baking Powder Flat blue butterfly ..	Baking Powder Flat blue butterfly ..	<i>Euphilotes battoides</i> ssp.	<i>Euphilotes bernardino minuta</i> .
Railroad Valley skipper	Railroad Valley skipper	<i>Hesperia uncas</i> ssp.	<i>Hesperia uncas fulvapalla</i> .
Railroad Valley skipper	Railroad Valley skipper	<i>Hesperia uncas</i> ssp.	<i>Hesperia uncas reeseorum</i> .
Railroad Valley skipper/White River Valley skipper.	White River Valley skipper	<i>Hesperia uncas</i> ssp.	<i>Hesperia uncas grandiosa</i> .
Railroad Valley skipper/Mono Basin skipper.	Mono Basin skipper	<i>Hesperia uncas</i> ssp.	<i>Hesperia uncas giulianii</i> .
Steptoe Valley crescent spot	Steptoe Valley crescent spot	<i>Phyciodes pascoensis</i> ssp.	<i>Phyciodes cocyta arenacolor</i> .
Denio sandhill skipper	Bleached sandhill skipper	<i>Polites sabuleti sinemaculata</i>	<i>Polites sabuleti sinemaculata</i> .
Carson Valley silverspot	Carson Valley silverspot	<i>Speyeria nokomis</i> ssp.	<i>Speyeria nokomis carsonensis</i> .

In the February 28, 1996, Candidate Notice of Review (CNOR) (61 FR 7595), we adopted a single category of candidate species defined as follows: "Those species for which the Service has on file sufficient information on biological vulnerability and threat(s) to support issuance of a proposed rule to list but issuance of the proposed rule is precluded." In previous CNORs, species meeting this definition were known as Category 1 candidates for listing. Thus, the Service no longer considered Category 2 species as candidates, including the 10 petitioned butterfly subspecies, and did not include them in the 1996 list or any subsequent CNORs. The decision to stop considering Category 2 species as candidates was designed to reduce confusion about the status of these species and to clarify that we no longer regarded these species as candidates for listing.

Evaluation of Information for This Finding

Section 4 of the Act (16 U.S.C. 1533) and its implementing regulations at 50 CFR 424 set forth the procedures for adding a species to, or removing a species from, the Federal Lists of Endangered and Threatened Wildlife and Plants. A species may be determined to be an endangered or threatened species due to one or more of the five factors described in section 4(a)(1) of the Act:

- (a) The present or threatened destruction, modification, or curtailment of its habitat or range;
- (b) Overutilization for commercial, recreational, scientific, or educational purposes;
- (c) Disease or predation;
- (d) The inadequacy of existing regulatory mechanisms; or
- (e) Other natural or manmade factors affecting its continued existence.

In considering what factors might constitute threats, we must look beyond

the mere exposure of the species to the factor to determine whether the species responds to the factor in a way that causes actual impacts to the species. If there is exposure to a factor, but no response, or only a positive response, that factor is not a threat. If there is exposure and the species responds negatively, the factor may be a threat and we then attempt to determine how significant a threat it is. If the threat is significant, it may drive or contribute to the risk of extinction of the species such that the species may warrant listing as threatened or endangered as those terms are defined by the Act. This does not necessarily require empirical proof of a threat. The combination of exposure and some corroborating evidence of how the species is likely impacted could suffice. The mere identification of factors that could impact a species negatively may not be sufficient to compel a finding that listing may be warranted. The information shall contain evidence sufficient to suggest that these factors may be operative threats that act on the species to the point that the species may meet the definition of threatened or endangered under the Act.

In making this 90-day finding, we evaluated whether information regarding threats to the 10 butterfly subspecies as presented in the petition and other information available in our files, is substantial, thereby indicating that the petitioned action may be warranted. Our evaluation of this information is presented below.

Summary of Common Information on Species

The 10 butterfly subspecies included in the petition and evaluated in this finding are invertebrates endemic to the Great Basin region of Nevada and California. All of the petitioned butterflies are from the phylum Arthropoda, class Insecta, order Lepidoptera. Taxonomic families for the

10 subspecies are: Hesperidae (5), Nymphalidae (3), and Lycaenidae (2). In specific subspecies sections below, we have included a short summary of available population and life-history information for each subspecies, as provided in the petition, its references, and our files.

The petition provides information regarding the 10 subspecies' rankings according to NatureServe (WildEarth Guardians 2010, pp. 3–4). The petitioned butterflies are considered at the subspecies taxonomic level and all are ranked as critically impaired or impaired at the global, national, or State level (WildEarth Guardians 2010, pp. 3–4). While the petition states that the "definitions of 'critically impaired' and 'impaired' are at least equivalent to definitions of 'endangered' or 'threatened' under the [Act]," this is not an appropriate comparison. According to its own Web site, NatureServe's assessment of any species "does not constitute a recommendation by NatureServe for listing [that species]" under the Act (NatureServe 2010). In addition, NatureServe's assessment procedures include "different criteria, evidence requirements, purposes and taxonomic coverage [from those of] government lists of endangered and threatened species, and therefore these two types of lists should not be expected to coincide" (NatureServe 2010). We found the information related to the 10 Great Basin butterflies provided by NatureServe to be limited in its usefulness for determining that there is substantial information indicating that these species may be warranted for listing under the Act.

Summary of Common Threats

The petition identifies several threats as common to many of the petitioned butterfly subspecies using general information applicable to most butterfly species: Water development (diversions

and groundwater pumping), livestock grazing, agriculture, pesticides (herbicides and insecticides), inadequate regulatory mechanisms, and climate change (WildEarth Guardians 2010, pp. 6–10). In addition, the petition claims that all of the subspecies may be biologically vulnerable due to limited distribution and small population size or numbers of populations (WildEarth Guardians 2010, pp. 6, 10–11). The common threats presented in the petition are often associated with habitats or general areas that could be suitable for butterfly species, but the petition frequently does not associate the threats to actual locations known to be occupied by the petitioned subspecies. The threats are generally described in the petition, but with little or no information on existing or probable impacts to the individual petitioned subspecies. We have little to no information available in our files to identify potential common threats and connect them to existing or probable impacts to the 10 petitioned subspecies. In this section, we summarize these common threats to the petitioned subspecies as presented in the petition.

Our conclusion for each subspecies as it relates to each of the five factors is based on this summary, in addition to any specific threat information provided in the petition or available in our files. Our conclusion regarding whether there is substantial scientific or commercial information available to indicate that the petitioned action is warranted or not is indicated in specific subspecies sections below.

Factor A. The Present or Threatened Destruction, Modification, or Curtailment of its Habitat or Range Water Development

The petition (WildEarth Guardians 2010, p. 6) suggests that the historical range for some of the petitioned butterflies has been reduced due to loss and mismanagement of riparian and aquatic habitats, including springs and seeps, in northern Nevada (Sada *et al.* 1992, p. 76; Noss *et al.* 1995, p. 76; Brussard *et al.* 1998, pp. 531–532; Sada *et al.* 2001, pp. 11–16; Sada 2008, pp. 49–50), and California (Dahl 1990 cited by Noss *et al.* 1995, p. 74).

The petition claims that water development, such as the large groundwater pumping project proposed by the Southern Nevada Water Authority (SNWA) in Nevada and western Utah, threatens to lower aquifers and will likely reduce or eliminate springs and wetlands and their associated habitats (Deacon *et al.* 2007, p. 689). Proposals by SNWA

would pump 180,800 acre-feet per year (afy) (223,000,000 cubic-meters per year (m³/year)) of groundwater from southern, central, and eastern Nevada to the Las Vegas Valley (Deacon *et al.* 2007, p. 692). Other communities are pursuing rights to an additional 870,487 afy (1,073,750,000 m³/year) of groundwater (Deacon *et al.* 2007, p. 693). In Nevada, this groundwater pumping proposal could lower water tables in some valleys from a few feet to several hundred feet (Schaefer and Harrill 1995, p. 1; Myers 2006, p. 75). Models have predicted groundwater declines of about 1 to 1,600 feet (ft) (0.3 to 488 meters (m)) throughout 78 basins from Utah to California (Deacon *et al.* 2007, p. 692). Pumping is expected to reduce flow of regional springs 2 to 14 percent in the first 100 years, with continued declines over the next 100 years (Deacon *et al.* 2007, p. 692). Groundwater withdrawal can result in direct and indirect effects to the water table and is likely to impact the discharge amount from seeps and springs (Sanford 2006, p. 400).

The petition indicates riparian communities and associated springs, seeps, and small streams comprise a small area of the Great Basin and Mojave Desert regions, but provide habitat for 70 percent of the butterfly species in these regions (Brussard and Austin 1993 cited in Brussard *et al.* 1998, p. 508).

The petition cites a few instances where habitat loss or degradation due to water development has occurred at historical locations of the petitioned subspecies, or where it is occurring at locations currently known to be occupied. However, the petition more typically associates water development with habitat types or general areas that may be used by the petitioned subspecies.

Our files include information regarding groundwater development as it relates to perennial yield versus committed water resources within some hydrographic basins where petitioned butterflies occur or may occur. This file information is from the Nevada Division of Water Resources' (NDWR) database (<http://water.nv.gov/>), which we accessed and reviewed on January 12, 2010, saving hard copies of groundwater information for various basins in Nevada. Where we discuss perennial yield and committed water resources and effects of groundwater development within this finding, we are referring to information we have reviewed from the NDWR database.

The Nevada State Engineer (NSE) approves and permits groundwater rights in Nevada and defines perennial

yield as “the amount of usable water from a ground-water aquifer that can be economically withdrawn and consumed each year for an indefinite period of time. It cannot exceed the natural recharge to that aquifer and ultimately is limited to maximum amount of discharge that can be utilized for beneficial use.” The NSE estimates perennial yield for 256 basins and sub-basins (areas) in Nevada, and may “designate” a groundwater basin, meaning the basin “is being depleted or is in need of additional administration, and in the interest of public welfare, [the NSE may] declare preferred uses (such as municipal, domestic) in such basins.” Some of the hydrographic areas in which the petitioned butterflies occur are “designated” by the NSE and permitted groundwater rights approach or exceed the estimated average annual recharge. Such commitments of water resources beyond perennial yield may result in detrimental impacts to habitats for some of the petitioned subspecies in the designated basins. When groundwater extraction exceeds aquifer recharge, it may result in surface water level decline, spring drying and degradation, or the loss of aquatic habitat (Zektser *et al.* 2005, pp. 396–397).

Determining whether groundwater development is a threat to springs, streams or wetlands or not depends upon: (1) The basins in which withdrawals are occurring or proposed exceed perennial yield or have a hydrologic connection to springs and groundwater flow systems; (2) springs, streams or wetlands are upgradient and outside of the zone of influence of the carbonate aquifer (*i.e.*, they occur in the alluvial aquifer or mountain block aquifer instead); or (3) springs, streams or wetlands are too far away from proposed pumping projects to be impacted (Welch *et al.* 2007, pp. 71–79). Specific information on water development impacts pertaining to a particular petitioned subspecies is included in specific subspecies sections below as appropriate.

Agriculture

The petition provides a general discussion of butterfly use of agricultural areas. It claims that agricultural practices are eliminating suitable habitat, resulting in losses of butterfly species. Fleishman *et al.* (1999, pp. 214–215) is referenced as stating that artificial riparian areas such as irrigated croplands support fewer butterfly species than native habitats; that most butterfly species found in agricultural sites are widespread generalists often found in disturbed

sites; that less common species, as well as those restricted in native larval host plants, are less likely to or do not occur in agricultural sites, and though agriculture can provide habitat for some butterfly species, these modified habitats cannot replace the natural undisturbed riparian ecosystems.

The petition claims that agriculture is a threat to some of the petitioned subspecies, but it does not present specific information to support the claim that this potential threat is impacting the petitioned subspecies, their host plants, or nectar sources, or is likely to in the future. The petition does not present information regarding which types of agricultural practices may be threats, nor is information presented concerning past, present, or projected acreage or intensity of these operations in or near occupied or suitable locations. The petition also does not report loss of populations or reduction in numbers of these butterfly subspecies related directly to agricultural practices. We have little to no information in our files related to agricultural practices impacting the petitioned subspecies. Specific information on agriculture pertaining to a particular subspecies is included in specific subspecies sections below as appropriate.

Pesticide Use

The petition claims that pesticide use is a threat to the petitioned butterfly subspecies (WildEarth Guardians 2010, p. 7). Use of pesticides (including drift) can impact butterfly habitat by killing butterfly nectaring and host plant species (Selby 2007, pp. 3, 30). This threat can be serious for those species that specialize in one host plant species (WildEarth Guardians 2010, p. 7). Use of insecticides on pastureland or croplands adjacent to butterfly habitat can be a direct threat to butterfly survival (Selby 2007, p. 30).

The petition does not present any specific supporting information that this potential threat may be impacting the subspecies or is likely to in the future. The petition does not present specific information concerning past, present, or projected intensity of pesticide use in or near occupied or suitable locations. The petition does not present specific information as to whether this potential threat has, is, or is likely to affect the subspecies, their host plants, or nectar sources. The petition also does not report loss of populations or reductions in numbers of these subspecies to pesticide use. We have no information in our files related to pesticide use impacting any of the petitioned subspecies or their habitats. Specific information regarding pesticide use and

impacts to a particular petitioned subspecies is included in specific subspecies sections below as appropriate.

Livestock Grazing

The petition states that livestock grazing in general impacts riparian areas, wetlands, seeps, and springs by removing native vegetation, and by reducing cover, biomass, and the productivity of herbaceous and woody species. It also claims that trampling by livestock destroys vegetation and compacts the soil, increasing erosion and runoff, and that grazing spreads nonnative plant species (Fleishner 1994, pp. 631–635; Belsky *et al.* 1999, pp. 8–11; Sada *et al.* 2001, p. 15). Inappropriate livestock grazing can also trample butterfly larvae and host or nectar plants, degrade habitats, and assist in the spread of nonnative plant species that can dominate or replace native plant communities and thereby impact larval host and adult nectar species (WildEarth Guardians 2010, pp. 22–23). The petition indicates that light or moderate grazing can assist in maintaining butterfly habitats (WildEarth Guardians 2010, p. 23), but heavy grazing is considered incompatible with the conservation of some butterflies (Sanford 2006, p. 401; Selby 2007, pp. 3, 29, 33, 35).

The petition indicates that the threat from livestock grazing is occurring over widespread general habitat areas where the petitioned subspecies could be occurring, with a few site-specific instances. The petition provides little to no specific supporting information to indicate this potential threat may be impacting the petitioned subspecies or is likely to in the future. The petition provides little to no information related to the level of grazing utilization that has or may be occurring at occupied or suitable locations, or that it may increase in intensity in the future. The petition does not present information that indicates the degree, if any, that invasive plants are spreading in the petitioned subspecies' occupied habitats as a result of grazing activities. The petition does not report loss of populations or reduction in numbers of these petitioned subspecies due to livestock grazing. We have little to no information available in our files related to livestock grazing impacting the petitioned subspecies. Specific information related to livestock grazing and impacts to a particular subspecies is included in specific subspecies sections below as appropriate.

Climate Change

The petition claims that climate change in the Great Basin is a threat to the petitioned subspecies. The average temperature in the Great Basin has increased 0.6 to 1.1 degrees Fahrenheit (0.3 to 0.6 degrees Celsius) during the last 100 years (Chambers 2008a, p. 29) and is expected to increase by 3.6 to 9 degrees Fahrenheit (2 to 5 degrees Celsius) over the next century (Cubashi *et al.* 2001 cited by Chambers 2008a, p. 29).

The petition indicates that climate change is expected to affect the timing and flow of streams, springs, and seeps in the Great Basin (Chambers 2008b, p. 20) which support the moist meadows upon which some petitioned butterflies depend (WildEarth Guardians 2010, p. 9). Earlier spring snowmelt appears to be affecting the date of blooming for some plants in the Great Basin (Chambers 2008a, p. 29). Potential changes in the bloom date of meadow plants used by butterflies due to climate change could affect their use (WildEarth Guardians 2010, p. 9). The petition indicates that drought in the Great Basin could negatively affect riparian habitats, moist meadows, and similar habitats, especially those already stressed by other factors (Major 1963 cited by West 1983, p. 344). As climate changes, droughts may become more common in the Great Basin (Chambers *et al.* 2008, p. 3) and American Southwest (Seager *et al.* 2007, pp. 1181–1183), modifying future precipitation (WildEarth Guardians 2010, p. 8). Increased carbon dioxide (CO₂) may favor invasion of annual grasses such as the nonnative *Bromus tectorum* (cheat grass) (Smith *et al.* 2000, pp. 79, 81). Increased temperatures and CO₂ levels have various effects on plant growth and chemistry, which may affect insect abundance and persistence (Stiling 2003, pp. 486–488). Increasing temperatures can also affect insect development and reproduction (Sehnal *et al.* 2003, pp. 1117–1118).

According to Loarie *et al.* (2009, p. 1052), as referenced in the petition, species and ecosystems will need to shift northward an average of 0.3 mile (mi) (0.42 kilometer (km)) per year to avoid the effects of increasing temperatures associated with climate change. Loarie *et al.* (2009, p. 1053) also states that distances may be greater for species in deserts and xeric (dry habitat) shrublands, where climate change is predicted to have greater effect than in some other ecosystems. The petition states that it is unlikely that small, isolated populations of butterflies in the Great Basin, dependent on reduced

habitats, will be able to shift to other habitats in the face of climate change (WildEarth Guardians 2010, p. 9). Many species in the Great Basin have specialized habitat requirements and limited mobility, which influence their ability to adapt to anthropogenic environmental change (Fleishman 2008, p. 61). Species and habitats already stressed by other factors may be less able to cope with climate change (WildEarth Guardians 2010, p. 10). The petition did not provide climate change or drought information specific to Nevada or California, or the general areas known to be occupied by any of the 10 petitioned butterflies, or on the specific detrimental effects of climate change or drought to each subspecies.

Based on information in our files, recent projections of climate change in the Great Basin over the next century include: Increased temperatures, with an increased frequency of extremely hot days in summer; more variable weather patterns and more severe storms; more winter precipitation in the form of rain, with potentially little change or decreases in summer precipitation; and earlier, more rapid snowmelt (United States Environmental Protection Agency 1998, pp. 1–4; Chambers and Pellant 2008, pp. 29–33).

It is difficult to predict local climate change impacts, due to substantial uncertainty in trends of hydrological variables, limitations in spatial and temporal coverage of monitoring networks, and differences in the spatial scales of global climate models and hydrological models (Bates *et al.* 2008, p. 3). Thus, while the information in the petition and our files indicates that climate change has the potential to affect vegetation and habitats used by butterflies in the Great Basin in the long term, there is much uncertainty regarding which habitat attributes could be affected, and the timing, magnitude, and rate of their change as it relates to the 10 petitioned butterflies. Specific information pertaining to climate change and a particular petitioned subspecies is included in specific subspecies sections below as appropriate.

Factor B. Overutilization for Commercial, Recreational, Scientific, or Educational Purposes

The petition states that individuals of all of the petitioned butterfly subspecies have been collected by scientists and amateur collectors over the years, but it is not known whether collection is a threat to any of the subspecies as a whole (WildEarth Guardians 2010, p. 8). The petition does not provide information that overutilization has led

to the loss of butterfly populations or a significant reduction in numbers of individuals for any of the petitioned butterflies.

We do not have information in our files to suggest overutilization as a threat to any of the petitioned subspecies. This discussion provides the basis for our determinations in specific subspecies sections below.

Factor C. Disease or Predation

The petition indicates that disease is not known to be a threat to any of the petitioned butterflies (WildEarth Guardians 2010, p. 8). A general statement is made in the petition that larvae and adult butterflies are subject to predation from a variety of wildlife; however, it is not known whether predation is a threat to any of the petitioned subspecies (WildEarth Guardians 2010, p. 8).

We do not have information in our files suggesting disease or predation as a threat to the petitioned butterfly subspecies. This discussion provides the basis for our determinations in specific subspecies sections below.

Factor D. The Inadequacy of Existing Regulatory Mechanisms

The petition considers the inadequacy of existing regulatory mechanisms to be a threat for all 10 petitioned subspecies (WildEarth Guardians 2010, p. 40). The petition claims that no Federal or State programs exist to manage sensitive invertebrate species in Nevada or the Great Basin, but it does not address existing regulatory mechanisms in California (WildEarth Guardians 2010, p. 8). Information provided in the petition's referenced material suggests that the general habitats that could be used by the petitioned subspecies may occur on lands under various combinations of private, State, tribal, and Federal management. The petition presents little to no specific information to support the claim that potential threats are associated with inadequate existing regulatory mechanisms, nor does the petition connect inadequate existing regulatory mechanisms by Bureau of Land Management (BLM) or other Federal agencies to impacts to or losses of populations or declining population trends of the petitioned subspecies.

All of the petitioned butterfly subspecies, with the exception of the Carson Valley wood nymph and Railroad Valley skipper (*Hesperia uncas reeseorum*), are included under the referenced 2007 BLM list of sensitive species (BLM 2007a, pp. J6–J7, J37). In 2008, BLM policy and guidance for species of concern occurring on BLM-

managed land was updated under BLM's 6840 Manual, "Special Status Species Management" (BLM 2008a). This manual provides agency policy and guidance for the conservation of special status plants and animals and the ecosystems on which they depend, but it is not a regulatory document. The objectives for BLM special status species are "to conserve and/or recover ESA-listed species and the ecosystems on which they depend so that ESA protections are no longer needed for these species and to initiate proactive conservation measures that reduce or eliminate threats to Bureau sensitive species to minimize the likelihood of and need for listing of these species under the ESA" (BLM 2008a, p. 3). Inclusion as a BLM sensitive species does provide consideration of conservation measures for the subspecies under the National Environmental Policy Act.

Based on information presented in the petition and available in our files, Nevada does not have the ability to protect invertebrates under its current State law. The Nevada Department of Wildlife is limited in its ability to protect insects under its current regulations (Nevada Revised Statutes (NRS)). Nevada State law protects species that the Wildlife Commission determines to be imperiled (NRS 503.585 cited in WildEarth Guardians 2010, p. 8). While some invertebrates such as mollusks and crustaceans may be protected because they can be classified under wildlife (NRS 501.110 cited in WildEarth Guardians 2010, p. 8), butterflies are not covered under this statute (WildEarth Guardians 2010, p. 8). No butterfly species are currently protected by State law in Nevada (Nevada Administrative Code 503.020–503.080). The California Department of Fish and Game is unable to protect insects under its current regulations (P. Bontadelli, *in litt.*, 1990).

The petition presents little to no specific information supporting the claim that threats are associated with inadequate existing regulatory mechanisms. Additionally, the petition provides little to no specific supporting information to associate losses of butterfly populations or declining population trends to inadequate existing regulatory mechanisms by State wildlife agencies or other State agencies.

We have little to no information available in our files to suggest that inadequacy of existing regulatory mechanisms may be threatening the petitioned subspecies. For most of these subspecies, we have no information in our files related to this potential threat; however, for a few there is some

information in our files to suggest a potential threat due to the inadequacy of existing regulatory mechanisms. Specific information pertaining to the inadequacy of existing regulatory mechanisms and a particular subspecies is included in specific subspecies sections below as appropriate.

Factor E. Other Natural or Manmade Factors Affecting its Continued Existence

The petition states that all of the petitioned butterflies may be susceptible to the effects of biological vulnerability, which may increase the likelihood of extinction (WildEarth Guardians 2010, pp. 6, 10). Characteristic butterfly population fluctuations and short generation times, combined with small populations, can influence genetic diversity and long-term persistence (Britten *et al.* 2003, pp. 229, 233). The petition further asserts that many of the butterflies included in the petition occur as single populations or a few disparate ones, and that the number of populations may be more important than population size when assessing the status of a butterfly (Sanford 2006, p. 401). Some of the petitioned butterflies occur in isolated populations in patchy environments (WildEarth Guardians 2010, p. 11), and the lack of dispersal corridors or resistance to barriers to dispersal may inhibit gene flow between populations and increase the likelihood of extinction (Wilcox and Murphy 1985, pp. 882–883). Overall, the petition provides little information related to the distribution, numbers of populations, size of populations, or population trends for the 10 petitioned butterfly subspecies. However, the petition and its references indicate that most of the 10 subspecies are known to have more than one population. The petition provides little to no specific information that indicates that biological vulnerability may be a threat to any of the petitioned subspecies.

General biological information in our files indicates that the combination of few populations, small ranges, and restricted habitats can make a species susceptible to extinction or extirpation from portions of its range due to random events such as fire, drought, disease, or other occurrences (Shaffer 1987, pp. 71–74; Meffe and Carroll 1994, pp. 190–197). Limited distribution and small population numbers or sizes are considered in determining whether the petition provides substantial information regarding a natural or anthropogenic threat, or a combination of threats, that may be affecting a particular subspecies. However, in the absence of information identifying

chance events, other threats, the potential for such chance events to occur in occupied habitats, and connecting these threats to a restricted geographic range of a subspecies, we do not consider chance events, restricted geographic range, or rarity by themselves to be threats to a subspecies. In addition, butterfly populations are highly dynamic and from year to year, butterfly distributions can be highly variable (Weiss *et al.* 1997, p. 2), and desert species seem prone to dramatic fluctuations in number (Scott 1986, p. 109).

We have little to no additional information related to the overall abundance, distribution, number and size of populations, or population trends for any of the 10 subspecies in our files. We do not have additional information in our files related to biological vulnerability as a threat to any of the petitioned butterfly subspecies. Specific information pertaining to biological vulnerability and a particular subspecies is included in specific subspecies sections below as appropriate.

Species for Which Substantial Information Was Not Presented

In this section, the butterfly subspecies are listed in alphabetical order by their common name.

Carson Valley silverspot (*Speyeria nokomis carsonensis*)

We accept the characterization of the Carson Valley silverspot as a valid subspecies based on its description by Austin (1998c, pp. 573–574). The Carson Valley silverspot's larval host plant is the violet, *Viola nephrophylla* (Austin *et al.* 2000, p. 2; Austin and Leary 2008, p. 97), and the primary nectar sources are *Cirsium* sp. (Austin *et al.* 2000, p. 2). A single brood flies during mid-July to mid-October (Austin 1998c, p. 574; Austin *et al.* 2000, p. 2).

The Carson Valley silverspot occurs in wet meadows along the east side of the Carson Range from southern Washoe County, Nevada, south to northern Alpine County, California. It occurs along the Carson River drainage in Douglas County, Nevada, and Alpine County, California. It also occurs in the Pine Nut Mountains of Douglas County, Nevada, and the Sweetwater Mountains (Austin 1998c, p. 574; Austin *et al.* 2000, p. 2; The Nature Conservancy 2009, p. 1), Pine Grove Hills, and Smith Valley of Lyon County, Nevada (Austin and Leary 2008, p. 97). Populations have been found along the Walker River drainage in Mono County, California (Austin *et al.* 2000, p. 2; The Nature Conservancy 2009, p. 1). The largest

known colony occurs at Scossa Ranch, Douglas County, Nevada (Austin *et al.* 2000, p. 2). The subspecies has been documented from the Carson Range North, Washoe County; Snow Valley, Carson City County; and Mineral Valley, Pine Nut Creek, and Sugar Loaf, Douglas County (NNHP 2006, pp. 21–22, 36–37). The petition indicates there are 13 Nevada occurrences in the NNHP (NNHP 2009, p. 8) database, but location information is not indicated. However, review of the complete Nevada database, which we have in our files, includes additional locations at Davis Creek Park, Kingsbury Grade, Thompson Canyon, Dangberg Reservoir near Gardnerville, Daggett Pass, Veceey Canyon area, Haines Canyon, Thomas Creek, and Kings Canyon (NNHPD 2008). The petition notes that this subspecies may currently occur at 37 sites (M. Sanford, pers. comm., cited in WildEarth Guardians 2010, p. 18), but location information was not provided. The petition states that the subspecies is reduced from historical abundance (M. Sanford pers. comm., cited in WildEarth Guardians 2010, p. 17).

Factor A:

Information Provided in the Petition

The petition asserts that water development; land development; agriculture; livestock grazing; nonnative plant species invasion, such as by *Lepidium latifolium* (tall whitetop); and pesticide use may impact this subspecies (WildEarth Guardians 2010, p. 19). The petition indicates that these types of activities can eliminate, degrade, and fragment butterfly habitat (WildEarth Guardians 2010, p. 19). The petition adds that heavy livestock grazing on public and private land in the Sierra Nevada, Pine Nut Mountains, and Sweetwater Mountains has degraded habitat for the Carson Valley silverspot (WildEarth Guardians 2010, p. 20). The annual grazing removes vegetation from seep- and spring-fed meadows, and water diversions for grazing have dried up meadows, eliminating silverspot habitat (WildEarth Guardians 2010, p. 20). The petition mentions that climate change may result in the drying out of moist habitats in the Carson Valley (WildEarth Guardians 2010, p. 20).

According to the petition, most of the Carson Valley silverspot populations occur in habitats associated with the Carson River and its tributaries in “Carson Valley” (WildEarth Guardians 2010, p. 18). The petition indicates that the NNHP has ranked the Carson River among the 26 highest priority wetland areas in the State (NNHP 2007, p. 8).

Many other associated areas, including tributaries, riparian areas, wet meadows, marshes, ponds, and ephemeral pools in Carson Valley, Nevada, are also listed (NNHP 2007, pp. 12–14). According to NNHP (2007, p. 36) and The Nature Conservancy (2008, p. 31), numerous areas associated with these sites and others along the Middle Carson River have been degraded or converted to other lands uses. Moderate to high stressors impacting these areas in Carson Valley include water development and diversions, groundwater pumping, hydrogeomorphic modification, land development, agriculture, livestock grazing, recreation, fire suppression, wetland leveling, and nonnative species invasions. The petition implies these activities are negatively impacting the Carson Valley silverspot.

Evaluation of Information Provided in the Petition and Our Files

The petition does not provide specific, supporting information to indicate that the Carson Valley silverspot may be impacted from water development, land development, agriculture, livestock grazing, nonnative plant species invasion, pesticide use, or climate change at occupied locations in Nevada or California. The petition does not provide additional information or discussion regarding possible impacts to the Carson Valley silverspot from recreation, fire suppression, and wetland leveling. The petition does not provide specific, supporting information regarding past, present, or future conditions of these threats or their scope, immediacy, or intensity at occupied or suitable habitats in Nevada or California. The petition emphasizes habitat impacts along the Middle Carson River in Nevada; however, there are a number of populations located in several counties in both Nevada and California. Little to no information regarding habitat impacts to these additional populations is indicated. We have information in our files that indicate habitat disturbances such as water table changes may adversely impact larval food availability (Austin *et al.* 2000, p. 2), but details are not provided. Grazing has been associated with population declines (M. Sanford, pers. comm., cited in WildEarth Guardians 2010, p. 19), but details are not provided. We do not have any further specific, supporting information in our files regarding potential threats or resulting negative impacts to Carson Valley silverspot populations in Nevada or California. Also see the “Summary of Common Threats” section for information pertaining to water

development, agriculture, livestock grazing, pesticide use, and climate change as potential threats.

While the petition reports losses of Carson Valley silverspot populations from their historical abundance (M. Sanford, pers. comm., cited in WildEarth Guardians 2010, p. 17), which could suggest a negative response to these potential threats, details regarding these losses and the reason(s) for them are not provided. The petition does not present specific information related to population numbers, size, or trends for the Carson Valley silverspot over any period of time. The petition does not provide additional information related to the reported population declines, regarding their locations, number of populations, or magnitude of them. We do not have this information in our files. As a result, it is not possible to put these reported declines into context to determine whether populations of the Carson Valley silverspot may be experiencing declines or not or their possible severity. These declines might be attributed to the normal natural fluctuations of butterfly populations. Butterfly populations are highly dynamic and numbers and distribution can be highly variable year to year (Weiss *et al.* 1997, p. 2).

Based on our evaluation of the information provided in the petition and in our files, we have determined that the petition does not present substantial information to indicate that listing the Carson Valley silverspot may be warranted due to the present or threatened destruction, modification, or curtailment of its habitat or range.

Factors B and C:

Information Provided in the Petition

The petition states that it is unknown whether overutilization, disease, or predation are threats to this subspecies (WildEarth Guardians 2010, p. 8). Based on information referenced in the petition, numerous individuals (432 males, 224 females) of this subspecies have been collected by several collectors between 1964 and 1989 at Scossa Ranch, Douglas County, Nevada (Austin 1998c, p. 574). Based on these total numbers over the 25-year time period, an average of 17 males and 9 females were collected per year. Ranges of individuals collected during a single day in a particular year were 1 to 39 for males and 1 to 54 for females. In some years, multiple collections occurred, and in some years collections occurred on consecutive days (Austin 1998c, p. 574).

Evaluation of Information Provided in the Petition and Our Files

The petition does not provide information that overutilization, disease, or predation has negatively impacted the subspecies. We have no information in our files related to overutilization, disease, or predation for this subspecies. According to Austin *et al.* (2000, p. 2), Scossa Ranch remains the largest known colony for this subspecies. As indicated earlier, there are also multiple populations of this subspecies occurring elsewhere in Nevada and California. We do not know if or to what extent these other populations have been impacted by collection efforts. The available information does not indicate collection efforts are negatively impacting the Carson Valley silverspot. Also see the “Summary of Common Threats” section for information pertaining to overutilization, disease, and predation as potential threats.

Based on our evaluation of the information provided in the petition and in our files, we have determined that the petition does not present substantial information to indicate that listing the Carson Valley silverspot may be warranted due to Factor B (overutilization for commercial, recreational, scientific, or educational purposes) or Factor C (disease or predation).

Factor D:

Information Provided in the Petition

The petition asserts that inadequate existing regulatory mechanisms are a threat to this subspecies (WildEarth Guardians 2010, pp. 8, 40). This butterfly is listed as a BLM sensitive species (BLM 2007a, p. J6). This designation can offer it some conservation consideration. The petition also indicates that some populations of the Carson Valley silverspot, as well as potential habitat, occur on properties covered by conservation easements (WildEarth Guardians 2010, p. 19). These easements may be protected from land development, but they are not protected from other activities such as groundwater pumping, invasive species, livestock grazing, and agricultural use (WildEarth Guardians 2010, p. 19).

Evaluation of Information in the Petition and Our Files

The petition does not provide specific information to support the assertion that existing regulatory mechanisms are inadequate to protect the subspecies from potential threats because it does not provide substantial information to support their assertion that threats are

occurring under the other factors. The petition does not connect inadequate existing regulatory mechanisms to losses of Carson Valley silverspot populations or declining population trends. We do not have information in our files related to the inadequacy of existing regulatory mechanisms for this subspecies. Also see the "Summary of Common Threats" section for information pertaining to the inadequacy of regulatory mechanisms as a potential threat.

Based on our evaluation of the information provided in the petition and in our files, we have determined that the petition does not present substantial information to indicate that listing the Carson Valley silverspot may be warranted due to the inadequacy of existing regulatory mechanisms.

Factor E:

Information Provided in the Petition

The petition indicates that this subspecies may be vulnerable to reduced population numbers (WildEarth Guardians 2010, p. 40) due to the observed subspecies' reduction in numbers from historical abundance (M. Sanford pers. comm., cited in WildEarth Guardians 2010, p. 17).

Evaluation of Information in the Petition and Our Files

The petition did not present, nor do we have, specific information in our files related to population numbers, size, or trends for the Carson Valley silverspot. The petition does not provide additional information related to the reported population declines, regarding the location, number of populations, magnitude of declines, or reasons for them. The petition does not provide information on chance events or other threats to the subspecies and connect them to small population numbers or size, or the potential for such threats to occur in occupied habitats in the future. Since this subspecies is distributed over a number of populations in two States, its extinction vulnerability due to stochastic events may be reduced. In the absence of specific information and connection, we do not consider small population numbers alone to be a threat to this subspecies. Also see the "Summary of Common Threats" section for information pertaining to small population size as a potential threat.

Based on evaluation of the information provided in the petition and our files, we have determined that the petition does not present substantial information to indicate that listing the Carson Valley silverspot may be warranted due to other natural or

manmade factors affecting the subspecies' continued existence.

Carson Valley Wood Nymph (*Cercyonis pegala carsonensis*)

We accept the characterization of the Carson Valley wood nymph as a valid subspecies, based on its description by Austin (1992, pp. 10–11). The larval host plant is a grass or sedge species (Austin *et al.* 2000, p. 1). Adults nectar on a variety of white and yellow flowers from the families Apiaceae (carrot) and the Asteraceae (sunflower) (Austin 1992, p. 11). The single brood flies from early July to early September (Austin 1992, p. 11).

The Carson Valley wood nymph occurs in marshes of the western Great Basin along the base of the Carson Range, especially in Carson Valley from Carson City, Nevada, south to east-central Alpine County, California, and the Gardnerville area of Douglas County, Nevada, with a few northern specimens from the Reno area, Washoe County, Nevada (Austin 1992, p. 11). Austin *et al.* (2000, p. 1) mention unidentified localities in Lyon County, Nevada. The petition indicates there are 14 Nevada occurrences recorded in the NNHP database, but occurrence locations are not identified (NNHP 2009, p. 6). However, review of the complete Nevada database, which we have in our files, shows additional locations near Minden, Daggett Pass, Centerville, Genoa, and along the Carson River, with Cradlebaugh Bridge being a named location (NNHPD 2008). The largest colony occurs at Scossa Ranch, Douglas County (Austin *et al.* 2000, p. 1). According to the petition, populations appear to be declining between 10 to 30 percent in the short term with possible extirpation of populations in Washoe County (NatureServe 2009c, p. 2). Surveys conducted between 2001 and 2006 showed that some populations of the Carson Valley wood nymph have been extirpated (M. Sanford, pers. comm., cited in WildEarth Guardians 2010, p. 22).

Factor A:

Information Provided in the Petition

The petition asserts in general that water development; land development; agriculture; livestock grazing; invasion by nonnative plant species, such as *Lepidium latifolium*; and pesticide use may adversely affect Carson Valley wood nymph habitat (WildEarth Guardians 2010, pp. 22–23, 40). The petition indicates that these types of actions can eliminate, degrade, and fragment butterfly habitat (WildEarth Guardians 2010, p. 23). Threats mentioned by other sources pertaining

specifically to this subspecies include land development, overgrazing, and lowering of the water table (NatureServe 2009c, p. 2).

The petition indicates that the NNHP (2007, pp. 8, 12–14) has ranked the Carson River in Nevada among the 26 highest priority wetland areas in the State, and many associated areas—including tributaries, riparian areas, wet meadows, marshes, ponds, and ephemeral pools in Carson Valley, Nevada—are also included. According to NNHP (2007, p. 36) and The Nature Conservancy (2008, p. 31), numerous areas associated with these habitats and others along the Middle Carson River have been degraded or converted to other land uses, and moderate to high stressors impacting these areas include water development and diversions, groundwater pumping, hydrogeomorphic modification, land development, agriculture, livestock grazing, recreation, fire suppression, wetland leveling, and nonnative species invasion.

Evaluation of Information in the Petition and Our Files

The petition does not provide specific, supporting information to indicate the Carson Valley wood nymph may be impacted from water development, land development, agriculture, livestock grazing, invasive plants, or pesticide use at occupied locations in Nevada or California. The petition does not provide additional information or discussion regarding possible impacts to the Carson Valley wood nymph from recreation, fire suppression, and wetland leveling. The petition does not provide specific, supporting information regarding past, present, or future conditions of these threats or their scope, immediacy, or intensity at occupied or suitable habitats in Nevada or California. The petition emphasizes habitat impacts along the Middle Carson River in Nevada; however, there are additional Carson Valley wood nymph populations located in several counties in both Nevada and California. No information is included to indicate habitat impacts to these additional populations. We have information in our files (Austin *et al.* 2000, p. 1) indicating, in general, that land development, overgrazing, and lowering of the water table could reduce or destroy habitat of the Carson Valley wood nymph, but further details are not provided. We do not have any further specific, supporting information in our files regarding other potential impacts or resulting adverse impacts to Carson Valley wood nymph populations in Nevada or California. Also see the

“Summary of Common Threats” section for information pertaining to water development, agriculture, livestock grazing, and pesticide use as potential threats.

While the petition reports a loss of Carson Valley wood nymph populations with some possible extirpations (M. Sanford, pers. comm., cited in WildEarth Guardians 2010, p. 22), which could suggest a negative response to these potential threats, details regarding these losses and the reasons for them are not provided. The petition does not present specific information related to population numbers, size, or trends for the Carson Valley wood nymph over any period of time, including the 2001 to 2006 period. The petition does not provide additional information related to the reported population declines, regarding their locations, number of populations, or the magnitude of them. The context for the reported 10 to 30 percent decline between 2001 and 2006 is not clear as we do not know how many populations this range should apply or whether it is over the entire 5-year period or a portion of it. The identification of the possibly extirpated populations, their locations in Nevada or California, or the number of them are not provided. We do not have this information in our files. As a result, it is not possible to put these reported declines or extirpations into context to determine whether populations of the Carson Valley wood nymph may be experiencing declines or not or their possible severity. These declines might be attributed to the normal natural fluctuations of butterfly populations. Butterfly populations are highly dynamic and numbers and distribution can be highly variable year to year (Weiss *et al.* 1997, p. 2).

Based on our evaluation of the information provided in the petition and in our files, we have determined that the petition does not present substantial information to indicate that listing the Carson Valley wood nymph may be warranted due to the present or threatened destruction, modification, or curtailment of its habitat or range.

Factors B and C:

Information Provided in the Petition

The petition states that it is unknown if overutilization, disease, or predation are threats to this subspecies. Austin (1992, p. 11) reports numerous individuals (475 males, 428 females) of this subspecies were collected by several individuals between 1964 and 1989 at Scossa Ranch, Douglas County, Nevada, as referenced in the petition. Based on these total numbers over the 25-year time period, an average of 19

males and 17 females were collected per year. Ranges of individuals collected during a single day in a particular year were 1 to 108 for males and 1 to 80 for females. In some years, multiple collections occurred, and in some years collections occurred on consecutive days (Austin 1992, p. 11).

Evaluation of Information in the Petition and Our Files

The petition does not provide information that overutilization, disease, or predation has negatively impacted the subspecies. We do not have information in our files related to overutilization, disease, or predation for this subspecies. According to Austin *et al.* (2000, p. 1), Scossa Ranch remains the largest known colony for this subspecies. As indicated earlier, there are also multiple populations of this subspecies occurring elsewhere in Nevada and California. We do not know if or to what extent these other populations have been impacted by collection efforts. The available information does not indicate that collection efforts are negatively impacting the Carson Valley wood nymph. Also see the “Summary of Common Threats” section for information pertaining to overutilization, disease, and predation as potential threats.

Based on our evaluation of the information provided in the petition and our files, we have determined that the petition does not present substantial information to indicate that listing of the Carson Valley wood nymph may be warranted due to Factor B (overutilization for commercial, recreational, scientific, or educational purposes) or Factor C (disease or predation).

Factor D:

Information Provided in the Petition

The petition asserts that existing regulatory mechanisms are inadequate to protect this subspecies (WildEarth Guardians 2010, pp. 8, 40). The petition also indicates that most of the known or potential populations of the Carson Valley wood nymph do not occur on properties covered by conservation easements (WildEarth Guardians 2010, p. 23). While land under a conservation easement may be protected from land development, the area may not necessarily be protected from other activities such as groundwater pumping, invasive species, livestock grazing, and agricultural use (WildEarth Guardians 2010, p. 22). The petition states that the Carson Valley wood nymph is a BLM sensitive species (WildEarth Guardians

2010, p. 22); however, upon review, it is not included in the referenced document (BLM 2007a).

Evaluation of Information in the Petition and Our Files

The petition does not provide specific information to support the assertion that existing regulatory mechanisms are inadequate to protect the subspecies from potential threats because it does not provide substantial information to support their assertion that threats are occurring under the other factors. The petition does not connect inadequate existing regulatory mechanisms to losses of Carson Valley wood nymph populations or declining population trends. We do not have information in our files related to the inadequacy of existing regulatory mechanisms for this subspecies. Also see the “Summary of Common Threats” section for information pertaining to the inadequacy of regulatory mechanisms as a potential threat.

Based on our evaluation of the information provided in the petition and in our files, we have determined that the petition does not present substantial information to indicate that listing the Carson Valley wood nymph may be warranted due to the inadequacy of existing regulatory mechanisms.

Factor E:

Information Provided in the Petition

The petition indicates that this subspecies may be vulnerable to small populations (WildEarth Guardians 2010, pp. 21, 40) due to the possible decline and extirpations of Carson Valley wood nymph populations (M. Sanford, pers. comm., cited in WildEarth Guardians 2010, p. 22).

Evaluation of Information in the Petition and Our Files

The petition does not present additional information about the surveys conducted between 2001 and 2006, such as the locations, numbers, or causes of these presumed extirpations. We do not have information in our files related to population numbers, sizes, or trends. The petition does not provide information on chance events or other threats to the subspecies, nor does it connect these factors to small population numbers or size, or the potential for such chance events to occur in occupied habitats in the future. In the absence of this information and connection, we do not consider small population numbers alone to be a threat to this subspecies. Since the information indicates this subspecies is distributed over more than one population in two States, its vulnerability to extinction

due to stochastic events may be reduced. Also see the "Summary of Common Threats" section for information pertaining to small population size as a potential threat.

Based on our evaluation of the information provided in the petition and our files, we have determined that the petition does not present substantial information to indicate that listing the Carson Valley wood nymph may be warranted due to other natural or manmade factors affecting the subspecies' continued existence.

Mattoni's Blue Butterfly (*Euphilotes pallescens mattonii*)

We accept the characterization of Mattoni's blue butterfly as a valid subspecies based on its initial description by Shields (1975, p. 20) and its subsequent reclassification as indicated by Austin (1998a, p. 633). This subspecies' host plant, *Eriogonum microthecum* var. *laxiflorum* (slender buckwheat), flowers between June and October (Shields 1975, pp. 20–21). Adults fly during July (Shields 1975, p. 20; Austin and Leary 2008, p. 76). Female *Euphilotes* lay their eggs on young flowers of *Erigonum* sp., and the larvae feed on pollen and later developing seeds (Pratt 1994, p. 388).

Mattoni's blue butterfly is known from the west fork of Beaver Creek (Shields 1975, p. 20), west of Charleston Reservoir (Austin 1998a, p. 633; Nevada Natural Heritage Program Database (NNHPD) 2008), west of Pequop Summit (Austin and Leary 2008, p. 76; NNHPD 2008), and the Pilot-Thousand Springs, Long-Ruby Valleys, and Bruneau River watersheds in Elko County, Nevada (NNHPD 2008; NatureServe 2009a, p. 2). Shields (1975, p. 21) stated that since the host plant was common between 5,000 and 10,500 ft (1,524 to 3,200 m) in elevation in the western United States, Mattoni's blue butterfly may be more widespread than was known at that time. Austin *et al.* (2000, p. 3) indicate that this subspecies is "apparently rare where it is found * * *."

Factor A:

Information Provided in the Petition

The petition asserts that land use, livestock grazing and trampling, and climate change may affect this subspecies' habitat (WildEarth Guardians 2010, pp. 25, 40). The petition also states that land use and other factors could hinder dispersal (WildEarth Guardians 2010, p. 25).

Evaluation of Information Provided in the Petition and in Our Files

The petition provides no specific supporting information to indicate that Mattoni's blue butterfly is or may become impacted from land use, livestock grazing or trampling, or dispersal problems at any of its occupied sites in Elko County. The petition does not provide specific supporting information how climate change is or may impact this subspecies or its habitat. The petition does not provide supporting information regarding past, present, or future conditions of these threats or their scope, immediacy, or intensity at occupied or suitable habitats. The petition does not report loss of populations or reduction in numbers of this butterfly subspecies which could suggest a negative response to threats such as those claimed. Although we have a letter from a contractor indicating that any habitat disturbance could theoretically adversely affect this subspecies (Austin *et al.* 2000, p. 3), we do not have specific information in our files to support the assertion that land use, livestock grazing or trampling, or climate change is impacting Mattoni's blue butterfly populations. Evaluation of the available information indicates that there is not sufficient evidence to suggest that these potential threats are occurring in occupied areas to the extent that they may be affecting this subspecies' status such that it may warrant listing under the Act. Also see the "Summary of Common Threats" section for information pertaining to livestock grazing and climate change as potential threats.

Based on our evaluation of the information provided in the petition and in our files, we have determined that the petition does not present substantial information to indicate that listing Mattoni's blue butterfly may be warranted due to the present or threatened destruction, modification, or curtailment of its habitat or range.

Factors B and C:

Information Provided in the Petition

The petition states that it is not known whether overutilization, disease, or predation are threats to this subspecies (WildEarth Guardians 2010, p. 8). Information referenced in the petition indicates that one female and one male are known to have been collected in 1969 (Austin 1998a, p. 633).

Evaluation of Information Provided in the Petition and in Our Files

The petition does not provide information that overutilization,

disease, or predation has negatively impacted the subspecies. We have no information in our files related to overutilization, disease, or predation for this subspecies. Also see the "Summary of Common Threats" section for information pertaining to overutilization, disease, and predation as potential threats.

Based on our evaluation of the information provided in the petition and in our files, we have determined that the petition does not present substantial information to indicate that listing the Mattoni's blue butterfly may be warranted due to Factor B (overutilization for commercial, recreational, scientific, or educational purposes) or Factor C (disease, or predation).

Factor D:

Information Provided in the Petition

The petition asserts that inadequate existing regulatory mechanisms are a threat to the subspecies (WildEarth Guardians 2010, pp. 8, 40). Mattoni's blue butterfly is listed as a sensitive species by BLM (BLM 2007a, p. J-7) which may offer some conservation consideration.

Evaluation of Information Provided in the Petition and in Our Files

The petition does not provide information to support the assertion that existing regulatory mechanisms are inadequate to protect the subspecies from potential threats because it does not provide substantial information to support their assertion that threats are occurring under the other factors. The petition does not connect inadequate existing regulatory mechanisms to losses of Mattoni's blue butterfly populations or declining population trends. We do not have information in our files related to the inadequacy of existing regulatory mechanisms for this subspecies. Also see the "Summary of Common Threats" section for information pertaining to the inadequacy of existing regulatory mechanisms as a potential threat.

Based on our evaluation of the information provided in the petition and in our files, we have determined that the petition does not present substantial information to indicate that listing Mattoni's blue butterfly may be warranted due to the inadequacy of existing regulatory mechanisms.

Factor E:

Information Provided in the Petition

The petition indicates that this subspecies may be vulnerable due to limited range (WildEarth Guardians

2010, pp. 10–11, 40). The petition asserts that Mattoni's blue butterfly may be restricted to its habitat in Elko County, Nevada (WildEarth Guardians 2010, p. 25). If the subspecies is dependent on its specific host plant, it may not be able to disperse far enough to other locations where the host plant can be found (Shields and Reveal 1988, p. 80). The petition also indicates Austin *et al.* (2000, p. 3) said that this subspecies is "apparently rare where it is found * * *."

Evaluation of Information in the Petition and Our Files

The petition does not present, nor do we have information in our files, related to population numbers, size, or trends for Mattoni's blue butterfly. The petition does not provide information on chance events or other threats to the subspecies and connect them to a possibly restricted range or small numbers for the subspecies or the potential for such chance events to occur in occupied habitats in the future. In the absence of specific information identifying threats to the subspecies and connecting them to a restricted geographic range or small numbers of the subspecies, or the potential for such events to occur in occupied habitats, we do not consider a restricted geographic range or rarity by themselves to be threats to this subspecies. Many naturally rare species have persisted for long periods within small geographic areas. The fact that a species is rare does not necessarily indicate that it may meet the definition of threatened or endangered under the Act. Also see the "Summary of Common Threats section" for information pertaining to limited distribution and small population size as potential threats.

Therefore, based on our evaluation of the information provided in the petition and in our files, we have determined that the petition does not present substantial information to indicate that listing Mattoni's blue butterfly may be warranted due to other natural or manmade factors affecting the subspecies' continued existence.

Mono Basin Skipper (*Hesperia uncas giulianii*)

We accept the characterization of the Mono Basin skipper as a valid subspecies based on its description by McGuire (1998, pp. 461–462). The Mono Basin skipper flies from May to mid-July (Austin and McGuire 1998, p. 780; Davenport *et al.* 2007, p. 8). Females lay their eggs on *Stipa* sp. (needlegrass) (McGuire 1998, p. 463).

The type locality for the Mono Basin skipper is the Adobe Hills area in Mono

County, California (McGuire 1998, p. 462). Habitat at the type locality for the Mono Basin skipper is described as gently rolling hills with sandy soil between 6,800 and 7,500 ft (2,072 and 2,286 m) in elevation (McGuire 1998, p. 462). The vegetation consists of *Pinus monophylla* (singleleaf piñon) woodlands and Great Basin sagebrush with *Artemisia tridentata* (big sagebrush), *Chrysothamnus viscidiflorus* (yellow rabbitbrush), *Eriogonum umbellatum* ssp. (sulphurflower buckwheat), *Lupinus argenteus* (silvery lupine), and *Stipa* sp., including *Stipa pinetorum* (pinewoods needlegrass). At least one population was described as using "open, sparse sage flats" (McGuire 1998, p. 462). Individuals were seen within this area at Granite and Glass Mountains; near Bodie; and near Laws (McGuire 1998, p. 462). McGuire (1998, p. 462) indicates this subspecies may occur elsewhere in similar Adobe Hills habitat. The Adobe Hills extend into western Mineral County, Nevada, where a similar skipper phenotype was discovered (Austin and McGuire 1998, p. 780; McGuire 1998, pp. 462–463).

Factor A:

Information Provided in the Petition

The petition asserts that livestock grazing and its associated effects and climate change are threats to the subspecies (WildEarth Guardians 2010, pp. 28, 40). The petition also claims that unnatural fires that result from invasive plants spread by grazing eliminate shrub steppe habitat (WildEarth Guardians 2010, p. 28).

Evaluation of Information Provided in the Petition and in Our Files

The petition does not provide specific supporting information that livestock grazing is impacting the Mono Basin skipper in the Adobe Hills. The petition does not provide any information that would indicate past, current, or future livestock grazing practices have, are, or may negatively impact the Mono Basin skipper or its habitat. We do not have additional information in our files related to livestock grazing in the Adobe Hills. The petition does not present, nor do we have in our files, any specific, supporting information that indicates invasive plants are spreading in the Adobe Hills and that unnatural fire is resulting from invasive plants or that unnatural fire is eliminating shrub-steppe habitat. The petition does not present, nor do we have in our files, specific supporting information related to impacts due to climate change for the Mono Basin skipper. The petition does not report loss of populations or reduction in numbers of this subspecies

which could suggest a negative response to threats such as those claimed. Evaluation of the available information does not establish that these potential threats are occurring in occupied areas and may be impacting this subspecies. Also see the "Summary of Common Threats" section for information pertaining to livestock grazing and climate change as potential threats.

Based on our evaluation of the information provided in the petition and in our files, we have determined that the petition does not present substantial information to indicate that listing the Mono Basin butterfly may be warranted due to the present or threatened destruction, modification, or curtailment of its habitat or range.

Factors B and C:

Information Provided in the Petition

The petition states that it is not known whether overutilization, disease, or predation are threats to this subspecies (WildEarth Guardians 2010, p. 8). Information referenced in the petition indicates that 17 males and 3 females are known to have been collected between 1978 and 1986 (McGuire 1998, p. 462).

Evaluation of Information Provided in the Petition and in Our Files

The petition does not provide information that overutilization, disease, or predation has negatively impacted the subspecies. While the petition's referenced material provides some information about known numbers of collections, the petition does not provide any information about the population sizes or trends during this time period. Given the low number of individuals collected over an 8-year time span, the length of time since these collections were made, and the lack of information about the relative impact to the population, the petition does not provide substantial information to indicate that collection may be a threat to the subspecies. We have no information in our files related to overutilization, disease, or predation for this subspecies. Also see the "Summary of Common Threats" section for information pertaining to overutilization, disease, and predation as potential threats.

Based on our evaluation of the information provided in the petition and in our files, we have determined that the petition does not present substantial information to indicate that listing the Mono Basin skipper may be warranted due to Factor B (overutilization for commercial, recreational, scientific, or educational

purposes) or Factor C (disease or predation).

Factor D:

Information Provided in the Petition

The petition asserts that inadequate existing regulatory mechanisms are a threat to this subspecies (WildEarth Guardians 2010, pp. 8, 40). The BLM lists the Mono Basin skipper as a sensitive species in Nevada (where it is not known to occur) but not in California (where it is known to occur) (BLM 2007a, p. J-37). This designation, where it is applied, can offer some conservation consideration.

Evaluation of Information Provided in the Petition and in Our Files

The petition does not provide specific information to support the assertion that existing regulatory mechanisms are inadequate to protect the subspecies from potential threats because it does not provide substantial information to support their assertion that threats are occurring under the other factors. The petition does not associate inadequate existing regulatory mechanisms to losses of Mono Basin skipper populations or declining population trends. We do not have information in our files related to the inadequacy of existing regulatory mechanisms for this subspecies. Also see the “Summary of Common Threats” section for information pertaining to the inadequacy of regulatory mechanisms as a potential threat.

Based on our evaluation of the information provided in the petition and in our files, we have determined that the petition does not present substantial information to indicate that listing the Mono Basin skipper may be warranted due to the inadequacy of existing regulatory mechanisms.

Factor E:

Information Provided in the Petition

The petition asserts that the Mono Basin skipper may be vulnerable due to limited range and small population numbers (WildEarth Guardians 2010, pp. 10–11, 40).

Evaluation of Information in the Petition and Our Files

The petition does not present, nor do we have information in our files related to, population numbers, size, or trends for the Mono Basin skipper. The petition does not provide information on chance events or other threats to the subspecies and connect them to a possibly restricted range for this subspecies or the potential for such threats to occur in occupied habitats in

the future. In the absence of specific information identifying such threats to the subspecies and connecting them to a restricted geographic range or small population numbers of the subspecies, or the potential for such events to occur in occupied habitats, we do not consider restricted geographic range or small population numbers by themselves to be threats to this subspecies. In addition, this subspecies, as indicated above, is distributed over more than one population thereby reducing its extinction vulnerability due to stochastic (random) events. Also see the “Summary of Common Threats” section for information pertaining to limited distribution and small population size as potential threats.

Therefore, based on our evaluation of the information provided in the petition and in our files, we have determined that the petition does not present substantial information to indicate that listing the Mono Basin skipper may be warranted due to other natural or manmade factors affecting the subspecies’ continued existence.

Railroad Valley Skipper (*Hesperia uncas fulvapalla*)

Because two of the petitioned subspecies share the same common name, Railroad Valley skipper, we also include their scientific name throughout the analyses for clarity.

We accept the characterization of the Railroad Valley skipper (*Hesperia uncas fulvapalla*) as a valid subspecies based on its description by Austin and McGuire (1998, p. 777). A single brood flies from mid June to mid July (Austin and McGuire 1998, p. 777). Adults have been documented nectaring on thistles (*Cirsium* sp.) (Austin and McGuire 1998, p. 777).

The Railroad Valley skipper’s (*H. u. fulvapalla*) type locality is Lockes Ponds, a grassy alkaline meadow near Lockes in Railroad Valley, Nye County, Nevada (Austin and McGuire 1998, p. 777). The Nevada Natural Heritage Program (NNHP) (2006, p. 38; NNHPD 2008) indicates the subspecies has been documented near three spring sites (Currant, Duckwater, and Lockes) in Railroad Valley, Nye County. Austin and McGuire (1998, p. 777) indicate this subspecies is also known from other alkaline meadows in Railroad Valley and the Calleo area, Juab County, Utah. However, according to the petition, subsequent literature does not report this subspecies from Utah (WildEarth Guardians 2010, p. 29).

Factor A:

Information Provided in the Petition

The petition asserts that water development, agriculture, livestock grazing, energy production, and climate change may impact this subspecies (WildEarth Guardians 2010, pp. 30–31, 40). The petition provides information indicating that both Duckwater and Lockes Springs are considered “highest conservation priority” areas, while Currant Springs is considered a companion site (NNHP 2006, pp. 10–11). The NNHP includes Railroad Valley springs and marshes in general as one of the State’s 26 highest priority wetland areas (NNHP 2007, p. 8), and they are considered 80 percent degraded and 20 percent converted to other uses (NNHP 2007, p. 41). Moderate to high stressors—activities, events, or other stimuli that cause stress to a species or environment—impacting these general wetland areas in Railroad Valley include water diversion and development, groundwater pumping, hydrogeomorphic modification, agriculture, livestock grazing, recreation, nonnative species invasion, and energy development (NNHP 2007, p. 41). The petition implies that these stressors impacting the general wetland areas are negatively impacting the Railroad Valley skipper (*H. u. fulvapalla*).

The petition claims that SNWA’s proposal to pump groundwater in central Nevada is likely to affect spring discharges in Railroad Valley, including discharges for Duckwater and Lockes Springs (Deacon *et al.* 2007, p. 693). Current pumping plus water rights sought for future pumping represent 265 percent of the estimated groundwater perennial yield for Railroad Valley (Deacon *et al.* 2007, p. 691). The petition references information related to groundwater pumping simulations for SNWA’s proposed project, and pumping could lower water levels in northern and southern Railroad Valley (Schaeffer and Harrill 1995, p. 29). The simulated drawdowns for Duckwater, occurring in the central part of northern Railroad Valley, are a few tenths of a foot in upper and lower cell layers (Schaeffer and Harrill 1995, p. 29) and are not demonstrated until simulated pumping occurs during phase four, decades later (Schaeffer and Harrill 1995, pp. 31–32). The simulated drawdowns in the southern part of Railroad Valley are more substantial, reaching about 100 ft (30.5 m) in upper and lower cell layers (Schaeffer and Harrill 1995, p. 29). Because pumping wells are to be placed primarily in the southern part of Railroad Valley, pumping will have a

greater impact in the south than in the north (Schaeffer and Harrill 1995, p. 29).

In addition, most of Nevada's oil production comes from several small oil fields in Railroad Valley (WildEarth Guardians 2010, p. 30), and this type of development may also affect spring aquifers in Railroad Valley (Deacon Williams and Williams 1989, p. 466).

Evaluation of Information Provided in the Petition and in Our Files

Although we have one letter from a contractor indicating that lowering the water table and overgrazing could theoretically threaten the subspecies (Austin *et al.* 2000, p. 3), our evaluation of all available information indicates that these threats are unlikely to impact the subspecies. Based on information in our files, the Railroad Valley skipper (*H. u. fulvapalla*) occurs in the Railroad Valley Northern hydrographic area (#173B) (NDWR 2010). The perennial yield of the Railroad Valley Northern hydrographic area is 75,000 afy (92,510,000 m³/year), and there are 24,943 afy (30,770,000 m³/year) committed; thus, the permitted groundwater rights do not approach or exceed the estimated average annual recharge in this hydrographic area.

Furthermore, Service files provide information about native habitat restoration efforts conducted at both Duckwater Springs and Lockes Springs. In 2006 and 2008, restoration efforts were conducted at Big Warm Spring and Little Warm Spring on the Duckwater Indian Reservation to reduce impacts from water diversion (Poore 2008a, pp. 1–4). Big Warm Spring and Little Warm Spring are offered some protections through long-term Partners for Fish and Wildlife Program grant agreements, funding through section 6 of the Act, and a Safe Harbor Agreement (Fish and Wildlife Service and Duckwater Shoshone Tribe 2007, pp. 1–25; Fish and Wildlife Service 2009, pp. 1–36). These agreements should prevent future threats from spring development, water pollution, recreation, and overgrazing. In 2005, Lockes Ranch (where the Lockes Springs occur) was purchased by the State of Nevada through a Recovery Lands Acquisition grant for protection of the Railroad Valley springfish (*Crenichthys nevadae*), a federally listed threatened fish with designated critical habitat. While there is no formal protection for butterflies in the State of Nevada, this purchase and associated conservation measures for the springfish provides some protection to riparian habitat, spring systems, and associated wildlife. The State actively manages recreation and grazing or has eliminated these activities from portions

of Lockes Ranch such that potential past threats to the subspecies have been reduced. In 2008, the four springs (Big, North, Hay Corral, and Reynolds) on Lockes Ranch underwent restoration, including re-creation of a sinuous channel, improvements to other existing channels, elimination of an irrigation ditch, and removal of nonnative vegetation from the spring systems (Poore 2008b, pp. 1–10). The land acquisition and the restoration activities have reduced impacts from livestock grazing and recreation, and eliminated impacts from spring diversion at these sites. While these restoration activities at both Duckwater and Lockes Ranch are directed at improving habitat conditions for the Railroad Valley springfish, they may also have provided habitat benefits to the Railroad Valley skipper (*H. u. fulvapalla*) (if it occurs in the immediate vicinity); this suggests that potential threats to the skipper from water diversions, livestock grazing, and invasive species have been significantly reduced for the long-term.

The information presented in the petition for this subspecies does not provide supporting information that groundwater development has or may affect habitat for the Railroad Valley skipper (*H. u. fulvapalla*). Information in our files demonstrates that the assertion that water development may impact the butterfly is likely unfounded, because the subspecies occurs in northern Railroad Valley where groundwater does not appear to be overcommitted. Information in our files indicates that SNWA's proposed project may result in only minor, if any, water table lowering in the area that the subspecies occurs, and that recent conservation efforts have significantly reduced threats.

The petition does not provide specific supporting information that the Railroad Valley skipper (*H. u. fulvapalla*) may be impacted by agriculture, livestock grazing, energy production, or climate change at occupied locations. The petition does not provide specific supporting information regarding past, present, or future conditions of these threats or their scope, immediacy, or intensity at occupied or suitable habitat. The petition does not report loss of populations or reduction in numbers of this subspecies to these potential threats, which could suggest a negative response to a threat such as those claimed. We do not have in our files specific information to support the concern of potential threats from agriculture, grazing, energy development, or climate change to impacts to Railroad Valley skipper (*H. u. fulvapalla*) populations or its

habitat. Also see the "Summary of Common Threats" section for information pertaining to water development, agriculture, livestock grazing, and climate change as potential threats.

Based on our evaluation of the information provided in the petition and in our files, we have determined that the petition does not present substantial information to indicate that listing the Railroad Valley skipper (*H. u. fulvapalla*) may be warranted due to the present or threatened destruction, modification, or curtailment of its habitat or range.

Factors B and C:

Information Provided in the Petition

The petition states that it is not known whether overutilization, disease, or predation are threats to this subspecies (WildEarth Guardians 2010, p. 8). Information referenced in the petition indicates that 105 males and 75 females were collected between 1984 and 1990 (Austin and McGuire 1998, p. 777).

Evaluation of Information Provided in the Petition and in Our Files

The petition does not provide information that overutilization, disease, or predation has negatively impacted this subspecies. While the petition's referenced material provides some information about known numbers of collections, the petition does not provide any information about the population sizes or trends during this time period. Given the low number of individuals collected over a 6-year time span, the length of time since these collections were made, and the lack of information about the relative impact to the population, the petition does not provide substantial information to indicate that collection may be a threat to the subspecies. We have no information in our files related to overutilization, disease, or predation for this subspecies. Also see the "Summary of Common Threats" section for information pertaining to overutilization, disease, and predation as potential threats.

Based on our evaluation of the information provided in the petition and in our files, we have determined that the petition does not present substantial information to indicate that listing the Railroad Valley skipper (*H. u. fulvapalla*) may be warranted due to Factor B (overutilization for commercial, recreational, scientific, or educational purposes) or Factor C (disease or predation).

Factor D:

Information Provided in the Petition

The petition asserts that inadequate existing regulatory mechanisms are a threat to this subspecies (WildEarth Guardians 2010, p. 40). The BLM lists the Railroad Valley skipper (*H. u. fulvapalla*) as a sensitive species (BLM 2007a, p. J-37). This designation can offer it some conservation consideration.

Evaluation of Information Provided in the Petition and in Our Files

The petition does not provide information to support the assertion that existing regulatory mechanisms are inadequate to protect the subspecies from potential threats because it does not provide substantial information to support their assertion that threats are occurring under the other factors. The petition does not associate inadequate existing regulatory mechanisms to losses of Railroad Valley skipper (*H. u. fulvapalla*) populations or declining population trends. We do not have information in our files related to the inadequacy of existing regulatory mechanisms for this subspecies. Also see the "Summary of Common Threats" section for information pertaining to the inadequacy of existing regulatory mechanisms as a potential threat.

Based on our evaluation of the information provided in the petition and in our files, we have determined that the petition does not present substantial information to indicate that listing the Railroad Valley skipper (*H. u. fulvapalla*) may be warranted due to the inadequacy of existing regulatory mechanisms.

Factor E:

Information Provided in the Petition

The petition indicates the subspecies may be vulnerable due to small population numbers (WildEarth Guardians 2010, pp. 10–11, 40). Austin (1985, pp. 125–126) indicates *Hesperia uncas* spp. appear to be restricted to the valleys where they occur. The petition suggests that isolated populations of the Railroad Valley skipper (*H. u. fulvapalla*) are probably unable to disperse to suitable habitat or interconnect with other populations especially where habitat fragmentation has occurred due to various factors such as land use, water development, and climate change (WildEarth Guardians 2010, p. 30).

Evaluation of Information Provided in the Petition and in Our Files

The petition does not present, nor do we have specific information in our files, related to population sizes,

numbers, or trends for the Railroad Valley skipper (*H. u. fulvapalla*). The petition does not provide information on chance events or other threats to the subspecies and connect them to potential small population size or restricted range or the potential for such chance events to occur in occupied habitats in the future. In the absence of specific information identifying such threats to the subspecies and connecting them to small populations or restricted range of the subspecies, or the potential for such events to occur in occupied habitats, we do not consider small population numbers or restricted range by themselves to be threats to this subspecies. In addition, this subspecies is distributed over more than one population thereby reducing its extinction vulnerability due to stochastic events. Also see the "Summary of Common Threats" section for information pertaining to limited distribution and small population size as potential threats.

Therefore, based on our evaluation of the information provided in the petition and in our files, we have determined that the petition does not present substantial information to indicate that listing the Railroad Valley skipper (*H. u. fulvapalla*) may be warranted due to other natural or manmade factors affecting the subspecies' continued existence.

Railroad Valley Skipper (*Hesperia uncas reeseorum*)

Because two of the subspecies share the same common name, Railroad Valley skipper, we also include their scientific name throughout the analyses for clarity.

We accept the characterization of the Railroad Valley skipper (*Hesperia uncas reeseorum*) as a valid subspecies based on its description by Austin and McGuire (1998, p. 776). This subspecies flies as a single brood during mid June to early August (Austin and McGuire 1998, p. 776). Adults have been documented using thistle (*Cirsium* spp.) for nectar (Austin and McGuire 1998, p. 776). The larval host plant is *Sporobolus airoides* (alkali sacaton) (Austin and Leary 2008, p. 11).

The Railroad Valley skipper (*H. u. reeseorum*) is known from the Reese River and Mason Valleys in central (Lander County) and western Nevada (Lyon County), respectively, where it occurs in alkaline, *Distichlis spicata* (saltgrass) flats (Austin and McGuire 1998, p. 776). The type locality is located along Nevada State Route 722 (previously State Route 2) approximately 4 mi (6.4 km) east-northeast of the Reese River in an

extensive alkaline flat in the river's floodplain (Austin and McGuire 1998, p. 776).

Factor A:

Information Provided in the Petition

The petition asserts that water development, agriculture, livestock grazing, and climate change may impact this subspecies (WildEarth Guardians 2010, pp. 33–34, 40). The petition provides information indicating that the NNHP ranks the Mason Valley/Walker River riparian zone among the 26 highest priority wetlands in Nevada (NNHP 2007, p. 25). In this category, 100 percent of the wetland areas have been converted to other land uses or degraded (NNHP 2007, p. 38). Moderate to high stressors impacting wetlands in the Mason Valley/Walker River riparian zone include water diversion/development, groundwater pumping, hydrogeomorphic modifications, land development, agriculture, livestock grazing, mining, and nonnative species invasion (NNHP 2007, p. 38). In the lower Reese River Valley, 80 percent of the "priority wetland areas" have been converted to other land uses or degraded (NNHP 2007, p. 41). Moderate to high stressors impacting the wetlands in the lower Reese River Valley include water diversion/development, groundwater pumping, land development, agriculture, livestock grazing, and nonnative species invasion (NNHP 2007, p. 41). The petition implies that these activities which occur generally in wetland areas in Mason Valley/Walker River and lower Reese River Valley are impacting the Railroad Valley skipper (*H. u. reeseorum*).

Evaluation of Information Provided in the Petition and Our Files

The petition does not provide, nor do we have in our files, specific locations where this subspecies has been observed other than the type locality. The petition does not provide specific, supporting information to indicate that the Railroad Valley skipper (*H. u. reeseorum*) may be impacted by water development, agriculture, livestock grazing, or climate change. The petition does not provide supporting information regarding past, present, or future condition of these threats or their scope, immediacy, or intensity at occupied or suitable habitat. The petition does not report loss of populations or reduction in numbers of this subspecies which could suggest a negative response to threats such as those claimed. We do not have information in our files related to potential threats from water development, agriculture, livestock

grazing, or climate change to Railroad Valley skipper (*H. u. reeseorum*) populations or its habitat. Also see the “Summary of Common Threats” section for information pertaining to water development, agriculture, livestock grazing, and climate change as potential threats.

Based on our evaluation of the information provided in the petition and our files, we have determined that the petition does not present substantial information to indicate that listing the Railroad Valley skipper (*H. u. reeseorum*) may be warranted due to the present or threatened destruction, modification, or curtailment of its habitat or range.

Factors B and C:

Information Provided in the Petition

The petition states that it is not known whether overutilization, disease, or predation are threats to this subspecies (WildEarth Guardians 2010, p. 8). Based on information referenced in the petition, 138 male and 82 female specimens were collected between 1969 and 1984 (Austin and McGuire 1998, p. 776).

Evaluation of Information Provided in the Petition and Our Files

The petition does not provide information that overutilization, disease, or predation has negatively impacted the subspecies. While the petition’s referenced material provides some information about known numbers of collections, the petition does not provide any information about the population sizes or trends during this time period. Given the low number of individuals collected over a 15-year time span, the length of time since these collections were made, and the lack of information about the relative impact to the population, the petition does not provide substantial information to indicate that collection may be a threat to the subspecies. We have no information in our files related to overutilization, disease, or predation for this subspecies. Also see the “Summary of Common Threats” section for information pertaining to overutilization, disease, and predation as potential threats.

Based on our evaluation of the information provided in the petition and our files, we have determined that the petition does not present substantial information to indicate that listing the Railroad Valley skipper (*H. u. reeseorum*) may be warranted due to Factor B (overutilization for commercial, recreational, scientific, or educational purposes) or Factor C (disease or predation).

Factor D:

Information Provided in the Petition

The petition asserts that inadequate existing regulatory mechanisms are a threat to this subspecies (WildEarth Guardians 2010, pp. 8, 40). The BLM does not list this subspecies as a sensitive species (BLM 2007a).

Evaluation of Information Provided in the Petition and in Our Files

The petition does not provide information to support the assertion that existing regulatory mechanisms are inadequate to protect the subspecies from potential threats because it does not provide substantial information to support their assertion that threats are occurring under the other factors. The petition does not associate inadequate existing regulatory mechanisms to losses of Railroad Valley skipper (*H. u. reeseorum*) populations or declining population trends. We do not have information in our files related to the inadequacy of existing regulatory mechanisms for this subspecies. Also see the “Summary of Common Threats” section for information pertaining to the inadequacy of existing regulatory mechanisms as a potential threat.

Based on our evaluation of the information provided in the petition and our files, we have determined that the petition does not present substantial information to indicate that listing the Railroad Valley skipper (*H. u. reeseorum*) may be warranted due to the inadequacy of existing regulatory mechanisms.

Factor E:

Information Provided in the Petition

The petition indicates that this subspecies may be vulnerable due to small population numbers (WildEarth Guardians 2010, pp. 10–11, 40). Austin (1985, pp. 125–126) indicates *Hesperia uncas* spp. appear to be restricted to the valleys where they occur. The petition suggests that isolated populations of this subspecies of the Railroad Valley skipper (*H. u. reeseorum*) are probably unable to disperse to suitable habitat or interconnect with other populations especially where land use, water development, or climate change fragment habitat (WildEarth Guardians 2010, pp. 33).

Evaluation of Information Provided in the Petition and in Our Files

The petition does not present, nor do we have specific information in our files related to population numbers, size, or trends for the Railroad Valley skipper (*H. u. reeseorum*). The petition did not provide information on chance events or

other threats to the subspecies and connect them to small population numbers or restricted range or the potential for such chance events to occur in occupied habitats in the future. In the absence of specific information identifying such threats to the subspecies and connecting them to small population numbers or restricted range of the subspecies, or the potential for such events to occur in occupied habitats, we do not consider small population numbers or restricted range by themselves to be threats to this subspecies. In addition, this subspecies is distributed over more than one population, thereby reducing its extinction vulnerability due to stochastic events. Also see the “Summary of Common Threats” section for information pertaining to limited distribution and small population size as potential threats.

Therefore, based on our evaluation of the information provided in the petition and our files, we have determined that the petition does not present substantial information to indicate that listing the Railroad Valley skipper (*H. u. reeseorum*) may be warranted due to other natural or manmade factors affecting the subspecies’ continued existence.

Species for Which Substantial Information Was Presented

In this section, the butterfly subspecies are listed in alphabetical order by their common names.

Baking Powder Flat Blue Butterfly (*Euphilotes bernardino minuta*)

We accept the characterization of the Baking Powder Flat blue butterfly as a valid subspecies based on its description by Austin (1998b, p. 549). The Baking Powder Flat blue butterfly is exclusively associated with *Eriogonum shockleyi* (Shockley’s buckwheat), on which both larvae and adults are found (Austin 1993, p. 5; Austin and Leary 2008, pp. 68–69). Larvae of this subspecies are tended by ants (*Formica obtusopilosa*) (Shields 1973 cited by Austin 1993, p. 5). Pupae are likely formed in and protected by litter that is in and beneath the host plant (Austin 1993, p. 5). Adults fly between mid and late June (Austin 1993, p. 6; 1998a, p. 550), and there is one brood (Austin 1993, p. 6).

The Baking Powder Flat blue butterfly is only known from Baking Powder Flat in Spring Valley, in Lincoln and White Pine Counties, Nevada, a flat valley bottom with scattered sand dunes (Austin 1998b, p. 550; Austin and Leary 2008, pp. 68–69). Baking Powder Flat contains the largest known contiguous

habitat for the Baking Powder Flat blue butterfly (BLM 2009, p. 20). In 1993, Austin (1993, p. 5) reported two colonies in southern Spring Valley, and also suggested that other areas could support the host plant (Austin 1993, p. 6). *Eriogonum shockleyi* grows on relatively hard and bare areas between the sand dunes (Austin 1998b, p. 550). Searches of nearby areas in southern Spring Valley did not reveal additional colonies of the subspecies or its host plant (Austin 1993, p. 5; 1998b, p. 550); however, Austin and Leary (2008, pp. 68–69) list what appear to be seven discrete locations where this subspecies (adults and larvae) has been seen between 1969 and 2002. The NNHPD (2008) indicates that this subspecies occurs in the Baking Powder Flat area near Blind Spring. During a general terrestrial invertebrate survey conducted in 2006 at 76 sites in eastern Nevada, including 37 sites in Spring Valley (2 of which could be in or near known locations for this subspecies), the Baking Powder Flat blue butterfly was not encountered (Ecological Sciences, Inc. 2007, pp. 80–82).

Factor A:

Information Provided in the Petition

The petition asserts that water development, fire, nonnative plant invasion, livestock grazing, and climate change may impact this subspecies (WildEarth Guardians 2010, pp. 13–14, 40). The petition indicates that the NNHP has ranked the Baking Powder Flat playa/ephemeral pool/spring pool complex among the 26 highest priority wetland areas in the State (NNHP 2007, p. 8). The moderate- to-high stressors impacting the complex include water diversion and development, groundwater pumping, livestock grazing, agriculture, mining, and nonnative species invasion (NNHP 2007, p. 42). It is estimated that about 30 percent of the wetland area has been degraded or converted to other land uses (NNHP 2007, p. 42). The petition implies that these stressors impacting the wetland complex are negatively impacting the Baking Powder Flat blue butterfly.

The petition raises concerns about SNWA's proposal to pump and transfer approximately 91,200 afy (112,500,000 m³/year) of groundwater from Spring Valley (Meyers 2006, p. 6) to Las Vegas, Nevada. This proposed project could lower the water table in Spring Valley by 200 ft (61 m) in 100 years, and 300 ft (91 m) in 1,000 years (Meyers 2006, p. 75), and Charlet (2006, p. 19) predicted that desertification of Baking Powder Flat would result. The SNWA's

proposed project may directly impact the Baking Powder Flat area, including the Baking Powder Flat Area of Critical Environmental Concern (ACEC), due to monitoring and facility installation and construction activities (BLM 2009, pp. 20–21). The ACEC was established in 2008 (72 FR 67748, p. 67749; 73 FR 55867) to protect the Baking Powder Flat blue butterfly (BLM 2009, p. 20).

According to the petition, additional threats to this subspecies and its habitat include fire in the surrounding sagebrush habitat and subsequent nonnative plant species invasion (B. Boyd, pers. comm. cited by WildEarth 2010, p. 14) and climate change. The petition also mentions disturbance to this subspecies' host plant from trampling, and soil compaction from livestock grazing (B. Boyd, pers. comm. cited in WildEarth 2010, p. 13, NatureServe 2009b, p. 2). According to the petition, three grazing allotments appear to overlap with the Baking Powder Flat ACEC (BLM 2007b, Map 2.4 16–1). Areas of the ACEC can be "heavily impacted" by livestock grazing (BLM 2009, p. 21). In addition to livestock grazing, plant collecting and limited off-road vehicle use are also authorized within the ACEC (BLM 2007b, p. 2.4–101).

Evaluation of Information Provided in the Petition and Our Files

While several activities as listed above (water diversion and development, groundwater pumping, livestock grazing, agriculture, mining, and nonnative species invasion) may be impacting a portion (30 percent) of the Baking Powder Flat wetland complex, the petition does not provide supporting information that these activities are occurring in occupied Baking Powder Flat blue butterfly habitat and are negatively impacting it, especially since the subspecies' host plant does not occur in wetland areas. Adults and larvae utilize *Eriogonum shockleyi* to meet life-history requirements. This plant grows on relatively hard and bare areas between the sand dunes in Baking Powder Flat (Austin 1998b, p. 550) and mostly on gravelly, clayey, or sandy soils, or on rocky outcrops and ledges, in association with *Sarcobatus* (greasewood), *Atriplex* (shadscale), and *Artemisia* (sagebrush) (Kartesz 1987, p. 282). It has been described by BLM as common in Baking Powder Flat (BLM 2009, p. 20). We have information in our files that indicates the permitted groundwater rights in the Spring Valley hydrographic area (#184) exceed the estimated average annual recharge; the perennial yield of the Spring Valley hydrographic area is 80,000 afy

(98,680,000 m³/year), and there are 86,085 afy (106,200,000 m³/year) committed (NDWR 2010). However, because the host plant grows in dry areas and not within the Baking Powder Flat wetland complex, it is unlikely that current overcommitted groundwater rights or SNWA's proposed water development project are or will indirectly impact the host plant, and thus the Baking Powder Flat blue butterfly, through possible lowering of the water table.

We have information in our files (Austin *et al.* 2000, p. 3; Austin 1993, p. 7) that indicates that soil compaction or direct destruction of host plants from activities such as livestock trampling and vehicles may impact the Baking Powder Flat blue butterfly, though no further specific, supporting information is provided.

For the other threats mentioned (fire and climate change), the petition and information in our files do not present specific supporting information regarding past, present, or future conditions of these potential threats or their scope, immediacy, or intensity at occupied or suitable habitats. The petition does not report loss of populations or reduction in numbers of this subspecies which could suggest a negative response to these threats. Also see "Summary of Common Threats" section for information pertaining to water development, livestock grazing, and climate change as potential threats.

Based on our evaluation of the information provided in the petition and in our files, we have determined that the petition does not present substantial information to indicate that listing the Baking Powder Flat blue butterfly may be warranted due to the present or threatened destruction, modification, or curtailment of its habitat or range from water development, fire, nonnative species invasion, or climate change.

However, due to potential adverse impacts from livestock grazing and disturbance to the host plant from trampling and soil compaction from livestock grazing and vehicles, we have determined that information in the petition and our files does present substantial information to indicate that the Baking Powder Flat blue butterfly may warrant listing due to the present or threatened destruction, modification, or curtailment of its habitat or range from livestock grazing and vehicle use. Injury to or loss of the host plant, *Eriogonum shockleyi*, populations would negatively impact larvae and adults as both life stages utilize this plant for food and shelter. During our status review for this subspecies, we

will further investigate these potential threats.

Factors B and C:

Information Provided in the Petition

The petition states that it is not known whether overutilization, disease, or predation are threats to this subspecies (WildEarth Guardians 2010, p. 8). According to Austin (1998b, p. 550) as referenced in the petition, 61 males and 41 females of this subspecies were collected between 1978 and 1980.

Evaluation of Information Provided in the Petition and Our Files

The petition does not provide information that overutilization, disease, or predation has negatively impacted the subspecies. While the petition's referenced material provides some information about known numbers of collections, the petition does not provide any information about the population sizes or trends during this time period. Given the relatively low number of individuals collected over a 2-year period, the length of time since the collections were made, and the lack of information about the relative impact to the population, the petition does not provide substantial information to indicate that collection may be a threat to this subspecies. We have no information in our files related to overutilization, disease, or predation for this subspecies. Also see "Summary of Common Threats" section for information pertaining to overutilization, disease, and predation as potential threats.

Based on our evaluation of the information provided in the petition and our files, we have determined that the petition does not present substantial information to indicate that listing the Baking Powder Flat blue butterfly may be warranted due to Factor B (overutilization for commercial, recreational, scientific, or educational purposes) or Factor C (disease or predation). However, during our status review for this subspecies, we will further investigate these potential threats.

Factor D:

Information Provided in the Petition

The petition asserts that inadequate existing regulatory mechanisms are a threat to this subspecies (WildEarth Guardians 2010, pp. 8, 40). The petition states that this subspecies is a BLM sensitive species (BLM 2007a, p. J6), which can afford it some conservation consideration. In addition, BLM has designated a portion of the Baking Powder Flat area as an ACEC (72 FR

67748, p. 67749; 73 FR 55867 entire). Livestock grazing, plant collecting, and limited off-road vehicle use are authorized within the Baking Powder Flat ACEC (BLM 2007b, p. 2.4–101). According to BLM (2009, p. 20), an ACEC is defined as an area "within the public lands where special management attention is required (when such areas are developed or used or where no development is required) to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources, or other natural systems or processes, or to protect life and safety from natural hazards." The Baking Powder Flat ACEC is managed as an "avoidance area [* * *] [G]ranting rights-of-way (surface, subsurface, aerial) within the area will be avoided, but rights-of-way may be granted if there is minimal conflict with identified resource values and impacts can be mitigated."

Evaluation of Information Provided in the Petition and Our Files

According to information in our files, the Baking Powder Flat ACEC does not appear to cover the entire area where Baking Powder Flat blue butterflies have been known to occur (BLM 2008b, p. C–14). Also see the "Summary of Common Threats" section for information pertaining to the inadequacy of existing regulatory mechanisms as a potential threat.

We have determined that livestock grazing and vehicle use may be threats to the Baking Powder Flat blue butterfly, as discussed in Factor A. Thus, we have determined that the information in the petition and our files presents substantial information indicating that existing regulatory mechanisms may be inadequate as they relate to livestock grazing and vehicle use, in general on BLM lands, and also in relation to the ACEC. During our status review for this subspecies, we will further investigate these and other potential threats and whether existing regulatory mechanisms may be inadequate.

Factor E:

Information Provided in the Petition

The petition indicates that the Baking Powder Flat Blue butterfly may be vulnerable due to limited range and small population numbers (WildEarth Guardians 2010, pp. 10–11, 40).

Evaluation of Information in the Petition and Our Files

The petition does not present, nor do we have in our files, information related to population numbers, size, or trends for the Baking Powder Flat blue butterfly. The petition does not provide

information on chance events or other threats to the subspecies and connect them to a restricted range or small population number or the potential for such threats to occur in occupied habitats in the future. Since this subspecies is distributed over more than one population, its extinction vulnerability due to stochastic events may be reduced. In the absence of this information and connection, we do not consider restricted geographic range or small population numbers by themselves to be threats to this subspecies. Also see the "Summary of Common Threats" section for information pertaining to limited distribution and small population size as potential threats.

Therefore, based on the information provided in the petition and our files, we have determined that the petition does not present substantial information to indicate that listing the Baking Powder Flat blue butterfly may be warranted due to other natural or manmade factors affecting the subspecies' continued existence. However, during our status review of this subspecies, we will further investigate whether biological vulnerability is a threat to this subspecies.

Bleached sandhill skipper (*Polites sabuleti sinemaculata*)

We accept the characterization of the bleached sandhill skipper as a valid subspecies based on its description by Austin (1987, pp. 7–8). *Distichlis spicata* may serve as the larval host plant (Austin 1987, p. 8). Adults have been seen nectaring on white and yellow composites (Asteraceae) (Austin 1987, p. 8). Adults are known to fly during late August to mid September, and it is unknown if earlier broods occur (Austin 1987, p. 8; Austin *et al.* 2000, p. 4).

The bleached sandhill skipper is known from one location (Baltazor Hot Spring) near Denio Junction, Humboldt County, Nevada (Austin 1987, p. 8; Austin *et al.* 2000, p. 4; NNHPD 2008; B. Boyd, pers. comm. cited in WildEarth Guardians 2010, p. 15). The area is a salt flat near a hot spring and is densely covered with *Distichlis spicata* (Austin 1987, p. 8). Thousands of bleached sandhill skippers have been seen in the past (A. Warren, pers. comm. cited in WildEarth Guardians 2010, p. 15), but the population appears to have declined 2 to 3 years ago (B. Boyd, pers. comm. cited in WildEarth Guardians 2010, p. 15). We have no information in the petition or our files about this subspecies population dynamics to

know if this level of population decline is unusual.

Factor A:

Information Provided in the Petition

The petition provides information indicating that the Baltazor Meadow-Continental Lake wetland area has been identified as a priority wetland in Nevada, and where 20 percent of this wetland area has been degraded or converted to other land uses (NHP 2007, p. 36). The moderate-to-high stressors in this area include water diversion/diversion, groundwater pumping, livestock grazing, and energy development (NHP 2007, p. 36). The petition implies these activities are adversely impacting the bleached sandhill skipper.

Evaluation of Information Provided in the Petition and Our Files

The petition suggests that threats (water development, livestock grazing, and energy development) to the Baltazor Meadow-Continental Lake wetland area could impact the bleached sandhill skipper; however, no additional information is provided. The petition does not provide specific supporting information regarding past, present, or future conditions of these threats or their scope, immediacy, or intensity at occupied or suitable habitat. The petition does not indicate the acreage of this occupied location. We do not have information in our files indicating whether this location is large or small. The petition does indicate a recent reduction in numbers of the bleached sandhill skipper, which could suggest a negative response to these threats, but details regarding this decline and the reason(s) for it are not provided. The petition does not present information related to population numbers, size, or trends for the bleached sandhill skipper. The petition does not elaborate on when the apparent population decline occurred, its magnitude, or reasons for it. It is unknown whether this decline can be attributed to the normal natural fluctuations of butterfly populations. Butterfly populations are highly dynamic and numbers and distribution can be highly variable year to year (Weiss *et al.* 1997, p. 2). However, we are concerned with this potential decline in the only known population for this subspecies. Our files also include a statement that the bleached sandhill skipper could be impacted by water table changes (Austin *et al.* 2000, p. 4), but there is no specific supporting information related to this potential threat or resulting negative impacts to this subspecies. The SNWA's proposed water development project is not

expected to impact groundwater in Humboldt County, located in northwest Nevada, where this species occurs. Also see the "Summary of Common Threats" section for information pertaining to water development and livestock grazing as potential threats.

Based on our evaluation of the information provided in the petition and in our files, we have determined that the petition does present substantial information to indicate that listing the bleached sandhill skipper may be warranted due to the present or threatened destruction, modification, or curtailment of its habitat or range resulting from water development (other than SNWA's proposed project) due to a reported possible decline in numbers of the bleached sandhill skipper known from a single location. During our status review for this subspecies, we will further investigate this and other potential threats.

Factors B and C:

Information Provided in the Petition

The petition states that it is not known whether overutilization, disease, or predation are threats to this subspecies (WildEarth Guardians 2010, p. 8). According to Austin (1987, p. 8), referenced in the petition, 27 males and 14 females were collected between 1984 and 1985.

Evaluation of Information Provided in the Petition and Our Files

The petition does not provide information that overutilization, disease, or predation has negatively impacted the subspecies. While the petition's referenced material provides some information about known numbers of collections, the petition does not provide any information about the population sizes or trends during this time period. Given the low number of individuals collected, the length of time since the collections were made, and the lack of information about the relative impact to the population, the petition does not provide substantial information to indicate that collection may be a threat to the subspecies. We have no information in our files related to overutilization, disease, or predation for this subspecies. Also see the "Summary of Common Threats" section for information pertaining to overutilization, disease, and predation as potential threats.

Based on our evaluation of the information provided in the petition, we have determined that the petition does not present substantial information to indicate that listing the bleached sandhill skipper may be warranted due to Factor B (overutilization for

commercial, recreational, scientific, or educational purposes) or Factor C (disease or predation). However, during our status review for this subspecies, we will further investigate these potential threats.

Factor D:

Information Provided in the Petition

The petition asserts that existing regulatory mechanisms are inadequate (WildEarth Guardians 2010, pp. 8, 40). The petition states that the BLM lists the bleached sandhill skipper as a sensitive species in Nevada (BLM 2007a, p. J-37), a status that can offer it some conservation consideration.

Evaluation of Information Provided in the Petition and in Our Files

The petition does not provide specific supporting information connecting the potential threats indicated under Factor A, or the extent of these threats, to adverse effects to the known population of the bleached sandhill skipper, except to indicate a recent reduction in the number of individuals of this subspecies, which could suggest a negative response to potential threats. The details of this decline and the cause(s) of it were not described. We do not have information available in our files related to the inadequacy of existing regulatory mechanisms for this subspecies. Also see the "Summary of Common Threats" section for information pertaining to the inadequacy of existing regulatory mechanisms as a potential threat.

Based on our evaluation of the information provided in the petition suggesting that a reduction in the number of individuals of bleached sandhill skipper may have occurred at the single known population, possibly due to water development we have determined that the petition does present substantial information to indicate that listing the bleached sandhill skipper may be warranted due to the inadequacy of existing regulatory mechanisms. During our status review for this subspecies, we will further investigate these and other potential threats and whether existing regulatory mechanisms may be inadequate.

Factor E:

Information Provided in the Petition

The petition indicates that this subspecies is known from only one area; although thousands had been seen in the past, a decline appears to have occurred 2 to 3 years ago (A. Warren, pers. comm. and B. Boyd pers. comm., cited in WildEarth Guardians 2010, p. 15). Therefore, the petition asserts

this subspecies may be vulnerable due to limited distribution and small population numbers (WildEarth Guardians 2010, pp. 10–11, 40).

Evaluation of Information Provided in the Petition and in Our Files

The petition does not present detailed information, nor do we have information in our files, related to population numbers, size, or trends for the bleached sandhill skipper. The petition does not elaborate on when the apparent population decline occurred, its magnitude, or reasons for it. The petition does not indicate the size of this site. A small area may be at higher risk of extinction than a large site. The petition does not provide information on chance events or other threats to the subspecies and connect them to a restricted range or small population size, or the potential for such chance events to occur in occupied habitats in the future. In the absence of this information and connection, we do not consider restricted geographic range or small population numbers by themselves to be threats to this subspecies. Also see the “Summary of Common Threats” section for information pertaining to limited distribution and small population size as potential threats. However, due to the single known occupied location and reported decline in numbers, any other potential threat to the subspecies in addition to the possible threat due to water development could exacerbate this situation.

Therefore, based on the information provided in the petition and in our files, we have determined that the petition does present substantial information to indicate that listing the bleached sandhill skipper may be warranted due to other natural or manmade factors affecting the subspecies’ continued existence due to the reported decline of its single known population. During our status review, we will further investigate this potential threat.

Steptoe Valley Crescentspot (*Phyciodes cocyta arenacolor*)

We accept the characterization of the Steptoe Valley crescentspot as a valid subspecies based on its description by Austin (1998c, p. 577) and recent updated nomenclature (NatureServe 2009d, p. 1; A. Warren, pers. comm. cited in WildEarth Guardians 2010, p. 34). Adults are known to fly as one brood (Austin 1993, p. 9) during early July to mid-August (Austin 1993, p. 9; Austin 1998c, p. 577). *Aster ascendens* (long-leaved aster) has been documented as a larval host plant (Austin and Leary 2008, p. 102).

The Steptoe Valley crescentspot occurs at Warm Springs in Steptoe Valley, White Pine County, Nevada (Austin 1998c, p. 577; Austin and Leary 2008, p. 102). Austin (1993, pp. 8–9) found this subspecies in the moist flats adjacent to the Duck Creek drainage in Steptoe Valley from Warm Springs to northwest of McGill. Specific locations include along Duck Creek and near Bassett Lake (Austin 1993, p. 9; NNHPD 2008). Occurrences have been reported at Monte Neva Hot Springs and near McGill, White Pine County, Nevada (NNHP 2006, p. 42). The NNHP (2009, p. 7) database indicates three Nevada occurrences, but the locations are not identified.

Factor A:

Information Provided in the Petition

The petition asserts that water development and climate change may impact the Steptoe Valley crescentspot (WildEarth Guardians 2010, pp. 36, 40). Information provided in the petition indicates that the NNHP considers Monte Neva Hot Springs of “highest conservation priority” (NNHP 2006, p. 11). The McGill site is considered a companion site associated with other higher priority conservation sites (NNHP 2006, p. 11). In 2007, the NNHP included Steptoe Valley, with a number of wetland areas found within the Valley, in the list of the 26 highest priority wetlands in the State (NNHP 2007, p. 42). The moderate-to-high stressors impacting this valley’s wetland areas include water diversion/development, groundwater pumping, agriculture, grazing, nonnative species invasion, and energy development (NNHP 2007, p. 42). The petition implies these activities may impact the Steptoe Valley crescentspot.

Deacon (2009, p. 6), as referenced in the petition, states that SNWA’s proposed groundwater development project could lower the water table by 700 ft (213.4 m) in several valleys, including Steptoe Valley, adversely impacting spring-fed habitats (WildEarth Guardians 2010, p. 36).

Evaluation of Information Provided in the Petition and Our Files

The petition does not provide specific supporting information to indicate that the Steptoe Valley crescentspot is impacted from livestock grazing, trampling and clearing of vegetation, agricultural pollution, or climate change. The petition does not provide specific supporting information regarding past, present, or future conditions of these threats, or their scope, immediacy, or intensity at

occupied or suitable habitats. However, there is some information provided in the petition and in our files to suggest that water development may impact this subspecies due to overcommitment of groundwater in Steptoe Valley and this overcommitment’s potential for adverse impacts to aquatic habitat. Since the Steptoe Valley crescentspot is associated with moist flats near wetland areas, potential adverse impacts to aquatic habitat could result in adverse impacts to the butterfly’s habitat (e.g., drying of moist habitat and reduction in larval or nectar plant abundance). Information in our files indicates that the Steptoe Valley hydrographic area (#179) has been classified as a “Designated Groundwater Basin” by the NSE and that permitted groundwater rights exceed the estimated average annual recharge; the perennial yield of Steptoe Valley is 70,000 afy (86,340,000 m³/year); however, approximately 97,000 afy (119,600,000 m³/year) is committed for use (NDWR 2010). When groundwater extraction exceeds aquifer recharge, the result may be surface water-level decline, spring drying, and degradation or loss of aquatic habitat (Zektser *et al.* 2005, pp. 396–397). Our files also include information indicating that habitat alterations, particularly water table changes and overgrazing (Austin *et al.* 2000, p. 2), may impact the Steptoe Valley crescentspot; however, this information is not specific. Austin (1993, pp. 9–10) indicates that potential threats to the subspecies appear to be habitat disturbance and destruction, such as overgrazing, trampling and clearing of vegetation, water diversion, and agricultural pollution; however, no specific supporting information is provided. We do not have specific supporting information in our files regarding the other potential impacts or any resulting adverse impacts to Steptoe Valley crescentspot populations. Also see the “Summary of Common Threats” section for information pertaining to water development, agriculture, livestock grazing, and climate change as potential threats.

Therefore, based on our evaluation of the information in the petition and our files, we have determined that the petition does present substantial information to indicate that listing the Steptoe Valley crescentspot may be warranted due to the present or threatened destruction, modification, or curtailment of its habitat or range resulting from water development. During our status review of this subspecies, we will further investigate these and other potential threats.

Factors B and C:

Information Provided in the Petition

The petition states that it is not known whether overutilization, disease, or predation is a threat to this subspecies (WildEarth Guardians 2010, p. 8). Austin (1998c, p. 577) indicates 39 males and 10 females were collected between 1981 and 1989, as referenced in the petition.

Evaluation of Information Provided in the Petition and Our Files

The petition does not provide information that overutilization, disease, or predation has negatively impacted the subspecies. While the petition's referenced material provides some information about known numbers of collections, the petition does not provide any information about the population sizes or trends during this time period. Given the low number of individuals collected over a 8-year time span, the length of time since these collections were made, and the lack of information about the relative impact to the population, the petition does not provide substantial information to indicate that collection may be a threat to the subspecies. We have no information in our files related to overutilization, disease, or predation for this subspecies. Also see the "Summary of Common Threats" section for information pertaining to overutilization, disease, and predation as potential threats.

Based on our evaluation of the information provided in the petition and our files, we have determined that the petition does not present substantial information to indicate that listing the Steptoe Valley crescent spot may be warranted due to Factor B (overutilization for commercial, recreational, scientific, or educational purposes) or Factor C (disease or predation). However, during our status review of this subspecies, we will further investigate whether these potential threats are impacting the Steptoe Valley crescent spot.

Factor D:

Information Provided in the Petition

The petition asserts that existing regulatory mechanisms are inadequate to protect this subspecies (WildEarth Guardians 2010, pp. 8, 40). The petition states that the BLM lists the Steptoe Valley crescent spot as a sensitive species (BLM 2007a, p. J-7). This designation can offer it some conservation consideration.

Evaluation of Information Provided in the Petition and in Our Files

We have determined that water development may be a threat to the Steptoe Valley crescent spot by adversely impacting its habitat, as discussed in Factor A. Thus, we have determined that the petition does present substantial information to indicate that listing the Steptoe Valley crescent spot may be warranted due to the inadequacy of existing regulatory mechanisms pertaining to groundwater permitting and the possible overcommitment of groundwater resources in Steptoe Valley. Also see the "Summary of Common Threats" section for information pertaining to the inadequacy of existing regulatory mechanisms as a potential threat. During our status review for this subspecies, we will further investigate this and other potential threats and whether existing regulatory mechanisms may be inadequate.

Factor E:

Information Provided in the Petition

The petition mentions limited range and small population numbers as threats to this subspecies (WildEarth Guardians 2010, pp. 10–11, 40).

Evaluation of Information Provided in the Petition and in Our Files

The petition does not present, nor do we have specific information in our files related to, population numbers, sizes, or trends for the Steptoe Valley crescent spot. The petition does not provide information on chance events or other threats to the subspecies and connect them to a possibly restricted range or small population numbers or the potential for such threats to occur in occupied habitats in the future. Since this subspecies is distributed over more than one population, its extinction vulnerability due to stochastic events may be reduced. In the absence of this information and connection, we do not consider small population numbers or limited range by themselves to be threats to this subspecies. Also see the "Summary of Common Threats" section for information pertaining to limited distribution and small population size as potential threats.

Based on the evaluation of the information provided in the petition and our files, we have determined that the petition does not present substantial information to indicate that listing the Steptoe Valley crescent spot may be warranted due to other natural or manmade factors affecting the species' continued existence. However, during our status review of this subspecies, we

will further investigate whether biological vulnerability is a threat to the Steptoe Valley crescent spot.

White River Valley Skipper (*Hesperia uncas grandiosa*)

We accept the characterization of the White River Valley skipper as a valid subspecies based on its description by Austin and McGuire (1998, p. 778). The White River Valley skipper flies during June, July, and August (Austin and McGuire 1998, p. 778; Austin *et al.* 2000, p. 4). The apparent larval host plant is *Juncus mexicanus* (Mexican rush) (Austin and Leary 2008, p. 11).

The White River Valley skipper's type locality is a narrow marshy area in the White River channel located 1 mi (1.6 km) north of the Nye County boundary in White Pine County, Nevada (Austin and McGuire 1998, p. 778; NNHPD 2008). Other areas where the subspecies is known include alkaline *Distichlis spicata* flats in the White River Valley from Sunnyside (Nye County) and from Big Smokey Valley (northern Nye County) (Austin and McGuire 1998, p. 778). In 1998, Austin and McGuire (1998, pp. 778–779) tentatively included populations from Spring Valley (White Pine County) and Lake Valley (Lincoln County), Nevada, in this subspecies. The NNHP database (2009, p. 7) indicates one occurrence in Nevada, but its location is not identified. The subspecies has been observed at Ruppel Place/Boghole, White River Valley, White Pine and Nye Counties (NNHP 2006, p. 47). During a general terrestrial invertebrate survey conducted in 2006 at 76 locations in eastern Nevada, a single male was encountered east of Cleve Creek in Spring Valley (Ecological Sciences, Inc. 2007, p. 28). This location is near other areas where the subspecies has been previously documented, and is not considered to be a significant range extension (Ecological Sciences, Inc. 2007, p. 28).

Factor A:

Information Provided in the Petition

The petition asserts that water development, land development, rechannelization of the White River, overgrazing, and climate change may impact this subspecies (WildEarth Guardians 2010, pp. 38–40). The petition provides information that Ruppel Place/Boghole is considered of "highest conservation priority" by the NNHP (2006, p. 12). The NNHP also identified sites in the upper and lower White River Valley, including Ruppel Place/Boghole, as "priority wetland areas" (NNHP 2007, p. 26). Fifty percent of the springs and brooks in the upper White River (which includes Ruppel

Place/Boghole) have been eliminated, converted to other land uses, or degraded (NNHP 2007, p. 44). Fifty percent of the springs and brooks in the lower White River (which includes Sunnyside) have been converted to other land uses or degraded (NNHP 2007, p. 44).

The petition also provides information that several wetland areas in Big Smoky Valley are considered high-priority wetlands by the NNHP (2007, p. 25). Wetlands, springs, and brooks in Big Smoky Valley have been eliminated, converted to other land uses, or degraded by 60 percent (NNHP 2007, p. 35). The moderate-to-high stressors impacting wetland areas in the White River and Big Smoky Valleys include water diversion/development, groundwater pumping, hydrogeomorphic modification, land development, agriculture, livestock grazing, mining, nonnative species, and energy development (NNHP 2007, pp. 35, 44). The petition implies that these activities are negatively impacting the White River Valley skipper in the White River and Big Smokey Valleys. Threats mentioned by other sources specifically in relation to this subspecies include overgrazing, rechannelization of the White River, and water table drawdown (NatureServe 2009e, p. 2).

The proposed SNWA groundwater development project is predicted to reduce flow to springs in southern White River Valley by 50 percent in 15 years (Deacon 2007, p. 1), as referenced in the petition. This reduction could impact *Juncus mexicanus*, the apparent host plant for the White River Valley skipper, and which grows in moist habitats (Austin and Leary 2008, p. 11; WildEarth Guardians 2010, p. 39).

Evaluation of Information Provided in the Petition and Our Files

Information provided in the petition and available in our files suggests that overcommitment of groundwater could result in adverse impacts to aquatic habitats and thus impact the White River Valley skipper, especially its apparent larval host plant, *Juncus mexicanus*, a plant usually found in wetlands (Reed 1988, pp. 8, 10). We have information in our files that the perennial yield of the White River hydrographic area (#207) is 37,000 afy (45,640,000 m³/year), and there are 31,699 afy (39,100,000 m³/year) committed (NDWR 2010); thus, permitted groundwater rights are approaching but do not exceed the estimated average annual recharge. However, SNWA is proposing to withdraw groundwater from the Cave

Valley hydrographic area (#180) (SNWA 2008, p. 1–1) (NDWR 2010). There is evidence for a hydrologic connection suggesting that groundwater may flow between Cave Valley and White River Valley (NDWR 2008, pp. 16–17). When groundwater extraction exceeds aquifer recharge, it may result in surface water-level decline, spring drying, and degradation or loss of aquatic habitat (Zektser *et al.* 2005, pp. 396–397). We have additional information in our files that indicates water diversions along the White River and other habitat disturbances may impact the White River Valley skipper (Austin *et al.* 2000, p. 4), though no specifics are provided.

The petition does not provide, nor do we have in our files, specific, supporting information to indicate that the White River Valley skipper is impacted from land development, rechannelization, livestock grazing, or climate change in the White River and Big Smokey Valleys. Also see the "Summary of Common Threats" section for information pertaining to water development, agriculture, livestock grazing, and climate change as potential threats.

Based on our evaluation of the information provided in the petition and in our files, we have determined that the petition does present substantial information to indicate that listing of the White River Valley skipper may be warranted due to the present or threatened destruction, modification, or curtailment of its habitat or range resulting from water development which may negatively impact its larval host plant. During our status review for this subspecies, we will further investigate these and other potential threats.

Factors B and C:

Information Provided in the Petition

The petition states that it is not known whether overutilization, disease, or predation is a threat to this subspecies. According to Austin and McGuire (1998, p. 778), 20 males and 14 females were collected between 1984 and 1989, as referenced in the petition.

Evaluation of Information Provided in the Petition and Available in Our Files

The petition does not provide information that overutilization, disease, or predation has negatively impacted the subspecies. While the petition's referenced material provides information about known numbers of collections, it does not provide any information about the population sizes or trends during this time period. Given the low number of individuals collected

over a 5-year time span, the length of time since these collections were made, and the lack of information about the relative impact to the population, the petition does not provide substantial information to indicate that collection may be a threat to the subspecies. We have no information in our files related to overutilization, disease, or predation for this subspecies. Also see the "Summary of Common Threats" section for information pertaining to overutilization, disease, and predation as potential threats.

Based on our evaluation of the information provided in the petition and our files, we have determined that the petition does not present substantial information to indicate that listing the White River Valley skipper may be warranted due to Factor B (overutilization for commercial, recreational, scientific, or educational purposes) or Factor C (disease or predation). However, during our status review of this subspecies, we will further investigate these potential threats.

Factor D:

Information Provided in the Petition

The petition asserts that existing regulatory mechanisms are inadequate to protect this subspecies (WildEarth Guardians 2010, pp. 8, 40). The BLM lists this subspecies as a sensitive species (BLM 2007a, p. J–37) which can offer it some conservation consideration.

Evaluation of Information Provided in the Petition and in Our Files

We have determined that water development may be a threat to the White River Valley skipper by adversely impacting its habitat as discussed in Factor A. Thus, we have determined that the petition and our files do present substantial information to indicate that listing the White River Valley skipper may be warranted due to the inadequacy of existing regulatory mechanisms as they pertain to groundwater permitting and the possible overcommitment of groundwater resources in White River Valley. Also see the "Summary of Common Threats" section for information pertaining to the inadequacy of existing regulatory mechanisms as a potential threat. During our status review for this subspecies, we will further investigate this and other potential threats to determine whether existing regulatory mechanisms may be inadequate.

Factor E:

Information Provided in the Petition

The petition indicates this subspecies may be vulnerable to small population numbers (WildEarth Guardians 2010, p. 40). Austin (1985, pp. 125–126) indicates *Hesperia uncas* spp. appear to be restricted to the valleys where they occur. The petition suggests that isolated populations of the White River Valley skipper are probably unable to disperse or interconnect with other populations (WildEarth Guardians 2010, p. 38).

Evaluation of Information Provided in the Petition and in Our Files

The petition does not present, nor do we have specific information in our files, related to population sizes, numbers, or trends for the White River Valley skipper. The petition does not provide information on chance events or other threats to the subspecies and connect them to small population numbers or restricted range or the potential for such threats to occur in occupied habitats in the future. Since this subspecies is distributed over more than one population, its extinction vulnerability due to stochastic events may be reduced. In the absence of this information and connection, we do not consider small population numbers or restricted range by themselves to be threats to this subspecies. Also see the “Summary of Common Threats” section for information pertaining to limited distribution and small population size as potential threats.

Based on evaluation of the information provided in the petition and our files, we have determined that the petition does not present substantial information to indicate that listing the White River Valley skipper may be warranted due to other natural or manmade factors affecting the species’ continued existence. However, during our status review for this subspecies, we will further investigate whether biological vulnerability is a threat to this subspecies.

Finding

On the basis of our determination under section 4(b)(3)(A) of the Act, we

have determined that for 6 of the 10 subspecies (Carson Valley silverspot, Carson Valley wood nymph, Mattoni’s blue butterfly, Mono Basin skipper, and two Railroad Valley skippers—*H. u. fulvapalla* and *H. u. reeseorum*) the petition does not present substantial scientific or commercial information indicating that listing throughout their entire range may be warranted.

On the basis of our determination under section 4(b)(3)(A) of the Act, we have determined that for 4 of the 10 Great Basin butterflies (Baking Powder Flat blue butterfly, bleached sandhill skipper, Steptoe Valley crescent spot, and White River Valley skipper) the petition presents substantial scientific or commercial information indicating that listing throughout their entire range may be warranted.

The petition presents substantial information indicating that the Baking Powder Flat blue butterfly may warrant listing due to threats under Factors A and D. The petition does not present substantial information indicating that the Baking Powder Flat blue butterfly may warrant listing due to current or future threats under Factors B, C, and E.

The petition presents substantial information indicating that the bleached sandhill skipper may warrant listing due to threats under Factors A, D, and E. The petition does not present substantial information indicating that the bleached sandhill skipper may warrant listing due to threats under Factors B and C currently, or in the future.

The petition presents substantial information indicating that the Steptoe Valley crescent spot may warrant listing due to threats under Factors A and D. The petition does not present substantial information indicating that the Steptoe Valley crescent spot may warrant listing due to threats under Factors B, C, and E currently, or in the future.

The petition presents substantial information indicating that the White River Valley skipper warrant listing due to threats under Factors A and D. The petition does not present substantial information indicating that the White

River Valley skipper may warrant listing due to threats under Factors B, C, and E currently, or in the future.

Because we found that the petition presents substantial information indicating that listing 4 of the 10 Great Basin butterflies may be warranted, we are initiating a status review to determine whether listing these 4 subspecies under the Act is warranted.

The “substantial information” standard for a 90-day finding differs from the Act’s “best scientific and commercial data” standard that applies to a status review to determine whether a petitioned action is warranted. A 90-day finding does not constitute a status review under the Act. In a 12-month finding, we will determine whether a petitioned action is warranted after we have completed a thorough status review of the species, which is conducted following a substantial 90-day finding. Because the Act’s standards for 90-day and 12-month findings are different, as described above, a substantial 90-day finding does not mean that the 12-month finding will result in a warranted finding.

References Cited

A complete list of references cited is available on the Internet at <http://www.regulations.gov> and upon request from the Nevada Fish and Wildlife Office (see **FOR FURTHER INFORMATION CONTACT**).

Authors

The primary authors of this notice are the staff members of the Nevada and Ventura Fish and Wildlife Offices (see **FOR FURTHER INFORMATION CONTACT**).

Authority

The authority for this action is the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Dated: September 20, 2011.

Gregory E. Siekaniec,
Acting Director, U.S. Fish and Wildlife Service.

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