DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

[Docket No. FWS–R8–ES–2012–0058; 4500030113]

Endangered and Threatened Wildlife and Plants; 12-Month Finding on a Petition To List Four Subspecies of Great Basin Butterflies as Endangered or Threatened Species

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Notice of 12-month petition finding.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), announce a 12-month finding on a petition to list four subspecies of Great Basin butterflies (White River Valley skipper (*Hesperia uncas grandiosa*), Steptoe Valley crescentspot (*Phyciodes cocyta arenacolor*), Baking Powder Flat blue butterfly (*Euphilotes bernardino minuta*), and bleached sandhill skipper (*Polites sabuleti sinemaculata*)) in Nevada as endangered or threatened species and designate critical habitat under the Endangered Species Act of 1973, as amended (Act). After review of the best available scientific and commercial information, we find that listing these four butterfly and skipper subspecies is not warranted at this time. However, we ask the public to submit to us any new information that becomes available concerning the threats to the White River Valley skipper, Steptoe Valley crescentspot, Baking Powder Flat blue butterfly, and bleached sandhill skipper or their habitats at any time.

DATES: The finding announced in this document was made on September 4, 2012.

ADDRESSES: This finding is available on the internet at *http://www.regulations.gov* at Docket Number FWS–R8–ES–2012–0058. The supporting documentation we used in preparing this finding is available for public inspection, by appointment, during normal business hours at the U.S. Fish and Wildlife Service, Nevada Fish and Wildlife Office, 1340 Financial Boulevard, Suite 234, Reno, NV 89502. Please submit any new information, materials, comments, or questions concerning this finding to the above address.

FOR FURTHER INFORMATION CONTACT: Edward D. Koch, State Supervisor, Nevada Fish and Wildlife Office (see ADDRESSES); 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:

Background

Section 4(b)(3)(B) of the Act (16 U.S.C. 1531 *et seq.*), requires that, for any petition to revise the Lists of Endangered and Threatened Wildlife and Plants that contains substantial scientific or commercial information that the listing may be warranted, we make a finding within 12 months of the date of the receipt of the petition. In this finding, we will determine that the petitioned action is either: (1) Not warranted, (2) warranted, or (3) warranted, but the immediate proposal of a regulation implementing the petitioned action is precluded by other pending proposals to determine whether species are an endangered or threatened species, and expeditious progress is being made to add or remove qualified species from the Lists of Endangered and Threatened Wildlife and Plants. Section 4(b)(3)(C) of the Act requires that we treat a petition for which the requested action is found to be warranted but precluded as though resubmitted on the date of such finding; that is, requiring a subsequent finding to be made within 12 months. We must publish these 12-month findings in the **Federal Register**.

Previous Federal Actions

These four subspecies were included in our Category 2 candidate list for November 21, 1991 (56 FR 58804). 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. Please see Table 1 to cross reference the names on the 1991 Category 2 candidate list with the names of the four subspecies petitioned for listing.

TABLE 1—FOUR GREAT BASIN, NV, BUTTERFLIES: PREVIOUS AND CURRENT COMMON AND SCIENTIFIC NAMES

Common name		Scientific name	
Previous	Current	Previous	Current
White River Valley skipper	White River Valley skipper	*Hesperia uncas* ssp	*Hesperia uncas grandiosa*
Steptoe Valley crescentspot	Steptoe Valley crescentspot	*Phyciodes pascoensis* ssp	*Phyciodes cocyta arenacolor*
Baking Powder Flat blue butterfly	Baking Powder Flat blue butterfly	*Euphilotes battoides* ssp	*Euphilotes bernardino minuta*
Denio sandhill skipper	Bleached sandhill skipper	*Polites sabuleti sinemaculata*	*Polites sabuleti sinemaculata*

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, as of the 1996 CNOR, the Service no longer considered Category 2 species as candidates, including the four petitioned butterfly and skipper subspecies, and did not include them in the 1996 candidate list or any subsequent CNORs. The decision to no longer consider 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.

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 endangered or threatened species with critical habitat under the Act. The 10 subspecies of Great Basin butterflies are: White River Valley skipper, Steptoe Valley crescentspot, Baking Powder Flat blue butterfly, bleached sandhill skipper, Carson Valley silverspot (*Speyeria nokomis carsonensis*), Carson Valley wood nymph (*Cercyonis pegala carsonensis*), Mono Basin skipper (*Hesperia uncas giulianii*), Railroad Valley skipper (*Hesperia uncas fulvapalla*), Railroad Valley skipper (*Hesperia uncas reeseorum*), and Mattoni's blue butterfly (*Euphilotes*

pallescens mattonii). In a March 26, 2010, letter to the petitioner, 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. On October 4, 2011, we made our 90-day finding that the petition did not present substantial scientific or commercial information indicating that listing 6 of the 10 subspecies (Carson Valley silverspot, Carson Valley wood nymph, Mattoni's blue butterfly, Mono Basin skipper, and the two Railroad Valley skipper subspecies) may be warranted (76 FR 61532). However, we determined that the petition presented substantial scientific or commercial information indicating that listing of the other four subspecies (White River Valley skipper, Steptoe Valley crescentspot, Baking Powder Flat blue butterfly, and bleached sandhill skipper) may be warranted, and we initiated a status review for these subspecies. This notice constitutes the 12-month finding on the January 29, 2010, petition to list the White River Valley skipper, Steptoe Valley crescentspot, Baking Powder Flat blue butterfly, and bleached sandhill skipper as endangered or threatened species and designate critical habitat under the Act.

Summary of Procedures for Determining the Listing Status of Species

Review of Status Based on Five Factors

Section 4 of the Act (16 U.S.C. 1533) and its implementing regulations (50 CFR 424) set forth the procedures for adding a species to, removing species from, or reclassifying species on the Federal Lists of Endangered and Threatened Wildlife and Plants. Under section 4(a)(1) of the Act, a species may be determined to be an endangered or threatened species based on any of the following five factors:

(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 making this finding, information pertaining to the White River Valley skipper, Steptoe Valley crescentspot, Baking Powder Flat blue butterfly, and bleached sandhill skipper in relation to the five factors provided in section 4(a)(1) of the Act is discussed below. 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 an endangered or threatened species 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 is not sufficient to compel a finding that listing is appropriate; we require evidence that these factors are operative threats that act on the species to the point that the species may meet the definition of an endangered or threatened species under the Act.

Evaluation of the Status of Each of the Four Butterfly and Skipper Subspecies

For each of the four butterfly and skipper subspecies, we provide a description of the subspecies and its habitat and biology, an evaluation of listing factors for that subspecies, and our finding as to whether the petitioned action is warranted or not for that subspecies.

The four butterfly and skipper subspecies evaluated in this finding are invertebrates endemic to the Great Basin region of Nevada. The four subspecies are from the phylum Arthropoda, class Insecta, and order Lepidoptera. Taxonomic families for the four subspecies are: Hesperiidae, Nymphalidae, and Lycaenidae.

The petition provides information regarding the four subspecies' rankings according to NatureServe, which considers the butterflies and skippers at the subspecies taxonomic level and ranks each as ''critically imperiled'' or ''imperiled'' at the global, national, or State level (WildEarth Guardians 2010, pp. 3–4). While the petition states that these ''definitions of 'critically imperiled' and 'imperiled' 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 2008, p. 1). 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 2008, p. 1).

Species Information for the White River Valley Skipper

Taxonomy and Species Description

We accept the characterization of the White River Valley skipper (*Hesperia uncas grandiosa*) as a valid subspecies based on its description by Austin and McGuire (1998, p. 778). This subspecies is in the Hesperiidae family (Austin 1998a, p. 838). Male wingspans range from 0.63 to 0.7 inch (in) (16.0–17.6 millimeters (mm)). The upperside of the wings are clay color. The forewing margin is blackish. The apex has a large yellowish macule (spot, patch). The stigma (patch of scent scales) is broad and black with a silver central line. The hindwing has a black costa and narrow outer margin. The fringes of both wings are pale gray. The underside of the forewing is paler than the upperside. The apical macules are white. The area beneath the stigma and wing base is black. The hindwing is olive-gray colored. The postmedian and sub-basal macules are white. The veins are white medially and extend to the outer margin (Austin and McGuire 1998, p. 778). Females range from 0.74 to 0.82 in (18.8–20.7 mm). The upperside of the wings is similar to that of the males but is darker. The outer margin is broader than that of the males. The apical macules are paler. The hindwing is blacker than the male's hindwing. The fringes of both wings are very pale gray. The underside of the wing is similar to that of the male, but it is more blackish medially on the forewing. The hindwing postmedial macules are larger and the white on the hindwing veins extend to the outer margin usually (Austin and McGuire 1998, p. 778). Please refer to Austin and McGuire (1998, p. 778) for a more detailed description of this subspecies.

Distribution and Habitat

Descriptions of locations where the White River Valley skipper has been found are rather vague. The White River Valley skipper's type locality (location where the specimen from which a species is described and named was collected) is a narrow marshy area in the

White River channel, White River Valley, located 1 mile (mi) (1.6 kilometer (km)) north of the Nye County boundary in White Pine County, Nevada (Austin and McGuire 1998, p. 778; Nevada Natural Heritage Program (NNHP) 2010) (on private and Bureau of Land Management (BLM) administered lands). This area is approximately 1.5 mi (2.4 km) southwest of the Ruppes/Boghole area (White Pine County), where this subspecies has also been observed on BLM and private lands (NNHP 2006, p. 47). The subspecies is known from alkaline *Distichlis spicata* (salt grass) flats in the White River Valley from Sunnyside (includes the Flag Springs area) (Nye County) north to the type locality, a distance of about 20 mi (32 km) (on unspecified BLM and private lands), and from Big Smoky Valley at unspecified locations (northwestern Nye County) (Austin and McGuire 1998, p. 778). This subspecies was also found at Kirch Wildlife Management Area (WMA) (two areas at south ends of Tule and Adams-McGill Reservoirs (on State lands) (Nye County) (Boyd, pers. comm. 2012a, p. 2; b, p. 1) and at Moorman Springs (Nye County) (Boyd, pers. comm. 2012b, p. 1) (on BLM and private lands).

A specimen that may be this subspecies was collected 1 mi (1.6 km) south of Blind Spring, Spring Valley (White Pine County) (Austin and McGuire 1998, p. 785). In 1998, Austin and McGuire (1998, pp. 778–779) tentatively included populations from Spring Valley (based on one male specimen) and Lake Valley (based on two male specimens with no site specificity given) (Lincoln County), Nevada, within the range of this subspecies. 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 (White Pine County) (Ecological Sciences, Inc. 2007, p. 28) and was attributed to this subspecies. This location is near other areas (not specified by authors) where the subspecies has been previously documented, and is not considered to be a significant range extension (Ecological Sciences, Inc. 2007, p. 28). The size of each known occupied site or the extent of this subspecies' host plant(s), or host plant abundance, has not been reported.

Biology

The White River Valley skipper flies during June, July, and August (Austin and McGuire 1998, p. 778; Austin *et al., in litt.* 2000, p. 4). Though adult nectar sources have not been reported, it is possible that they nectar on a variety of plants that are in flower during their flight period. The apparent larval host plant is *Juncus mexicanus* (Mexican rush) (Austin and Leary 2008, p. 11). This perennial plant species occurs in moist habitats (Kartesz 1987, p. 1503; Reed 1988, pp. 8, 10; Austin and Leary 2008, p. 11). In Nevada, it is known from western and southern counties, including Nye County (Kartesz 1987, p. 1503; *http://www plants.usda.gov* Web site accessed April 24, 2012). In the western United States, in addition to Nevada, it occurs in Oregon, California, Arizona, New Mexico, Colorado, and Texas (*http://www plants.usda.gov* Web site accessed April 24, 2012).

There is little biological information available at the subspecies level, but some inferences can be made from biological information from related species at the species level. Information for the white-vein skipper (*Hesperia uncus*) indicates eggs are pale greenish-white and are laid singly on or near the host plant (Scott 1986, p. 435). Larvae eat leaves, and they live in tied-leaf nests (Scott 1986, p. 435). Males perch during the day on small hill tops seeking females (Scott 1986, p. 435).

The best available information does not include surveys documenting this subspecies' population dynamics, nor its overall abundance, number or size of populations, number of extirpated populations, if any, or population trends.

Five-Factor Evaluation for the White River Valley Skipper

Information pertaining to the White River Valley skipper in relation to the five factors provided in section 4(a)(1) of the Act is discussed below.

Factor A. The Present or Threatened Destruction, Modification, or Curtailment of Its Habitat or Range

Potential factors that may affect the habitat or range of the White River Valley skipper are discussed in this section, including: (1) Water development, (2) land development, (3) livestock grazing, (4) nonnative plant invasion, (5) agriculture, (6) mining and energy development, and (7) climate change.

Water Development

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 suggests that the historical range for the petitioned butterfly and skipper subspecies has been reduced (WildEarth Guardians 2010, p. 6), but specific supporting information is not provided. Habitat associated with riparian and aquatic habitats, including springs and seeps, has been reduced in Nevada due to various purposes such as water diversions, development, livestock grazing, recreation, mining, and power generation (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). Commitments of water resources beyond perennial yield may result in detrimental impacts to habitats in a designated basin. Groundwater extraction that exceeds aquifer recharge may result in surface water level decline, spring drying and degradation, or the loss of aquatic habitat (Zektser *et al.* 2005, pp. 396–397).

The Nevada State Engineer (NSE) approves and permits groundwater rights in Nevada and defines perennial yield as ''The amount of usable water of a groundwater reservoir that can be withdrawn and consumed economically each year for an indefinite period of time. It cannot exceed the sum of the *Natural Recharge,* the *Artificial* (or *Induced*) *Recharge,* and the *Incidental Recharge* without causing depletion of the groundwater reservoir'' (Nevada Division of Water Planning (NDWP) undated, p. 236). The NSE estimates perennial yield for 256 basins and sub-basins (areas) in Nevada, and may ''designate'' a groundwater basin, meaning the basin's ''* * * permitted ground water rights approach or exceed the estimated average annual recharge and the water resources are being depleted or require additional administration'' (NDWP undated, p. 81). In the interest of public welfare, the NSE may declare preferred uses (such as municipal water supply, irrigation, or minimum stream flows) within such basins (NDWP, undated, pp. 81–82). Table 2 shows the perennial yield and committed groundwater rights for selected basins in Nevada applicable to this finding (Southern Nevada Water Authority (SNWA), *in litt.* 2011, p. 4).

TABLE 2—PERENNIAL YIELD AND COMMITTED GROUNDWATER RIGHTS FOR SELECTED BASINS IN NEVADA (SNWA, *in litt.* 2011, P. 4)

Hydrographic area	Perennial yield in acre-feet/year (cubic meters/year)	Committed groundwater rights in acre-feet/year (cubic meters/year)
Cave Valley	5,000–13,700 (6,167,409–16,898,701)	47–51 (57,974–62,908)
Lake Valley	12,000 (14,801,782)	17,062 (21,045,667)
Spring Valley	80,000–94,800 (98,678,548–116,934,080)	21,702–22,507 (26,769,023–27,761,976)
Steptoe Valley	70,000 (86,343,730)	114,144 (140,794,553)
White River Valley	37,000 (45,638,829)	33,077 (40,799,879)

The petition and others suggest that water development may impact the White River Valley skipper (Austin *et al., in litt.* 2000, p. 4; NatureServe 2009a, p. 2; WildEarth Guardians 2010, pp. 38–40). Lowering of the groundwater table could impact the White River Valley skipper by adversely impacting *Juncus mexicanus,* the apparent host plant for this subspecies. This plant species grows in moist habitats such as wetlands (Reed 1988, pp. 8, 10; Austin and Leary 2008, p. 11).

The NNHP estimates that approximately 50 percent of the springs and brooks in both the upper White River (which includes Ruppes Place/Boghole, where the subspecies has been located) and lower White River (which includes Sunnyside, where the subspecies has been located) has been eliminated, converted to other land uses, or degraded due to various activities including water development (NNHP 2007, p. 44). The NNHP estimates that approximately 60 percent of wetlands, springs, and brooks in Big Smoky Valley (where the subspecies has been observed) has been eliminated, converted to other land uses, or degraded by various activities including water development (NNHP 2007, p. 35). However, the NNHP (2007) does not delineate these areas on a map or define them in terms of acreage; therefore, the amount of White River Valley skipper habitat or the total number of occupied sites (made difficult because locations where the skipper has been seen are not specific) that may occur within these broad, vague areas and may be impacted by the various activities are not documented. The extent to which the various land use practices have degraded or converted these areas is also not individually delineated or quantified by NNHP (2007). Therefore, we are not able to determine the amount of overlap between the estimated wetland impacts identified by the NNHP and the distribution of the White River Valley skipper.

The White River Valley and Lake Valley hydrographic areas are ''designated'' basins by the NSE and permitted groundwater rights approach or exceed the estimated average annual recharge of the basin (Table 2; Nevada Department of Conservation and Natural Resources Web site accessed at *http://dcnr.nv.gov* on May 15 and July 24, 2012). As a ''designated'' basin, the NSE has authority under NRS § 534.120 to establish additional rules, regulations, or orders to protect that basin's water resources (SNWA, *in litt.* 2011, p. 41). If such additional rules, regulations, or orders are established in the future, they may also provide some protection to species dependent on these water resources, such as the White River Valley skipper. The NSE can declare preferred uses (such as domestic, municipal, industrial, irrigation, or other uses) in a designated groundwater basin. To date, neither the White River Valley nor Lake Valley hydrographic area has preferred uses identified.

Specifically, the petition identifies the Southern Nevada Water Authority (SNWA) proposed groundwater pumping project in central eastern Nevada as a threat to the White River Valley skipper and other butterflies (WildEarth Guardians 2010, p. 39). The following information on the SNWA groundwater pumping project is also relevant to and incorporated by this reference into the discussions of the Steptoe Valley crescentspot and the Baking Powder Flat blue butterfly later in this document.

The proposed Clark, Lincoln, and White Pine Counties Groundwater Development Project Draft Environmental Impact Statement (EIS) (BLM 2011a) addresses SNWA's proposed project to construct and operate a system of groundwater conveyance facilities, including pipelines, pumping stations, power lines, a substation, pressure reduction stations, an underground reservoir, a treatment plant, and associated ancillary facilities to import up to 176,655 acre-feet/year (afy) (217,900,737 cubic meters/year (m^3y)) from central eastern Nevada (Lincoln and White Pine Counties) to Las Vegas Valley (Clark County) (BLM 2011a, pp. 1–2; Executive Summary (ES)–1).

Valleys that may be affected by the project's groundwater drawdowns and that may also support three of the four petitioned subspecies, including the White River Valley Skipper, are Cave Valley, Lake Valley, Spring Valley, Steptoe Valley, and White River Valley. Currently, some specific features of the proposed project are known (e.g., main pipeline and associated facilities (power transmission, pump stations)) (BLM 2011a, p. 2–5). Locations of future facilities for groundwater development including number and location of wells, routes and lengths of collector pipelines, distribution lines, and access roads are not yet known (BLM 2011a, p. 2–5). The impacts of future facility development and groundwater withdrawal, which is analyzed conceptually in BLM's draft EIS, will be specifically addressed in subsequent National Environmental Policy Act (NEPA) analyses (BLM 2011a, p. 2–5).

This project is also contingent on the approval of SNWA's water rights applications by the NSE (BLM 2011a, p. ES–14). On March 22, 2012, the NSE issued four rulings on SNWA's water right applications for their proposed project totaling up to approximately 84,000 afy (103,612,476 m^3y) (Nevada Department of Conservation and Natural Resources Web site accessed at *http://dcnr.nv.gov* on April 12, 2012); this amount is a reduction from SNWA's recent request of approximately 105,000 afy (129,515,595 m^3y). These four rulings are for Spring, Cave, Dry Lake, and Delamar Valleys. Each of these applications is subject to a minimum of 2 years of biological and hydrological data collection prior to exportation; a hydrological monitoring, mitigation, and management program; a biological monitoring plan, and a computer groundwater flow model that must be updated to assist in predicting impacts. If unanticipated impacts to existing water rights, conflicts with existing domestic wells, or pumping is harmful to the public interest or is not environmentally sound, SNWA would

be required to take measures to mitigate the impacts which could include pumping curtailment. The proposed project's main pipeline is scheduled for phased construction from 2013 to 2023 (BLM 2011a, pp. ES–14–ES–15, ES–19). The entire project is scheduled to be constructed and operational by approximately 2050 (BLM 2011a, p. 2–30).

Determining whether groundwater development is a threat to springs, streams, or wetlands and therefore a potential threat to those petitioned subspecies whose habitats are associated with moist areas depends upon whether: (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) the 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) the springs, streams, or wetlands are too far away from proposed pumping to be impacted (Welch *et al.* 2007, pp. 71–79). Simply comparing permitted groundwater or surface water rights to the perennial yield of a hydrographic area is inadequate to determine if a site or biotic entity will be impacted as additional factors should be considered as indicated above (SNWA, *in litt.* 2011, p. 5). There needs to be hydraulic connectivity between groundwater pumping and the site. If there is no hydraulic connectivity, a site will not be impacted. A site may only be lightly impacted if the distance is great or the transmissivity is low.

Hydraulic connectivity is influenced by hydrogeologic conditions (groundwater flow systems, groundwater flow paths, flow direction, flow barriers, etc.) (SNWA, *in litt.* 2011, p. 5). Comparing the amount of permitted groundwater rights to a basin's estimated recharge or perennial yield does not indicate that pumping exceeds the recharge or that resources are being threatened (SNWA, *in litt.* 2011, p. 5). Permit holders may not pump their entire amount due to self-imposed restrictions, agreements, or permit requirements (SNWA, *in litt.* 2011, p. 5). The manner and purpose of the water right use can also influence potential impacts from groundwater or surface withdrawal (SNWA, *in litt.* 2011, p. 6). A permit for agricultural use will not consume the entire amount since a portion is returned to the groundwater system through irrigation itself or through the inefficiency of the conveyance system (SNWA, *in litt.* 2011, p. 6). Management of groundwater development, monitoring, and conservation and mitigation measures can reduce impacts of water withdrawal to a site and species (SNWA 2011, p. 6).

Groundwater flow modeling efforts for SNWA's proposed project are described in BLM's draft EIS (BLM 2011a, pp. 3.3–80–3.3–85), as well as the uncertainties and limitations expected with regional groundwater flow models that cover a large area with complex hydrogeologic conditions (BLM 2011a, pp. 3.3–85–3.3–87). While the model is a reasonable tool for regional-scale drawdown trends (BLM 2011a, p. 3.3–86), it is not an accurate predictor for site-specific changes in flow for streams or springs (BLM 2011a, p. 3.3–87).

Two stipulations related to SNWA's proposed project were reached between SNWA and four Department of the Interior bureaus (the Service, the Bureau of Indian Affairs (BIA), the BLM, and the National Park Service (NPS)) in 2006 and 2008 (SNWA, *in litt.* 2011, p. 8). The goals of the Spring Valley Stipulation (BIA *et al.* 2006, p. 4) are to (1) manage SNWA groundwater development in Spring Valley to avoid unreasonable adverse effects to groundwater-influenced ecosystems (e.g., springs) and maintain the biological integrity and ecological health of the area of interest over the long-term, and (2) avoid effects to groundwater-influenced ecosystems within the boundary of Great Basin National Park. The goals of the Delamar Valley, Dry Lake Valley, and Cave Valley (DDC) Stipulation (BIA *et al.* 2008, Exhibit A, p. 2) are to manage the development of groundwater by SNWA in Delamar Valley, Dry Lake Valley, and Cave Valley hydrographic areas without causing (1) injury to Federal water rights and (2) any unreasonable adverse effects to Federal resources and special status species within the area of interest as a result of groundwater withdrawals in those basins by SNWA; and (3) to take actions that protect and recover special status species that are currently listed pursuant to the Act and that avoid listing of currently non-listed special-status species. Both stipulations have a list of requirements related to management, creation of technical and management teams, a consensus-based decisionmaking process, and monitoring and mitigation which, if the SNWA project is constructed, will benefit and avoid and minimize threats relevant to the White River Valley skipper, Steptoe Valley crescentspot, and the Baking Powder Flat blue butterfly (SNWA, *in litt.* 2011, pp. 8–10).

In addition to the two stipulations, an Adaptive Management Plan has been prepared by SNWA for its proposed project. It includes a list of measures that can be implemented based on the environmental resource impacted, the severity, and likely cause(s) (BLM 2011a, Appendix E, Appendix A, pp. A–46–A–57). The Adaptive Management Plan acknowledges the uncertainties in predicting effects of groundwater withdrawal on hydrologic flow systems. The plan will identify and implement practicable adaptive management measures to address adverse environmental impacts relevant to the three butterfly and skipper subspecies including avoiding, minimizing, or mitigating: (1) Adverse environmental impacts to groundwater-dependent ecosystems and their biological communities, (2) effects of actions that could contribute to listing of species under the Act, and (3) adverse environmental impacts to water features that support fish and wildlife species. Specific actions to be implemented would be determined at a later date based on data collection and monitoring results.

The proposed project construction and operation may impact White River Valley skipper habitat (BLM 2011a, p. 3.6–27). The White River Valley skipper was not detected in the project's ROW surveys of groundwater development areas (BLM 2011a, pp. 3.6–18–3.6–19; 3.6–94). Based on the groundwater flow model estimate for 200 years post full buildout, the skipper's occupied areas at Ruppes Place/Boghole (SNWA, *in litt.* 2011, p. 17) and areas at the Flag Springs Complex/Sunnyside/Kirch Wildlife Management Area (SNWA, *in litt.* 2011, p. 19) are located outside of the greater than 10-foot (3.0-m) drawdown contour (or any other contour range) (BLM 2011a, p. 3.3–102). However, based on the model estimate, there is a potential 17 percent flow decrease at 200-years post full buildout at Flag Springs 3 (BLM 2011a, p. 3.3–108). The Flag Springs Complex and Sunnyside Creek are biological monitoring sites under the DDC Stipulation and are hydrologic monitoring sites under the Hydrologic Monitoring and Mitigation Plan for Delamar, Dry Lake, and Cave Valleys (Exhibit A of the DDC Stipulation (BIA *et al.* 2008,)) (SNWA, *in litt.* 2011, p. 19), which would be monitored for early signs of impacts to these areas with mitigating measures available to reduce adverse impacts to the area and thus to the White River Valley skipper. While the Service recognizes that uncertainties remain regarding potential impacts to water resources, all but one location occupied by White River Valley skipper

occur outside of the estimated drawdown contour in the White River Valley.

Based on the groundwater flow model estimate for 200 years post full buildout (BLM 2011a, p. 3.3–102), an unknown portion of this skipper's occupied habitat is located within the greater than 10-foot (3.0-m) drawdown contour and could be impacted at Blind Spring in Spring Valley. Because its apparent larval host plant, *Juncus mexicanus,* is a wetland species, habitat for the White River Valley skipper could be affected by the SNWA water development project (BLM 2011a, p. 3.6–74). Though monitoring is occurring using surface-water gages, groundwater monitoring wells, and a piezometer on or near Cleve Creek (Spring Valley), possible future project impacts to White River Valley skipper in Spring Valley are unclear (SNWA, *in litt.* 2011, p. 20). As indicated earlier, there is uncertainty whether the White River Valley skipper is actually found in Spring Valley (Austin and McGuire 1998, pp. 778–779).

Based on the recent water right application rulings issued by the NSE for reduced pumping amounts in Spring Valley (Nevada Department of Conservation and Natural Resources Web site accessed at *http://dcnr.nv.gov* on April 12, 2012), it appears that potential impacts at Blind Spring would be reduced. Additionally, these recent rulings require that the pumping in Spring Valley occur in stages with an initial pumping of 38,000 afy (46,872,311.0 m^3y) for 8 years and the full amount of approximately 61,000 afy (75,242,393.2 m^3y) being pumped only if previous stages indicate it is appropriate based on data collection and management plans indicated above (biological and hydrological data collection; hydrological monitoring, mitigation, and management program; biological monitoring plan, and a computer groundwater flow model) (Nevada Department of Conservation and Natural Resources Web site accessed at *http://dcnr.nv.gov* on April 12, 2012).

Lake Valley is also shown to be impacted by pumping (BLM 2011a, p. 3.3–102; SNWA, *in litt.* 2011, pp. 20–21), but as described in the *Distribution and Habitat* section, there is uncertainty whether the White River Valley skipper occurs in Lake Valley (Austin and McGuire 1998, pp. 778–779). Without specific locations indicated for specimens collected in Lake Valley, it is difficult to determine possible impacts to this subspecies from SNWA's proposed project in this valley. We conclude that SNWA's proposed groundwater development project would not impact populations of this subspecies in Big Smoky Valley as these populations occur too far west of the proposed project area and occur outside of the area(s) that would be affected by the groundwater project.

While human water demands have impacted wetland areas in the White River and Big Smoky Valleys, the White River Valley skipper is rather widespread throughout its known distribution in these valleys. Other locations (Spring Valley and Lake Valley) where the subspecies may be found are tentative locations based on Austin and McGuire (1998, pp. 778–779). The possible host plant for the White River Valley skipper, *Juncus mexicanus,* has not been confirmed as the host plant at any location where the skipper has been observed (Austin and Leary 2008, p. 11). Because of these uncertainties related to some of the subspecies' reported locations as well as its host plant, overall potential impacts due to SNWA's proposed project are difficult to determine. However, based on the possible impact to only one occupied White River Valley skipper location (Flag Springs 3), the recent water right application rulings issued by the NSE for reduced pumping amounts in Spring Valley and the presumed reduction in potential impacts at Blind Spring as well as the initial staged pumping in Spring Valley (Nevada Department of Conservation and Natural Resources Web site accessed at *http://dcnr.nv.gov* on April 12, 2012), we do not anticipate major impacts to the White River Valley skipper from SNWA's proposed project.

In addition, the SNWA water project has multiple design features developed to reduce adverse effects to groundwater-influenced ecosystems. The Spring Valley Stipulation (BIA *et al.* 2006, Exhibit A, p. 10), which was negotiated between SNWA, the Service, BIA, BLM, and the NPS, requires an adaptive management approach in implementation of the water development project, monitoring, mitigation (may include geographic redistribution, reduction, or cessations in groundwater withdrawals; provision of consumptive water supply requirements using surface and groundwater sources; augmentation of water supply for Federal water rights and resources using surface and groundwater sources; and other measures agreed to by the parties or the NSE consistent with the stipulation), creation of technical and management teams, and a consensus-based decisionmaking process. These project design features will likely result in reduced potential effects of the project on habitat suitability for the White River Valley skipper.

While water development has occurred in parts of the White River Valley skipper's range (White River Valley and Big Smoky Valley), we found no information indicating effects from past water development have resulted in loss or degradation of White River Valley skipper habitat. The SNWA water project could affect groundwater flow in certain parts of the White River Valley skipper's known and possible range (White River Valley, Spring Valley, and Lake Valley), but not in other parts of its range (Big Smoky Valley). The SNWA water project also has multiple design features developed to reduce adverse effects to groundwater-influenced ecosystems. At this time, the best available information does not indicate that water development is modifying the White River Valley skipper's habitat to the extent that it represents a threat to this subspecies now or in the future.

Land Development

Different levels of development can greatly alter the amount of larval host plants and adult nectar sources for butterflies, affecting directly the distribution and abundance of individual species and indirectly the microclimate (Blair and Launer 1997, p. 119). Blair and Launer (1997, p. 116) found the abundance of the 23 butterfly species included in their California study varied across the development gradient from natural to urban. The butterfly community contained fewer species in more developed sites compared to the relatively undeveloped oak-woodland community (Blair and Launer 1997, p. 117). Species richness and diversity was greatest at moderately disturbed sites while the relative abundance decreased from the natural to the urban areas (Blair and Launer 1997, p. 113).

Bock *et al.* (2007, pp. 40–41) found that low-density housing developments in former ranch lands of Arizona impacted butterfly species abundance and variety to a lesser degree than in developed urban or suburban landscapes as documented elsewhere by others. Summerville and Crist (2001) studied the effects of habitat fragmentation on patch use by butterflies and skippers. They found that butterflies and skippers select habitat based on quantity (size) and quality (flower availability); moderately-sized patches of high quality may function equally to larger patches of lower quality (Summerville and Crist 2001, p. 1367). Species did not respond

equally to fragmentation, with rare species no longer using patches where less than 40 percent of the habitat remained (Summerville and Crist 2001, p. 1365). While some common species appeared unaffected by fragmentation, other common species were significantly affected (Summerville and Crist 2001, p. 1365).

The petition suggests that land development may impact this subspecies (WildEarth Guardians 2010, pp. 38–40). A portion of the springs and wetlands in the upper and lower White River and Big Smoky Valleys have been eliminated, converted, or degraded due to land uses, such as land development (NNHP 2007, pp. 35, 44). The NNHP (2007) does not delineate these areas in terms of location, acreage, or by land use practice. Although the White River Valley skipper is known to occur in several locations within these valleys, the number of sites or the amount of White River Valley skipper habitat that may be impacted by land development is not documented.

The best available information does not indicate that land development is occurring in habitat that is occupied by the White River Valley skipper. We did not receive any information as a result of our 90-day petition finding notice, nor did we locate information indicating that land development is negatively impacting the habitat or the known populations of the White River Valley skipper. Therefore, the best available information does not indicate that land development is modifying the subspecies' habitat to the extent that it represents a threat to this subspecies now or in the future.

Livestock Grazing

Potential impacts of livestock grazing include selective grazing for native plant species and reducing cover, trampling of plants and soil, damage to soil crusts, reduction of mycorrhizal fungi, increases in soil nitrogen, increases in erosion and runoff, increases in fire frequency, and contribution to nonnative plant introductions (Fleishner 1994, pp. 631–635; Belsky *et al.* 1999, pp. 8–11; Paige and Ritter 1999, pp. 7–8; Belsky and Gelbard 2000, pp. 12–18; Sada *et al.* 2001, p. 15).

In relation to butterflies, as noted in the petition, livestock grazing can impact host plants as well as nectar sources, trample larvae and the 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). While the petition states that light or moderate grazing can assist in maintaining butterfly habitats (WildEarth Guardians 2010, p. 23), heavy grazing is considered incompatible with the conservation of some butterflies (Sanford 2006, p. 401; Selby 2007, pp. 3, 29, 33, 35).

Kruess and Tscharntke (2002, p. 1570) found an increase of species richness and abundance from pastures to ungrazed grasslands in Germany for grasshoppers, butterflies, bees, and wasps. Decreased grazing on pastures resulted in increased species richness and abundance for adult butterflies. Vogel *et al.* (2007, p. 78) evaluated three restoration practices in prairie habitat in Iowa on butterfly communities and found that the total butterfly abundance was highest in areas restored through burning and grazing, and was lowest in areas that were only burned. Species richness did not differ among the practices. Species diversity was highest in areas that were only burned. Individual butterfly species responses to the restoration practices were variable.

BLM regulatory authority for grazing management is provided at 43 CFR part 4100 (Regulations on Grazing Administration Exclusive of Alaska). Livestock grazing permits and leases contain terms and conditions determined by BLM to be appropriate to achieve management and resource condition objectives on the public lands and other lands administered by the BLM, and to ensure that habitats are, or are making significant progress toward, being restored or maintained for BLM special status species (43 CFR 4180.1(d)). Grazing practices and activities include the development of grazing-related portions of implementation or activity plans, establishment of terms and conditions of permits, leases, and other grazing authorizations, and range improvement activities such as vegetation manipulation, fence construction, and development of water for livestock.

BLM grazing administration standards for a particular state or region must address habitat for endangered, threatened, proposed, candidate, or special status species, and habitat quality for native plant and animal populations and communities (43 CFR 4180.2(d)(4) and (5)). The guidelines must address restoring, maintaining, or enhancing habitats of BLM special status species to promote their conservation, and maintaining or promoting the physical and biological conditions to sustain native populations and communities (43 CFR 4180.2(e)(9) and (10)).

The petition and others suggest that livestock grazing may impact this subspecies (NatureServe 2009a, p. 2; WildEarth Guardians 2010, pp. 38–40), but specific information supporting this claim is not provided. A portion of the springs and wetlands in the upper and lower White River and Big Smoky Valleys have been eliminated, converted, or degraded due to other land uses, such as livestock grazing (NNHP 2007, pp. 35, 44). The NNHP (2007) does not delineate these areas in terms of location, acreage, or by land use practice. The type locality (1 mi (1.6 km) north of the Nye County line) is on private and BLM lands. It is not known how livestock grazing is managed on the private lands, but general knowledge of the area indicates it is not heavily grazed during the late spring to early summer period (Lowrie *in litt.* 2012, p. 1). The Ruppes/Boghole location is on private and BLM lands. It is not known how grazing is managed on the private lands, but the area has been grazed in the past (Lowrie *in litt.* 2012, p. 7), and the site appears to continue to provide suitable habitat for the skipper (Lowrie *in litt.* 2012, p. 7).

The type locality and the Ruppes/Boghole sites are surrounded by three BLM grazing allotments (Dee Gee Spring to the east, North Cove to the west; and Swamp Cedar to the northwest) (Lowrie *in litt.* 2012, p. 1), which may support limited suitable habitat (Lowrie *in litt.* 2012, pp. 5–6). The allotments are permitted for cattle grazing during the late winter to early summer, though none are grazed the entire period (Lowrie *in litt.* 2012, pp. 1–3). The animal unit months have generally been reduced since 1999 for all three allotments; each allotment has received growing season rest in various years since 1999 (Lowrie *in litt.* 2012, pp. 3–5).

The Kirch WMA encompasses about 14,800 ac (5,989 ha) of public State lands with five major reservoirs (*www.NDOW.org,* p. 6; accessed April 27, 2012). Based on observations in 2005 when the White River Valley skipper was observed on the WMA, Boyd (pers. comm. 2012b, p. 1) thought grazing by feral horses may have occurred at the south end of Tule Reservoir. The area is primarily a recreational area with limited fishing, hunting, camping, and OHV use during certain times.

The presumed larval host plant, *Juncus mexicanus,* is common and can be found in several Nevada counties in moist habitats. The adults likely feed on a variety of plants flowering during their flight period. The best available information does not indicate declines in larval or adult plant species in

occupied White River Valley skipper habitat due to livestock grazing. Activities involving grazing management within any suitable White River Valley skipper habitat on BLM lands are addressed in consideration of the Ely District Record of Decision and Approved Resource Management Plan (RMP) (BLM 2008a) (see Factor D discussion under White River Valley skipper), BLM's authority under Regulations on Grazing Administration Exclusive of Alaska, BLM's 6840 Manual (BLM 2008b) (see Factor D discussion under White River Valley skipper), and possibly NEPA.

We did not receive any additional information as a result of our 90-day petition finding notice, nor did we locate information indicating that livestock grazing is negatively impacting the habitat or White River Valley skipper populations. Thus, the best available information does not indicate that livestock grazing is modifying the subspecies' habitat to the extent that it represents a threat to this subspecies now or in the future.

Nonnative Plant Invasion

Nonnative species can present a range of threats to native ecosystems, including extinction of native species, alteration of ecosystem functions, and introduction of infectious diseases (Schlaepfer *et al.* 2011, p. 429). However, not all nonnative species cause economic or biological harm and only a small percentage become established and result in harmful effects (Williamson and Fitter 1996 and Davis 2009, cited in Schlaepfer *et al.* 2011, p. 429). Nonnative species can provide a conservation value, for example, by providing food or habitat for rare species (Schlaepfer *et al.* 2011, p. 431).

The introduction of nonnative or invasive plant species or types of vegetation (forbs, shrubs, grasses, etc.) can threaten butterfly populations because these introduced species may compete with and decrease the quantity and quality of larval host plants and adult nectar sources (76 FR 12667, March 8, 2011). This competition resulting in loss of host plants and nectar sources has been observed with the Quino checkerspot butterfly (*Euphydryas editha quino*) (62 FR 2313, January 16, 1997) and Fender's blue butterfly (*Icaricia icarioides fenderi*) (65 FR 3875, January 25, 2000). However, Graves and Shapiro (2003, p. 430) found that California butterflies use numerous nonnative plant species positively and negatively. Some of them are using these nonnative plant species for depositing eggs and feeding, which has led to range expansions, increased population size, extension of the breeding season as well as the opportunity to remain in an area where the native host plant species has been lost. Nonnative plant species have also allowed butterfly species from outside the State to invade and breed in California. There are also instances where egg laying has occurred on a nonnative plant species that is toxic to the larvae.

There has been an increased focus on the roles that State, county, and private entities have in controlling invasive plants. For example, the Noxious Weed Control and Eradication Act of 2004 is intended to assist eligible weed management entities to control or eradicate harmful nonnative weeds on both public and private lands and is an amendment to the Plant Protection Act of 2000 (1 U.S.C. 7701 *et seq.,* p. 1) which, in part, determined that detection, control, eradication, suppression, prevention, and retardation of the spread of noxious weeds is necessary to protect the agriculture, environment, and economy in the United States. Additionally, Executive Order 13112 was signed on February 3, 1999, establishing an interagency National Invasive Species Council in charge of creating and implementing a National Invasive Species Management Plan. The Management Plan directs Federal efforts, including overall strategy and objectives, to prevent, control, and minimize invasive species and their impacts (National Invasive Species Council 2008, p. 5). However, the Executive Order also directs the Council to encourage planning and action at local, tribal, state, regional, and ecosystem levels to achieve the goals of the National Invasive Species Management Plan, in cooperation with stakeholders (e.g., private landowners, states) and existing organizations addressing invasive species.

Noxious and invasive weed treatments on BLM lands involving reseeding can occur through the Emergency Stabilization and Burned Area Rehabilitation Program, a program available to BLM districts (including Ely and Winnemucca Districts) which evaluates conditions following wildland fire. Actions can be taken to protect soils, riparian areas, cultural resources, as well as to reduce potential invasive plant species spread. Invasive plant species control is a management objective stated in many RMPs, including the RMPs for Ely and Winnemucca Districts.

BLM commonly uses herbicides on lands to control invasive plant species. In 2007, BLM completed a programmatic EIS (BLM 2007a) and Record of Decision (BLM 2007b) for vegetation treatments on BLM-administered lands in the western United States. This program approves the use of 4 new herbicides, provides updated analyses of 18 currently used herbicides, and identifies herbicides that the BLM will no longer use on public lands. Information is unavailable on how frequently the programmatic EIS has been used for most states or whether actions implemented under this EIS have been effective; and while not authorizing any specific on-the-ground actions, it guides the use of herbicides for field-level planning. Site-specific NEPA analysis is still required at the project level (BLM 2007a, pp. ES–1–ES–2).

A portion of the springs and wetlands in the upper and lower White River and Big Smoky Valleys has been eliminated, converted, or degraded due to other land uses, such as nonnative species invasion (NNHP 2007, pp. 35, 44). It is likely nonnative and invasive plant species occur to some extent because numerous nonnative and invasive plant species occur in Nevada, though this has not been quantified within the habitat of the White River Valley skipper. The White River Valley skipper is possibly associated with *Juncus mexicanus* as its larval host plant which is common in the White River Valley and other moist habitats in Nevada. Nonnative plant species do not appear to be competing with *Juncus mexicanus,* causing its decline or the decline of potential adult nectar plants.

Activities involving nonnative plant species management within the White River Valley skipper habitat on BLM lands would be addressed in consideration of the Ely District Record of Decision and Approved RMP (BLM 2008a), BLM's authority under Regulations on Grazing Administration Exclusive of Alaska, the Plant Protection Act of 2000, BLM's programmatic EIS for vegetation treatments on BLM's administered lands in the western United States (BLM 2007a), BLM's 6840 Manual (BLM 2008b), and possibly NEPA (see Factor D). Activities involving nonnative plant species management and control on private lands within the White River Valley habitat could also be addressed in consideration of the Plant Protection Act of 2000. We did not receive any information as a result of the 90-day petition finding notice, nor did we locate information indicating that nonnative plant species in general, or that a specific nonnative or invasive plant species, actually occur in and are negatively impacting the habitat and

populations of the White River Valley skipper. Consequently, the best available information does not indicate that nonnative plant species are modifying the subspecies' habitat to the extent that it represents a threat to this subspecies now or in the future.

Agriculture

Agricultural practices can eliminate suitable habitat, resulting in losses of butterfly species. Fleishman *et al.* (1999, pp. 214–215) states 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 and others suggest that the White River Valley skipper may be impacted by agriculture (NatureServe 2009a, p. 2; WildEarth Guardians 2010, pp. 38–40), though specific information is not provided to support this claim. A portion of the springs and wetlands in the upper and lower White River and Big Smoky Valleys has been eliminated, converted, or degraded due to other land uses, including agriculture (NNHP 2007, pp. 35, 44). The best available information does not indicate that agriculture is occurring in areas that are occupied by the White River Valley skipper. We did not receive any information as a result of the 90-day petition finding notice, nor did we locate information that indicates agriculture is negatively impacting the White River Valley skipper populations, host plants, or nectar sources. Thus, the best available information does not indicate that agriculture is modifying the subspecies' habitat to the extent that it represents a threat to this subspecies now or in the future.

Mining and Energy Development

Possible impacts to butterflies due to mining exploration and development, renewable and nonrenewable energy exploration and development, as well as associated power line installation include loss of habitat, habitat fragmentation, increased dispersal barriers, increases in predators, and disturbance due to human presence.

The Federal Land Policy and Management Act of 1976 (FLPMA) (43 U.S.C. 1701 *et seq.*) is the primary Federal law governing most land uses on BLM administered lands. Section 102(a)(8) of FLPMA specifically recognizes that wildlife and fish resources are included as uses for which these lands are to be managed. BLM has management and permitting authorities to regulate and condition oil and gas lease permits under FLPMA and the Mineral Leasing Act of 1920, as amended (30 U.S.C. 181 *et seq.*). BLM usually incorporates stipulations as a condition of issuing leases. The BLM's planning handbook has program-specific guidance for fluid materials (including oil and gas) that specifies that RMP decision-makers will consider restrictions on areas subject to leasing, including closures, and lease stipulations (BLM 2000, Appendix C, p. 16). The handbook also specifies that all stipulations must have waiver, exception, or modification criteria documented in the plan, and indicates that the least restrictive constraint to meet the resource protection objective should be used (BLM 2000, Appendix C, p. 16).

There are specific, major power line installation projects in eastern Nevada. The Southwest Intertie Project, proposed by Idaho Power Company, involves installation of an approximately 520-mi (836.7–km) 500-kilovolt (kV) transmission line from Shoshone, Idaho, to Las Vegas, Nevada (BLM 1993, p. 1; 2008c, p. 1). Though the White River Valley skipper is known from the project area, impacts to it from this project were not identified (BLM 1993, pp. 3–75–3–89). The Record of Decision approving this action was published in 2008 (BLM 2008c). The One Nevada Transmission Line Project, proposed by NV Energy, involves construction of a 236-mile (252.3–km) 500-kV transmission line with telecommunication and appurtenant facilities, construction and expansion of substations, and a loop in the existing Falcon-Gonder transmission line in White Pine, Nye, Lincoln, and Clark Counties (BLM 2010c, p. ES–2). The White River Valley skipper was not observed during wildlife surveys conducted for this project (BLM 2010c, Appendix 3D, Table 2, pp. 1–5). A Record of Decision approving this project was published in 2011 (BLM 2011b).

A Programmatic EIS for the Designation of Energy Corridors on Federal Land in the 11 Western States was published in 2008 (Department of Energy (DOE) and BLM 2008). This EIS addresses section 368 of the Energy Policy Act of 2005, which directs the designation of corridors for oil, gas, and hydrogen pipelines, and electricity transmission and distribution facilities on Federal lands. Federal agencies are required to conduct environmental reviews to complete the designation and incorporate the designated corridors into agency land use and RMPs or equivalent plans. This EIS proposes only designation of corridors, and no environmental impacts are attributed to this action. Section 368 does not require agencies to consider or approve specific projects, applications for ROW, or other permits within any designated corridor, nor does section 368 direct, license, or permit any activity on the ground. Any interested applicant would need to apply for a ROW authorization, and the agency would consider each application under the requirements of various laws and related regulations (DOE and BLM 2008, pp. S–1–S–2). The proposed action would designate more than 6,000 mi (9,600 km) with an average width of 3,500 ft (1 km) of energy corridors across the West (DOE and BLM 2008, p. S–17). Federal land not presently in transportation or utility rights-of-way is proposed for use in Nevada (373 mi or 600 km) (DOE and BLM 2008, p. S–18). The Record of Decision for this action was published in 2009 (BLM 2009b). BLM RMPs will be amended as appropriate to address these issues (BLM 2009b, pp. 31–34).

The White River Valley skipper may be impacted by mining and energy development according to the petition (WildEarth Guardians 2010, p. 39), though specific information is not provided to support this claim. The NNHP indicates that a portion of the springs and wetlands in the upper and lower White River and Big Smoky Valleys have been eliminated, converted, or degraded due to other land uses, including mining and energy development, but these areas were not delineated (NNHP 2007, pp. 35, 44). Actions involving mineral and energy development within White River Valley skipper habitat on BLM-administered lands would be addressed in consideration of the Ely District Record of Decision and Approved RMP (BLM 2008a), the FLPM A of 1976, the Mineral Leasing Act of 1920, BLM's 6840 Manual (BLM 2008b), and NEPA. The best available information does not indicate that mining and energy development are occurring in occupied White River Valley skipper habitat. We did not receive any information as a result of the 90-day petition finding notice, nor did we locate information that indicates mining or energy development is negatively impacting the subspecies' habitat or White River Valley skipper populations. Thus, the best available information does not

indicate that mining and energy development are modifying the subspecies' habitat to an extent that they represent a threat to this subspecies now or in the future.

Climate Change

The effects on species and ecosystems due to climate change are numerous. For example, there are direct effects due to different temperatures on the physiology of an organism (McCarty 2001, p. 321). Precipitation amounts directly affect vegetation distribution (McCarty 2001, p. 321). Climate can also have indirect effects on species through the sensitivity of habitats or food supply to temperature and precipitation (McCarty 2001, p. 321).

Climate change is expected to affect the timing and flow of streams, springs, and seeps in the Great Basin (Chambers 2008a, p. 20), which support the moist meadows upon which some 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 2008b, p. 29). As stated in the petition, potential changes in the bloom date of meadow plants due to climate change could affect the use of these plants by butterflies (WildEarth Guardians 2010, p. 9). 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 may favor invasion of annual grasses such as the nonnative *Bromus tectorum* (cheatgrass) (Smith *et al.* 2000, pp. 79, 81). Increased temperatures and carbon dioxide 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).

The rate at which a species can adapt and change its boundaries may be vital to understanding how species will respond to climate change (McCarty 2001, p. 327). Studies of groups of species show most are responding to climate change; what is also important is to study those that do not seem to be responding (McCarty 2001, pp. 327–328). These species may be less sensitive to temperature, or they may be unable to respond to current moderate increases in temperature (McCarty 2001, p. 328).

According to Loarie *et al.* (2009, p. 1052), species and ecosystems will need to shift northward an average of 0.3 mi (0.42 km) per year to avoid the effects of increasing temperatures associated with climate change. Loarie *et al.* (2009, p. 1053) also state 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 asserts 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). The petition states that species and habitats already stressed by other factors may be less able to cope with climate change (WildEarth Guardians 2010, p. 10).

Certain butterflies have shown an ability to adjust to changing climatic conditions. Parmesan (2006, p. 643) reported that butterflies frequently show a correlation between spring temperatures and dates of first appearance. According to Forister and Shapiro (2003 cited in Parmesan 2006, p. 643), 70 percent of 23 species of central California butterflies advanced their first flight date by an average of 24 days over 31 years. Parmesan (1996, pp. 765–766) showed a range shift for Edith's checkerspot butterfly (*Euphydryas edithia*); this butterfly's ''population extinctions'' occurred in relation to both latitude and elevation showing a shift of extant population locations northward and upward.

The average temperature in the Great Basin has increased 0.6–1.1 degrees Fahrenheit (0.3–0.6 degrees Celsius) during the last 100 years (Chambers 2008b, p. 29) and is expected to increase by 3.6–9.0 degrees Fahrenheit (2–5 degrees Celsius) over the next century (Cubashi *et al.* 2001, cited Chambers 2008b, p. 29).

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 (U.S. Environmental Protection Agency 1998, pp. 1–4; Chambers and Pellant 2008, pp. 29–33). While the petition asserts that climate change may impact this subspecies (WildEarth Guardians 2010, pp. 38–40), 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).

We found no information on how climate change may impact the White River Valley skipper's potential host plant, *Juncus mexicanus,* or adult nectar sources. In general, increasing temperatures and drought frequency, more winter precipitation in the form of rain, possible decreases in summer rain, and earlier, rapid snowmelt could impact the host plant by causing physiological stress, altering phenology, reducing recruitment events, and reducing seed establishment. However, at this time, it is difficult to predict local climate change impacts to *Juncus mexicanus* or to White River Valley skipper's adult nectar sources, and how individual plant species will react to climate change. Thus, while information indicates that climate change has the potential to affect vegetation and habitats used by the White River Valley skipper in the Great Basin, there is much uncertainty regarding which habitat attributes could be affected, and the timing, magnitude, and rate of their change as it relates to this subspecies.

We did not receive any information as a result of our 90-day petition finding notice, nor did we locate specific information that indicates climate change is negatively impacting White River Valley skipper populations or their habitats. Therefore, the best available information does not indicate that climate change is modifying the subspecies' habitat to an extent that it represents a threat to this subspecies now or in the future.

Summary of Factor A

While several activities such as water and land development, livestock grazing, nonnative species invasion, agriculture, and mining and energy development may be impacting a portion of wetland areas in White River and Big Smoky Valleys, available information does not indicate that these impacts are occurring in occupied White River Valley skipper habitat. The available information does not indicate that these activities or climate change are negatively impacting White River Valley skipper populations. Since the White River Valley skipper may be associated with wetland areas, impacts

from water development could impact the subspecies; however, all but one occupied skipper locations are outside the greater than 10-foot (3.0-m) drawdown contour for the SNWA proposed project, and major impacts are not anticipated for this subspecies in White River Valley. Other locations in Spring and Lake Valleys that may support the subspecies are located within the greater than 10-foot (3.0-m) drawdown contour for the SNWA proposed project but potential impacts from groundwater pumping would be reduced due to the recent NSE rulings. While information indicates that climate change has the potential to affect vegetation used by this subspecies, much uncertainty remains regarding which plant attributes may be affected, and the timing, magnitude, and rate of their change.

We conclude based on the best scientific and commercial information available that the present or threatened destruction, modification, or curtailment of its habitat or range does not currently pose a threat to the White River Valley skipper, nor is it likely to become a threat to the subspecies in the future.

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

Rare butterflies and moths are prized by collectors, and an international trade exists for insect specimens for both live and decorative markets, as well as the specialist trade that supplies hobbyists, collectors, and researchers (Morris *et al.* 1991, pp. 332–333; Williams 1996, pp. 30–37). The specialist trade differs from both the live and decorative market in that it concentrates on rare and threatened species (U.S. Department of Justice 1993, pp. 2–3). In general, the rarer the species, the more valuable it is (Morris *et al.* 1991, p. 333).

Collecting can be a threat to some butterfly species, such as the Fender's blue butterfly (65 FR 3875). Generally, small populations are at the highest risk. Overcollecting and repeated handling and marking of females for scientific purposes in low abundance years can negatively impact populations through loss of reproductive individuals and genetic variability (65 FR 3875). Collection of dispersing females can also reduce the probability that new colonies will be founded. Collectors may serve as a threat because they may not recognize when butterfly populations are becoming depleted below a threshold necessary for survival or recovery (65 FR 3875).

We are unaware of any studies analyzing impacts of removal of individuals from populations of the White River Valley skipper. According to Austin and McGuire (1998, p. 778), 20 males and 14 females were collected between 1984 and 1989 at one site. No additional information is known about the numbers of specimens collected in the past, and we are not aware of any ongoing or current collecting of this subspecies. Given the low number of individuals collected over this 6-year period, the length of time since the collections were made, and the lack of information about the relative impact to the populations, the available information does not indicate that collection may be a threat to this subspecies.

We found no information indicating that overutilization has led to the loss of populations or a significant reduction in numbers of individuals for this subspecies. Therefore, we conclude based on the best scientific and commercial information available that overutilization for commercial, recreational, scientific, or educational purposes does not currently pose a threat to the White River Valley skipper, nor is it likely to become a threat in the future.

Factor C. Disease or Predation

We found no information on the incidence of disease in the White River Valley skipper.

We assume predation by other species, such as birds or insects, on eggs, larvae, pupae, or adult White River Valley skipper occurs, but we found no information indicating that predation levels are any greater than levels typical of the biological community in which the White River Valley skipper occurs.

Available information does not indicate that there are impacts from disease or predation on the White River Valley skipper. Therefore, we conclude based on the best scientific and commercial information available that disease or predation does not currently pose a threat to the White River Valley skipper, nor is either likely to become a threat to the subspecies in the future.

Factor D. The Inadequacy of Existing Regulatory Mechanisms

This discussion under Factor D applies to all four subspecies and is incorporated by this reference into the Factor D discussion for Steptoe Valley crescentspot, Baking Powder Flat blue butterfly, and bleached sandhill skipper.

Nevada does not have the ability to protect invertebrates under current State law pertaining to wildlife. The Nevada Department of Wildlife is limited in its ability to protect insects under current regulations (Nevada Revised Statutes (NRS)). Nevada State law protects species that the Wildlife Commission determines to be imperiled (NRS 503.585). While some invertebrates such as mollusks and crustaceans may be protected because they can be classified under wildlife (NRS 501.110), butterflies are not covered under this statute. No butterfly or skipper species are currently protected by State law in Nevada (Nevada Administrative Code 503.020–503.080). Therefore, no regulatory protection is offered under Nevada State law for the White River Valley skipper, Steptoe Valley crescentspot, Baking Powder Flat blue butterfly, or bleached sandhill skipper. Although not protected by State law, the best available information, as discussed in Factor B, does not indicate that collection or other forms of overutilization is a threat to the White River Valley skipper.

As discussed earlier under Factor A, the NSE approves and permits groundwater rights in Nevada. A basin's perennial yield is considered during this process, and the NSE may ''designate'' a groundwater basin indicating that the water resources in that basin are being depleted or require additional administration. The White River Valley and the Lake Valley hydrographic areas are ''designated'' basins, and the NSE has authority to establish additional rules, regulations, or orders to protect the basin's water resources. These additional rules, regulations, or orders, if established in the future, may provide some protection to species dependent on these water resources, such as the White River Valley skipper. The best available information does not indicate that water development is impacting White River Valley skipper populations.

As discussed above, a portion of habitat for the White River Valley skipper occurs on lands administered by BLM, a Federal land-management agency within the U.S. Department of the Interior. Numerous laws, regulations, and policies have been developed to assist the agency in management of these lands.

All Federal agencies are required to adhere to NEPA for projects they fund, authorize, or carry out. The Council on Environmental Quality's regulations for implementing NEPA (40 CFR 1500–1518) state that agencies shall include a discussion on the environmental impacts of the various project alternatives, any adverse environmental effects which cannot be avoided, and any irreversible or irretrievable commitments of resources involved (40 CFR 1502). Additionally, activities on non-Federal lands are subject to NEPA

if there is a Federal nexus. NEPA is a disclosure law and does not require subsequent minimization or mitigation measures by the Federal agency involved. Although Federal agencies may include conservation measures for sensitive species as a result of the NEPA process, any such measures are typically voluntary in nature and are not required by the statute.

BLM's RMPs are the basis for all actions and authorizations involving BLM-administered land and resources. They establish allowable resource uses; resource conditions, goals, and objectives to be attained; program constraints and general management practices needed to attain the goals and objectives; general implementation sequences; and intervals and standards for monitoring and evaluating each plan to determine its effectiveness and the need for amendment or revision (43 CFR 1601.0–5(k)).

RMPs provide a framework and programmatic guidance for site-specific activity plans. These plans address livestock grazing, oil and gas field development, travel management (managing vehicle routes and access), wildlife habitat management, and other activities. Actions potentially affecting the White River Valley skipper, as well as the Steptoe Valley skipper and Baking Powder Flat blue butterfly, would be addressed under the Ely District Record of Decision and Approved RMP (BLM 2008a); actions potentially affecting the bleached sandhill skipper would be addressed under the Winnemucca District RMP and EIS (BLM 2010a). Activity plan decisions normally also require NEPA (42 U.S.C. 4321 *et seq.*) analysis.

BLM policy and guidance for species of concern occurring on BLM-administered land is addressed under BLM's 6840 Manual ''Special Status Species Management'' (BLM 2008b). 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 2008b, p. 3). All four of the butterfly and skipper subspecies addressed in this finding are designated BLM sensitive species (BLM 2007a, pp. J–6, J–7, J–37).

BLM also operates under its Regulations on Grazing Administration Exclusive of Alaska, codified at 43 CFR part 4100, which include requirements that grazing administration standards address habitat for special status species and habitat quality for native plant and animal populations and communities (43 CFR 4180.2(d)(4) and (5)) that livestock grazing permits and leases contain terms and conditions determined by BLM to be appropriate to achieve management and resource condition objectives on the public lands. See discussion under Livestock Grazing, above.

These BLM policies and guidance address species of concern, actions covered by RMPs, and regulatory authority for grazing and oil and gas leasing and operating activities. As discussed under Factor A, the best available information does not indicate that activities, such as livestock grazing, nonnative species control, and mining and energy development that are regulated by various policies, guidance, and laws on Federal lands, are impacting White River Valley skipper populations. We conclude based on the best scientific and commercial information available that the inadequacy of existing regulatory mechanisms does not currently pose a threat to the White River Valley skipper, nor is it likely to become a threat to the subspecies in the future.

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

Potential other natural or manmade factors that may affect the continued existence of the White River Valley skipper are discussed in this section and include: (1) Limited range and (2) small population size(s).

A limited range or small population size(s) can be a threat for some species that may increase the likelihood of extinction. 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). Concern may arise for butterflies that occur as single populations or in a few disjunct populations, and the number of populations may be more important than population size when assessing the status of a butterfly (Sanford 2006, p. 401). 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). 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 range and small population numbers or sizes are considered in determining whether a natural or anthropogenic threat, or a combination of threats, 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 generally 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).

As indicated earlier, the White River Valley skipper is known from the White River Valley in White Pine and Nye Counties and from Big Smoky Valley in Nye County. It may also occupy areas in Spring and Lake Valleys in White Pine and Lake Valley Counties, respectively. The aerial extent of each occupied site or of the subspecies' apparent host plant has not been reported. Little information is available related to its distribution and numbers of populations, and no information is available related to population sizes, loss of populations, if any, or population trends for the White River Valley skipper. The best available information does not include comprehensive surveys for this subspecies, though researchers have recommended these surveys to determine if additional populations exist.

Without data to indicate population trends, it is difficult to support claims of adverse impacts to the White River Valley skipper. We found no information on connections between chance events and population impacts for the White River Valley skipper. Since this subspecies is distributed over several populations, potential impacts due to stochastic events may be reduced. In the absence of chance events connected to known populations, we do not consider small population numbers or restricted range by themselves to be threats to this subspecies. The best available information does not indicate the White River Valley skipper is negatively

impacted by limited range or small population numbers. We conclude based on the best scientific and commercial information available that other natural or manmade factors do not currently pose a threat to the White River Valley skipper, nor are they likely to become a threat to the subspecies in the future.

Synergistic Interactions Between Threat Factors

We have evaluated individual threats to the White River Valley skipper. This subspecies faces potential threats from water development, land development, livestock grazing, nonnative plant invasion, agriculture, mining and energy development, climate change, limited range, and small population size. In considering whether the threats to a species may be so great as to warrant listing under the Act, we must look beyond the possible impacts of potential threats in isolation and consider the potential cumulative impacts of all of the threats facing a species.

In making this finding, we considered whether there may be cumulative effects to the White River Valley skipper from the combined impacts of the existing stressors such that even if each stressor individually does not result in population-level impacts, that cumulatively the effects may be significant. We considered whether the combined effects of water development, land development, and mining and energy development may result in a significant impact to the White River Valley skipper because these potential impacts have the potential to result in some level of habitat loss. However, we conclude that synergistic effects between water development, land development, and mining and energy development are unlikely to result in a significant overall population impact to the White River Valley skipper because the water development activities have been ongoing in the valleys and the proposed water development project is not anticipated to cause major impacts because only one known occupied White River Valley skipper location may be impacted to some unknown extent. Impacts from land development and mining and energy development were not found to be occurring in the subspecies' habitat.

While livestock grazing and nonnative plant invasion could impact the White River Valley skipper and its habitat, livestock grazing and nonnative plant species invasion are not known to be resulting in population declines of either host plants or nectar plants in occupied locations. We conclude that livestock grazing and nonnative plant species invasion combined with potential impacts from water development would not be of sufficient severity, frequency, or geographic scope to result in significant habitat impacts or cause population-level impacts to the White River Valley skipper. Agriculture was not found to occur within this subspecies' habitat, and therefore, will not have a cumulative impact on the White River Valley skipper.

Limited range and small population size could make the White River Valley skipper more vulnerable to potential threats discussed above. However, we cannot conclude that synergistic effects between limited range and small population size and other potential threats are operative threats to the continued existence of the White River Valley skipper given the lack of information on the range and population size of this butterfly. There is no information on population size or change in population abundance for the White River Valley skipper, and the limited information on occurrence (distribution) is insufficient to define this skipper's range.

Synergistic interactions are possible between effects of climate change and effects of other potential threats such as water development, livestock grazing, and nonnative plant invasion. Increases in carbon dioxide and temperature and changes in precipitation are likely to affect vegetation, and the White River Valley skipper is closely associated with the presence of vegetation. However, it is difficult to project how climate change will affect vegetation because certain plant species may increase in cover while other species may decrease. Uncertainty about how different plant species will respond under climate change, combined with uncertainty about how changes in plant species composition would affect suitability of White River Valley skipper habitat, make projecting possible synergistic effects of climate change on the White River Valley skipper too speculative.

Finding for the White River Valley Skipper

As required by the Act, we considered the five factors in assessing whether the White River Valley skipper is an endangered or threatened species throughout all of its range. We examined the best scientific and commercial information available regarding the past, present, and future threats faced by this subspecies.

Factors potentially affecting the White River Valley skipper, including water development, land development, livestock grazing, nonnative species invasion, agriculture, mining and energy development, or climate change, and limited range and small population size, are either limited in scope or lack documentation that they are occurring in occupied habitat and adversely impacting the subspecies. Though climate change may be affecting the White River Valley skipper and its habitats, and effects are likely to increase in the future, available information does not support a determination that climate change has or will result in a population-level impact to this subspecies. Available information does not indicate that overutilization, disease, or predation are threats to the White River Valley skipper. The available information also does not indicate that existing regulatory mechanisms are inadequate to protect the subspecies from potential threats. Furthermore, there is no information to suggest that the combined factors acting together are a threat to the White River Valley skipper. Based on our review of the best scientific and commercial information available, we find these potential stressors, either singly or in combination with one another, are not threats to the White River Valley skipper or its habitat.

We found no information to indicate that threats are of sufficient imminence, intensity, or magnitude such that the White River Valley skipper is in danger of extinction (endangered) or likely to become endangered within the foreseeable future (threatened), throughout all of its range. Therefore, we find that listing the White River Valley skipper as an endangered or threatened species is not warranted throughout its range.

Significant Portion of the Range

Having determined that the White River Valley skipper does not meet the definition of an endangered or a threatened species, we must next consider whether there are any significant portions of the range where the White River Valley skipper is in danger of extinction or is likely to become endangered in the foreseeable future. The Act defines ''endangered species'' as any species which is ''in danger of extinction throughout all or a significant portion of its range,'' and ''threatened species'' as any species which is ''likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.'' 16 U.S.C. 1532(6) and 1532(20). The definition of ''species'' is also relevant to this discussion. The Act defines ''species'' as follows: ''The term 'species' includes any subspecies of fish

or wildlife or plants, and any distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature.'' 16 U.S.C. 1532(16). The phrase ''significant portion of its range'' (SPR) is not defined by the statute, and we have never addressed in our regulations: (1) The consequences of a determination that a species is either endangered or likely to become so throughout a significant portion of its range, but not throughout all of its range; or (2) what qualifies a portion of a range as ''significant.''

Two recent district court decisions have addressed whether the SPR language allows the Service to list or protect less than all members of a defined ''species'': *Defenders of Wildlife* v. *Salazar,* 729 F. Supp. 2d 1207 (D. Mont. 2010), concerning the Service's delisting of the Northern Rocky Mountains gray wolf (74 FR 15123, April 2, 2009); and *WildEarth Guardians* v. *Salazar,* 2010 U.S. Dist. LEXIS 105253 (D. Ariz. September 30, 2010), concerning the Service's 2008 finding on a petition to list the Gunnison's prairie dog (73 FR 6660, February 5, 2008). The Service had asserted in both of these determinations that, under the Act, it had authority, in effect, to protect only some members of a ''species,'' as defined by the Act (i.e., species, subspecies, or DPS). Both courts ruled that the determinations were arbitrary and capricious on the grounds that this approach violated the plain and unambiguous language of the Act. The courts concluded that reading the SPR language to allow protecting only a portion of a species' range is inconsistent with the Act's definition of ''species.'' The courts concluded that once a determination is made that a species (i.e., species, subspecies, or DPS) meets the definition of ''endangered species'' or ''threatened species,'' it must be placed on the list in its entirety and the Act's protections applied consistently to all members of that species throughout its range (subject to modification of protections through special rules under sections 4(d) and 10(j) of the Act).

Consistent with that interpretation, and for the purposes of this finding, we interpret the phrase ''significant portion of its range'' in the Act's definitions of ''endangered species'' and ''threatened species'' to provide an independent basis for listing. Thus there are two situations (or factual bases) under which a species would qualify for listing: A species may be endangered or threatened throughout all of its range, or a species may be endangered or threatened in only a significant portion of its range. If a species is in danger of extinction throughout an SPR, it, the species, is an ''endangered species.'' The same analysis applies to ''threatened species.'' Based on this interpretation and supported by existing case law, the consequence of finding that a species is endangered or threatened in only a significant portion of its range is that the entire species shall be listed as endangered or threatened, respectively, and the Act's protections shall be applied across the species' entire range.

We conclude, for the purposes of this finding, that interpreting the SPR phrase as providing an independent basis for listing is the best interpretation of the Act because it is consistent with the purposes and the plain meaning of the key definitions of the Act; it does not conflict with established past agency practice (i.e., prior to the 2007 Solicitor's Opinion), as no consistent, long-term agency practice has been established; and it is consistent with the judicial opinions that have most closely examined this issue. Having concluded that the phrase ''significant portion of its range'' provides an independent basis for listing and protecting the entire species, we next turn to the meaning of ''significant'' to determine the threshold for when such an independent basis for listing exists.

Although there are potentially many ways to determine whether a portion of a species' range is ''significant,'' we conclude, for the purposes of this finding, that the significance of the portion of the range should be determined based on its biological contribution to the conservation of the species. For this reason, we describe the threshold for ''significant'' in terms of an increase in the risk of extinction for the species. We conclude that a biologically based definition of ''significant'' best conforms to the purposes of the Act, is consistent with judicial interpretations, and best ensures species' conservation. Thus, for the purposes of this finding, and as explained further below, a portion of the range of a species is ''significant'' if its contribution to the viability of the species is so important that, without that portion, the species would be in danger of extinction.

We evaluate biological significance based on the principles of conservation biology using the concepts of redundancy, resiliency, and representation. Resiliency describes the characteristics of a species and its habitat that allow it to recover from periodic disturbance. Redundancy (having multiple populations distributed across the landscape) may be needed to provide a margin of safety for the species to withstand catastrophic events. Representation (the range of variation found in a species) ensures that the species' adaptive capabilities are conserved. Redundancy, resiliency, and representation are not independent of each other, and some characteristic of a species or area may contribute to all three. For example, distribution across a wide variety of habitat types is an indicator of representation, but it may also indicate a broad geographic distribution contributing to redundancy (decreasing the chance that any one event affects the entire species), and the likelihood that some habitat types are less susceptible to certain threats, contributing to resiliency (the ability of the species to recover from disturbance). None of these concepts is intended to be mutually exclusive, and a portion of a species' range may be determined to be ''significant'' due to its contributions under any one or more of these concepts.

For the purposes of this finding, we determine if a portion's biological contribution is so important that the portion qualifies as ''significant'' by asking whether, without that portion, the representation, redundancy, or resiliency of the species would be so impaired that the species would have an increased vulnerability to threats to the point that the overall species would be in danger of extinction (i.e., would be ''endangered''). Conversely, we would not consider the portion of the range at issue to be ''significant'' if there is sufficient resiliency, redundancy, and representation elsewhere in the species' range that the species would not be in danger of extinction throughout its range if the population in that portion of the range in question became extirpated (extinct locally).

We recognize that this definition of ''significant'' (a portion of the range of a species is ''significant'' if its contribution to the viability of the species is so important that, without that portion, the species would be in danger of extinction) establishes a threshold that is relatively high. On the one hand, given that the consequences of finding a species to be endangered or threatened in an SPR would be listing the species throughout its entire range, it is important to use a threshold for ''significant'' that is robust. It would not be meaningful or appropriate to establish a very low threshold whereby a portion of the range can be considered ''significant'' even if only a negligible increase in extinction risk would result from its loss. Because nearly any portion of a species' range can be said to contribute some increment to a species'

viability, use of such a low threshold would require us to impose restrictions and expend conservation resources disproportionately to conservation benefit: Listing would be rangewide, even if only a portion of the range of minor conservation importance to the species is imperiled. On the other hand, it would be inappropriate to establish a threshold for ''significant'' that is too high. This would be the case if the standard were, for example, that a portion of the range can be considered ''significant'' only if threats in that portion result in the entire species' being currently endangered or threatened. Such a high bar would not give the SPR phrase independent meaning, as the Ninth Circuit held in *Defenders of Wildlife* v. *Norton,* 258 F.3d 1136 (9th Cir. 2001).

The definition of ''significant'' used in this finding carefully balances these concerns. By setting a relatively high threshold, we minimize the degree to which restrictions will be imposed or resources expended that do not contribute substantially to species conservation. But we have not set the threshold so high that the phrase ''in a significant portion of its range'' loses independent meaning. Specifically, we have not set the threshold as high as it was under the interpretation presented by the Service in the *Defenders* litigation. Under that interpretation, the portion of the range would have to be so important that current imperilment there would mean that the species would be currently imperiled everywhere. Under the definition of ''significant'' used in this finding, the portion of the range need not rise to such an exceptionally high level of biological significance. (We recognize that if the species is imperiled in a portion that rises to that level of biological significance, then we should conclude that the species is in fact imperiled throughout all of its range, and that we would not need to rely on the SPR language for such a listing.) Rather, under this interpretation, we ask whether the species would be endangered everywhere without that portion (i.e., if that portion were completely extirpated). In other words, the portion of the range need not be so important that even the species being in danger of extinction in that portion would be sufficient to cause the species in the remainder of the range to be endangered; rather, the complete extirpation (in a hypothetical future) of the species in that portion would be required to cause the species in the remainder of the range to be endangered.

The range of a species can theoretically be divided into portions in an infinite number of ways. However, there is no purpose to analyzing portions of the range that have no reasonable potential to be significant or to analyzing portions of the range in which there is no reasonable potential for the species to be endangered or threatened. To identify only those portions that warrant further consideration, we determine whether there is substantial information indicating that: (1) The portions may be ''significant,'' and (2) the species may be in danger of extinction there or likely to become so within the foreseeable future. Depending on the biology of the species, its range, and the threats it faces, it might be more efficient for us to address the significance question first or the status question first. Thus, if we determine that a portion of the range is not ''significant,'' we do not need to determine whether the species is endangered or threatened there; if we determine that the species is not endangered or threatened in a portion of its range, we do not need to determine if that portion is ''significant.'' In practice, a key part of the determination that a species is in danger of extinction in a significant portion of its range is whether the threats are geographically concentrated in some way. If the threats to the species are essentially uniform throughout its range, no portion is likely to warrant further consideration. Moreover, if any concentration of threats to the species occurs only in portions of the species' range that clearly would not meet the biologically based definition of ''significant,'' such portions will not warrant further consideration.

We evaluated the current range of the White River Valley skipper to determine if there is any apparent geographic concentration of the primary stressors potentially affecting the subspecies including water and land development, livestock grazing, nonnative species invasion, agriculture, mining and energy development, climate change, and limited range and small population size. On the basis of our review, we found no geographic concentration of potential threats either on public or private lands to suggest that the White River Valley skipper may be in danger of extinction in that portion of its range. We found no area within the range of the White River Valley skipper where the potential threats are significantly concentrated or substantially greater than in other portions of its range. We also found that lost historical range does not constitute a significant portion of the range for the White River Valley skipper because there is no information indicating that there has been a range contraction for this subspecies. Therefore, we find factors affecting the subspecies are essentially uniform throughout its range, indicating no portion of the skipper's range warrants further consideration of possible status as an endangered or threatened species under the Act.

We found no information to indicate that the White River Valley skipper is in danger of extinction now, nor is it likely to become endangered within the foreseeable future, throughout all or a significant portion of its range. Therefore, listing the White River Valley skipper as an endangered or threatened species under the Act is not warranted at this time.

We request that you submit any new information concerning the status of, or threats to, the White River Valley skipper to our Nevada Fish and Wildlife Office (see **ADDRESSES** section) whenever it becomes available. New information will help us monitor the White River Valley skipper and encourage its conservation. If an emergency situation develops for the White River Valley skipper or any other species, we will act to provide immediate protection.

Species Information for the Steptoe Valley Crescentspot

Taxonomy and Species Description

We accept the characterization of the Steptoe Valley crescentspot (*Phyciodes cocyta arenacolor*) as a valid subspecies based on its description by Austin (1998b, p. 577) and recent updated nomenclature (NatureServe 2009b, p. 1; A. Warren, pers. comm., cited in WildEarth Guardians 2010, p. 34). This subspecies was described by Austin (1998b, p. 577) from specimens collected in Steptoe Valley at Warm Springs, White Pine County, Nevada. This subspecies is in the Nymphalidae family (Austin 1998a, p. 843). Male wingspan ranges from 0.67 to 0.74 in (17.0–18.8 mm). The upperside is orange and black. The margin is broadly black with a marginal spot. The hindwing has a broad black margin. The submargin (on the wing, just inside marginal zone) has a series of black dots. The fringes of both wings are dark grayish and not distinctly checkered with white. The underside of the forewing is paler (yellower) than the upperside. The margin and submargin are brownish and interrupted with some yellow areas. The hindwing is yellowish. A small brownish patch occurs along the middle of the outer

margin, which also has a distinct submarginal crescent (Austin 1998b, p. 577). Females are slightly larger and range from 0.72 to 0.79 in (18.2–20.0 mm). The upperside is a paler orange than the male's with a forewing that is cream colored postmedian and creamy-orange on the submargin. The black is more extensive than on the male. The hindwing is like that of the male but the black is broader, separating the rows of dots. The underside of the forewing is like that of the male's but the postmedian is pale as on the upperside. The underside of the hindwing is whitish (Austin 1998b, p. 577). Please refer to Austin (1998b, p. 577) for a more detailed description of this subspecies.

Distribution and Habitat

Descriptions of locations where the Steptoe Valley crescentspot has been found are vague. Austin (1993, pp. 8–9) and others (Austin 1998b, p. 577; Austin and Leary 2008, p. 102) found the Steptoe Valley crescentspot in the moist flats adjacent to Duck Creek from Warm Springs (the type locality (Austin 1998b, p. 577)) south to northwest of McGill (in unspecified locations) in Steptoe Valley, White Pine County, Nevada. This is a distance of approximately 18 mi (29 km) where both private and BLM lands occur along Duck Creek. More specific locations include Bassett Lake (private lands) located along Duck Creek Slough (Austin 1993, p. 9; NNHP 2010). Occurrences have been reported by NNHP (2006, p. 42) at Monte Neva Hot Springs (on private and BLM lands) and near McGill (on private and BLM lands), White Pine County, Nevada. Monte Neva Hot Springs is located about 1 mi (1.6 km) west of Warm Springs and about 1 mi (1.6 km) west of Duck Creek. A population may be located near the Ruby Mountains (unspecified locations) (Boyd, pers. comm. 2012a, p. 2). The NNHP (2009, p. 7) indicates three Nevada occurrences, but the locations are not identified. The size of each known occupied site and the extent of this subspecies' host plant, or host plant abundance, has not been reported.

Biology

Adults are known to fly as one brood (Austin 1993, p. 9) during early July to mid-August (Austin 1993, p. 9; 1998b, p. 577). Though adult nectar sources have not been reported, it is possible that they nectar on a variety of plants that are in flower during their flight period. *Aster ascendens* (western aster, longleaf aster), now known as *Symphyotrichum ascendens* (*http://en.wikipedia.org* Web site accessed April 25, 2012), has been documented as a larval host plant (Austin and Leary 2008, p. 102). This perennial forb occurs in most counties in Nevada, including Elko, Eureka, White Pine, Nye, and Lincoln (*http://www.plants.udsa.gov* Web site accessed April 24, 2012). It can be found throughout the western United States (*http://www.plants.udsa.gov* Web site accessed April 24, 2012). It grows in many habitats including meadows and disturbed areas (Hickman 1993, p. 206; *http://en.wikipedia.org* Web site accessed April 25, 2012).

There is little biological information available at the subspecies level, but some inferences can be made from biological information from related species at the species level. Information for the orange crescent (*Phyciodes cocyta=pascoensis*) indicates eggs are pale green and are laid in clusters under host plant leaves (Scott 1986, p. 310; NatureServe 2009b, p. 1). Larvae eat leaves, and no nests are constructed (Scott 1986, p. 311). Adults are local and sip flower nectar and mud, and males patrol during the day near host plants in valley bottoms seeking females (Scott 1986, p. 311).

The best available information does not include surveys documenting this subspecies' population dynamics, its overall abundance, number or size of populations, number of extirpated populations, if any, or population trends.

Five-Factor Evaluation for the Steptoe Valley Crescentspot

Information pertaining to the Steptoe Valley crescentspot in relation to the five factors provided in section 4(a)(1) of the Act is discussed below.

Factor A. The Present or Threatened Destruction, Modification, or Curtailment of Its Habitat or Range

Potential factors that may affect the habitat or range of the Steptoe Valley crescentspot are discussed in this section, including: (1) Water development, (2) livestock grazing, (3) nonnative plant invasion, (4) agriculture, (5) mining and energy development, and (6) climate change.

Water Development

For general background information on water development, please refer to the Water Development section under *Factor A. The Present or Threatened Destruction, Modification, or Curtailment of Its Habitat or Range* in the Five-Factor Evaluation for the White River Valley Skipper.

Austin (1993, pp. 9–10) and Austin *et al.* (*in litt.* 2000, p. 2) state that water table changes may impact the Steptoe Valley crescentspot; however, specific information is not provided to support this claim. 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 reductions in larval or nectar plant abundance). The NNHP (2007, p. 42) states that various wetland areas in Steptoe Valley have been degraded or converted to other land uses, including water development (including Bassett Lake—25 percent; Duck Creek—30 percent, two of several locations where this subspecies has been observed). The NNHP (2007) does not delineate these various areas in Steptoe Valley on a map or define them in terms of acreage; therefore, the amount of Steptoe Valley crescentspot habitat or the total number of occupied sites that may occur (made difficult because locations where the skipper has been seen are not specific) within these areas and may be impacted are not documented. The extent to which the various land use practices have degraded or converted these various areas is also not individually delineated or quantified by NNHP (2007). Therefore, we cannot determine the amount of overlap between the estimated wetland impacts identified by the NNHP and the distribution of the Steptoe Valley crescentspot.

Bassett Lake is a manmade reservoir (about 10 ac (4 ha) in size) constructed years ago with water control capabilities (Mabey 2012, pers. comm.). The amount of Steptoe Valley crescentspot habitat that may have been impacted at the time of construction is unknown, and it is unknown whether this subspecies' habitat near Bassett Lake and along Duck Creek has been enhanced due to a more consistent water supply provided by Bassett Lake and its flow releases. The Monte Neva Hot Springs is about 5 to 10 ac (2–4 ha) in size with approximately 250 to 300 ac (101–121 ha) of associated habitat; the springs are located on private land. Water from the hot springs has been diverted for at least 40 years (NNHP *in litt.,* 2007, p. 2). The amount of habitat used by the subspecies in this area is not known.

The Steptoe Valley hydrographic area is a ''designated'' basin by the NSE and permitted groundwater rights approach or exceed the estimated average annual recharge of the basin (Table 2). As a ''designated'' basin, the NSE has authority under NRS § 534.120 to establish additional rules, regulations, or orders to protect the basin's water resources (SNWA, *in litt.* 2011, p. 41). If such additional rules, regulations, or orders are established, they may also

provide some protection to species dependent on these water resources, such as the Steptoe Valley crescentspot. A preferred use for industrial (power generation) has been identified for this basin.

The petition raises concerns about the effects of the proposed SNWA water development project in central eastern Nevada on the Steptoe Valley crescentspot (WildEarth Guardians 2010, p. 36). The butterfly could be impacted by the proposed project due to its habitat being impacted by project construction or operation (BLM 2011a, p. 3.6–27). However, the Steptoe Valley crescentspot was not detected during the project's ROW surveys (BLM 2011a, pp. 3.6–18–3.6–19). Based on the groundwater flow model estimate for 200 years post full buildout (BLM 2011a, p. 3.3–102), this butterfly's occupied areas are located outside of the greater than 10-foot (3.0-m) drawdown contour (or any other contour range). While the Service recognizes that uncertainties remain regarding potential impacts to water resources from SNWA's project, within and outside of the 10-foot (3.0-m) drawdown, there are currently no anticipated impacts to the Steptoe Valley crescentspot from SNWA's proposed project.

Human water demands have impacted wetland areas in Steptoe Valley over the decades. However, the best available information does not indicate that impacts due to water development activities are negatively impacting this subspecies. Actions regarding water management in Steptoe Valley crescentspot habitat in the future would be addressed in consideration of Nevada water law. We did not receive any information as a result of our 90-day petition finding notice, nor did we locate information indicating that water development, either in general or specifically from the SNWA proposed project, is impacting the subspecies' habitat. Therefore, the best available information does not indicate that water development is modifying the subspecies' habitat to an extent that it represents a threat to this subspecies now or in the future.

Livestock Grazing

For general background information on livestock grazing, please refer to the Livestock Grazing section under *Factor A. The Present or Threatened Destruction, Modification, or Curtailment of Its Habitat or Range* in the Five-Factor Evaluation for the White River Valley Skipper.

Austin (1993, pp. 9–10) and Austin *et al.* (*in litt.* 2000, p. 2) state that overgrazing (including trampling) may impact the Steptoe Valley crescentspot; however, specific information is not provided to support this claim. The NNHP (2007, p. 42) states that a portion of wetland areas in Steptoe Valley have been degraded or converted to other land uses, including livestock grazing. A site visit by a BLM employee in 1992 reported cattle grazing on private land west of Duck Creek Slough; the slough did not appear to be heavily impacted by cattle and looked in good condition (Barber *in litt.* 1992a, p. 1). Locations for the Steptoe Valley crescentspot occur on or near BLM's Steptoe Allotment (BLM 2010b, Appendix II, p. 10; Lichtler, 2012, pers. comm.), Duck Creek Flat Allotment (Barber *in litt.* 1993, p. 1; Lichtler, 2012, pers. comm.), and the Heuser Mountain Allotment (Barber *in litt.* 1993, p. 2; Lichtler, 2012, pers. comm.), but also occur on private land. It is not known how livestock grazing is managed on private land, but general knowledge of these areas indicate they are not heavily grazed and habitat conditions are good (Mabey 2012, pers. comm.). Current range conditions on BLM allotments that may support Steptoe Valley crescentspot habitat have improved in the last 5 years through grazing permit renewals with implementation of terms and conditions and lower utilization rates, and this would improve any habitat for the Steptoe Valley crescentspot (Mabey 2012, pers. comm.). Livestock grazing occurs at the Monte Neva Hot Springs area; about 30 head of cattle and a few domestic horses have access to the area, likely year-round (NNHP *in litt.,* 2007, p. 1).

The best available information does not indicate declines in the larval host plant *Aster ascendens* or adult nectar plant species in occupied Steptoe Valley crescentspot habitat due to livestock grazing. The larval host plant is widely distributed in Nevada and other western States and grows in a wide variety of habitats, including disturbed sites (see *Biology* section). One potential adult nectar plant species, *Castilleja salsuginosa* (Monte Neva paintbrush), is thriving at Monte Neva Hot springs and is apparently not being adversely affected by livestock grazing (NNHP *in litt.,* 2007, p. 1). Activities involving grazing management within the Steptoe Valley crescentspot habitat on BLM lands are addressed in consideration of the Ely District Record of Decision and Approved RMP (BLM 2008a), BLM's authority under Regulations on Grazing Administration Exclusive of Alaska, BLM's 6840 Manual (BLM 2008b), and possibly NEPA, per our discussion of these authorities in our analysis above for the White River Valley skipper. We did not receive any additional information as a result of the 90-day petition finding notice, nor did we locate information indicating that livestock grazing is negatively impacting the habitat or populations of the Steptoe Valley crescentspot. Thus, the best available information does not indicate that livestock grazing is modifying the subspecies' habitat to the extent that it represents a threat to this subspecies now or in the future.

Nonnative Plant Invasion

For general background information on nonnative plant invasion, please refer to the Nonnative Plant Invasion section under *Factor A. The Present or Threatened Destruction, Modification, or Curtailment of Its Habitat or Range* in the Five-Factor Evaluation for the White River Valley Skipper.

The NNHP (2007, p. 42) states that a portion of Steptoe Valley's wetland areas have been degraded or converted to other land uses, including nonnative species invasion. Although they are likely to occur to some extent within the range of the Steptoe valley crescentspot, nonnative invasive plant species are not known to be a problem in Steptoe Valley crescentspot habitat (Mabey 2012, pers. comm.). There is no information indicating that nonnative plants are adversely affecting the Steptoe Valley crescentspot's larval host plant, *Aster ascendens,* or the butterfly's adult nectar plants. Activities involving nonnative plant species management within the Steptoe Valley crescentspot habitat on BLM lands would be addressed in consideration of the Ely District Record of Decision and Approved RMP (BLM 2008a), BLM's authority under Regulations on Grazing Administration Exclusive of Alaska, the Plant Protection Act of 2000, BLM's programmatic EIS for vegetation treatments on BLM's administered lands in the western United States (BLM 2007a), BLM's 6840 Manual (BLM 2008b), and possibly NEPA, as these authorities are discussed in our analysis for White River Valley skipper, above. Activities involving nonnative plant species management and control on private lands within the Steptoe Valley crescentspot habitat could also be addressed in consideration of the Plant Protection Act of 2000. We did not receive any further information as a result of our 90-day petition finding notice, nor did we locate information indicating that nonnative or invasive plant species are negatively impacting populations of the Steptoe Valley crescentspot. Thus, the best available information does not indicate that

nonnative plant species are modifying the subspecies' habitat to the extent that it represents a threat to this subspecies now or in the future.

Agriculture

For general background information on agriculture, please refer to the Agriculture section under *Factor A. The Present or Threatened Destruction, Modification, or Curtailment of Its Habitat or Range* in the Five-Factor Evaluation for the White River Valley Skipper.

The NNHP (2007, p. 42) states that a portion of Steptoe Valley's wetland areas have been degraded or converted to other land uses, including agriculture. Although agriculture (hayfields) is known to occur near the Duck Creek-Bassett Lake and Monte Neva sites, agriculture does not occur within Steptoe Valley crescentspot habitat as the soils are not suitable because they are too moist and saline (Mabey 2012, pers. comm.). The best available information does not indicate that agriculture is occurring in areas that are occupied by the Steptoe Valley crescentspot. We did not receive any information as a result of the 90-day petition finding notice, nor did we locate information that indicates agriculture is negatively impacting Steptoe Valley crescentspot populations, host plants, or nectar sources. Therefore, the best available information does not indicate that agriculture is modifying the subspecies' habitat to the extent that it represents a threat to this subspecies now or in the future.

Mining and Energy Development

For general background information on mining and energy development, please refer to the Mining and Energy Development section under *Factor A. The Present or Threatened Destruction, Modification, or Curtailment of Its Habitat or Range* in the Five-Factor Evaluation for the White River Valley Skipper.

The NNHP (2007, p. 42) states that a portion of wetland areas in Steptoe Valley have been degraded or converted to other land uses, including mining and energy development. A copper ore smelter, concentrator, and tailings facility was constructed in McGill in the early 1900s and operated until the early 1980s (*http://www.mii.org* Web site accessed April 26, 2012). It is not known the amount, if any, of Steptoe Valley crescentspot habitat that may have been impacted at the time of the facility's construction. During the late 1980s and early 1990s the site was reclaimed; the tailings area was reclaimed as pasture for livestock grazing (*http://www.mii.org* Web site accessed April 26, 2012).

Though the Steptoe Valley crescentspot is known from the project area for the Southwest Intertie Project, impacts to it were not identified (BLM 1993, pp. 3–75–3–89). This subspecies was also not observed during wildlife surveys conducted for the One Nevada Transmission Line Project (BLM 2010c, Appendix 3D, Table 2, pp. 1–5). Actions involving mineral and energy development within Steptoe Valley crescentspot habitat on BLM-administered lands would be addressed in consideration of the Ely District Record of Decision and Approved RMP (BLM 2008a), the FLPMA of 1976, the Mineral Leasing Act of 1920, BLM's 6840 Manual (BLM 2008b), and NEPA, per our analysis of these authorities above for the White River Valley skipper. The best available information does not indicate energy development is impacting Steptoe Valley crescentspot habitat or populations. We did not receive any additional information as a result of our 90-day petition finding notice, nor did we locate information indicating that mining or energy development is negatively impacting the subspecies' habitat. Thus, the best available information does not indicate that mining or energy development is modifying the subspecies' habitat to an extent that they represent a threat to this subspecies now or in the future.

Climate Change

For general background information on climate change, please refer to the Climate Change section under *Factor A. The Present or Threatened Destruction, Modification, or Curtailment of Its Habitat or Range* in the Five-Factor Evaluation for the White River Valley Skipper.

While the petition asserts that climate change may impact Steptoe Valley crescentspot (WildEarth Guardians 2010, p. 40), 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). We found no information on how climate change may impact the Steptoe Valley crescentspot's host plant, *Symphyotrichum ascendens,* or adult nectar sources. In general, increasing temperatures and drought frequency, more winter precipitation in the form of rain, possible decreases in summer rain, and earlier, rapid snowmelt could impact the host plant by causing physiological stress, altering phenology, reducing recruitment events, and reducing seed establishment. However, at this time, it is difficult to predict local climate change impacts to *Symphyotrichum ascendens* or Steptoe Valley crescentspot's adult nectar sources and how individual plant species will react to climate change. Thus, while information indicates that climate change has the potential to affect vegetation and habitats used by the Steptoe Valley crescentspot in the Great Basin, there is much uncertainty regarding which habitat attributes could be affected, and the timing, magnitude, and rate of their change as it relates to this subspecies.

We did not receive any information as a result of our 90-day petition finding notice, nor did we locate specific information that indicates climate change is negatively impacting Steptoe Valley crescentspot populations or their habitats. Therefore, the best available information does not indicate that climate change is modifying the subspecies' habitat to an extent that it represents a threat to this subspecies now or is likely to in the future.

Summary of Factor A

While activities such as water development, livestock grazing, nonnative species invasion, agriculture, and mining and energy development may be impacting a portion of wetland areas in Steptoe Valley, available information does not indicate that these impacts are negatively impacting occupied Steptoe Valley crescentspot habitat. The available information does not indicate that these activities, or climate change, are negatively impacting populations of Steptoe Valley crescentspot. Since the Steptoe Valley crescentspot is associated with wetland areas, impacts from water development could impact the subspecies; however, known occupied locations are outside the greater than 10-foot (3.0-m) drawdown contour for the SNWA proposed project, and impacts are not anticipated. While information indicates that climate change has the potential to affect vegetation used by this subspecies, much uncertainty remains regarding which plant attributes may be affected, and the timing, magnitude, and rate of their change. We conclude based on the best scientific and commercial information available that the present or threatened destruction, modification, or curtailment of its habitat or range does not currently pose a threat to the Steptoe Valley crescentspot, nor is it likely to become a threat to the subspecies in the future.

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

For general background information on overutilization, please refer to the discussion on collecting under *Factor B. Overutilization for Commercial, Recreational, Scientific, or Educational Purposes* in the Five-Factor Evaluation for the White River Valley Skipper.

We are unaware of any studies analyzing impacts of removal of individuals from populations of the Steptoe Valley crescentspot. Austin (1998b, p. 577) indicates 39 males and 10 females were collected between 1981 and 1989 at one site. No additional information is known about the numbers of specimens collected in the past, and we are not aware of any ongoing or current collecting of this subspecies. Given the low number of individuals collected over this 8-year period, the length of time since the collections were made, and the lack of information about the relative impact to the populations, the available information does not indicate that collection may be a threat to this subspecies.

There has been no information presented that documents that overutilization has led to the loss of populations or a significant reduction in numbers of individuals for this subspecies. Therefore, we conclude based on the best scientific and commercial information available that overutilization for commercial, recreational, scientific, or educational purposes does not currently pose a threat to the Steptoe Valley crescentspot, nor is it likely to become a threat to the subspecies in the future.

Factor C. Disease or Predation

We found no information on the incidence of disease in the Steptoe Valley crescentspot.

Predation by other species, such as birds or insects, on eggs, larvae, pupae, or adult Steptoe Valley crescentspots is assumed, but we found no information indicating that predation levels are any greater than naturally occurring levels typical of the biological community in which the Steptoe Valley crescentspot occurs.

Available information does not indicate that there are impacts from disease or predation on the Steptoe Valley crescentspot. Therefore, we conclude that the best scientific and commercial information available does not indicate that disease or predation currently pose a threat to the Steptoe Valley crescentspot, nor is either likely to become a threat to the subspecies in the future.

Factor D. The Inadequacy of Existing Regulatory Mechanisms

The discussion of existing regulatory mechanisms under Factor D for the White River Valley skipper is hereby incorporated into this discussion for the Steptoe Valley crescentspot. As discussed above under Factor D for the White River Valley skipper, Nevada State law pertaining to wildlife does not offer protection to the Steptoe Valley crescentspot specifically because it is an invertebrate species not classified as wildlife. Although not protected by State wildlife law, the best available information, as discussed in Factor B, does not indicate that collection or other forms of overutilization is a threat to the Steptoe Valley crescentspot. In addition, the State's water law may offer some protection to species dependent on water resources such as the Steptoe Valley crescentspot as it occurs in a ''designated'' basin with a preferred use identified.

A portion of habitat for the Steptoe Valley crescentspot occurs on Federal lands administered by BLM. Numerous policies, guidance, and laws have been developed to assist the agency in management of these lands (see Factor D discussion under White River Valley skipper). BLM policies and guidance address species of concern, actions covered by RMPs, and regulatory authority for grazing and oil and gas leasing and operating activities. As discussed under Factor A, the best available information does not indicate that activities such as livestock grazing, nonnative species invasion, and mining and energy development that are regulated by various policies, guidance, and laws on Federal lands are negatively impacting Steptoe Valley crescentspot populations. We conclude based on the best scientific and commercial information available that the inadequacy of existing regulatory mechanisms does not currently pose a threat to the Steptoe Valley crescentspot, nor is it likely to become a threat to the subspecies in the future.

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

Potential other natural or manmade factors that may affect the continued existence of the Steptoe Valley crescentspot are discussed in this section and include: (1) Limited range and (2) small population size(s).

For general background information on other natural or manmade factors which could affect the Steptoe Valley crescentspot, please refer to the discussion on limited distribution and population size under *Factor E. Other Natural or Manmade Factors Affecting Its Continued Existence* in the Five-Factor Evaluation for the White River Valley Skipper.

As indicated earlier, the Steptoe Valley crescentspot occurs at locations along Duck Creek and at Monte Neva Hot Springs in Steptoe Valley and possibly near the Ruby Mountains. Little information is available related to its distribution and numbers of populations, and no information is available regarding population sizes, loss of populations, if any, or population trends for the Steptoe Valley crescentspot. Information pertaining to the aerial extent of habitat or populations is not available. The best available information does not include comprehensive surveys for this subspecies. Without data to indicate population trends, it is difficult to support claims of adverse impacts to the Steptoe Valley crescentspot. We found no information on connections between chance events and population impacts for the Steptoe Valley crescentspot. Since this subspecies is distributed over different areas, potential impacts due to stochastic events is reduced. In the absence of chance events connected to known populations, we do not consider small population numbers or limited range by themselves to be threats to this subspecies. The best available information does not indicate the Steptoe Valley crescentspot is negatively impacted by limited range or small population numbers. We conclude based on the best scientific and commercial information available that other natural or manmade factors do not currently pose a threat to the Steptoe Valley crescentspot, nor are they likely to become a threat to the subspecies in the future.

Synergistic Interactions Between Threat Factors

We have evaluated individual threats to the Steptoe Valley crescentspot. This subspecies faces potential threats from water development, livestock grazing, nonnative plant invasion, agriculture, mining and energy development, limited range, small population size, and climate change. In considering whether the threats to a species may be so great as to warrant listing under the Act, we must look beyond the possible impacts of potential threats in isolation and consider the potential cumulative impacts of all of the threats facing a species.

In making this finding, we considered whether there may be cumulative effects to the Steptoe Valley crescentspot from the combined impacts of the existing

stressors such that even if each stressor individually does not result in population-level impacts, that cumulatively the effects may be significant. We considered whether the combined effects of water development and mining and energy development may result in a significant impact to the Steptoe Valley crescentspot because these potential impacts have the potential to result in some level of habitat loss. However, we conclude that synergistic effects between water development and mining and energy development are unlikely to result in a significant overall population impact to the Steptoe Valley crescentspot because water development activities have been ongoing in the valley, and the proposed SNWA water development project is not anticipated to cause impacts to this subspecies because sites occupied by the butterfly are located outside of the estimated project impact area. Also, impacts from mining and energy development are not found to be occurring in the butterfly's habitat.

While livestock grazing and nonnative plant invasion could impact the Steptoe Valley crescentspot and its habitat, observations of private land within the subspecies' habitat that are being grazed look to be in good condition; changes in livestock grazing management on BLM sites that may be occupied by the butterfly have improved habitat conditions for this subspecies; and nonnative plant species invasion is not known to be a concern on either private or public lands. We conclude that livestock grazing and nonnative plant species invasion impacts combined with impacts from water development would not be of sufficient severity, frequency, or geographic scope to result in significant habitat impacts or cause population-level impacts to the Steptoe Valley crescentspot. Agriculture and mining and energy development were not found to occur within this subspecies' habitat and, therefore, will not have a cumulative impact on the Steptoe Valley crescentspot.

Limited range and small population size could make the Steptoe Valley crescentspot more vulnerable to potential threats discussed above. However, we cannot conclude that synergistic effects between limited range and small population size and other potential threats are operative threats to the continued existence of the Steptoe Valley crescentspot given the lack of information on the range and population size of this butterfly. There is no information on population size or change in population abundance for the Steptoe Valley crescentspot, and the limited information on occurrence (distribution) is insufficient to define this butterfly's range.

Synergistic interactions are possible between effects of climate change and effects of other potential threats such as livestock grazing and nonnative plant invasion. Increases in carbon dioxide and temperature and changes in precipitation are likely to affect vegetation, and the Steptoe Valley crescentspot is closely associated with the presence of vegetation. However, it is difficult to project how climate change will affect vegetation because certain plant species may increase in cover while other species may decrease. Uncertainty about how different plant species will respond under climate change, combined with uncertainty about how changes in plant species composition would affect suitability of Steptoe Valley crescentspot habitat, make projecting possible synergistic effects of climate change on the Steptoe Valley crescentspot too speculative.

Finding for the Steptoe Valley Crescentspot

As required by the Act, we considered the five factors is assessing whether the Steptoe Valley crescentspot is an endangered or threatened species throughout all of its range. We examined the best scientific and commercial information available regarding the past, present, and future threats faced by this subspecies.

Factors potentially affecting the Steptoe Valley crescentspot, including water development, livestock grazing, nonnative species invasion, agriculture, mining and energy development, or climate change, and limited range and small population size, are either limited in scope or lack documentation that they are occurring in occupied habitat and adversely impacting the subspecies. Though climate change may be affecting the Steptoe Valley crescentspot and its habitats and effects are likely to increase in the future, available information does not support a determination that climate change has or will result in a population-level impact to this subspecies. Available information does not indicate that overutilization, disease, or predation is a threat to the Steptoe Valley crescentspot. Lastly, the available information does not indicate that existing regulatory mechanisms are inadequate to protect the subspecies from potential threats. Furthermore, there is no evidence to indicate that the combined factors acting together are a threat to the Steptoe Valley crescentspot. Based on our review of the best scientific and commercial information available, we find these stressors, either singly or in combination with one another, are not threats to the Steptoe Valley crescentspot or its habitat.

We found no information to indicate that threats are of sufficient imminence, intensity, or magnitude such that the Steptoe Valley crescentspot is in danger of extinction (endangered) or likely to become endangered within the foreseeable future (threatened), throughout all of its range. Therefore, we find that listing the Steptoe Valley crescentspot as an endangered or threatened species is not warranted throughout its range.

Significant Portion of the Range

Having determined that the Steptoe Valley crescentspot does not meet the definition of an endangered or a threatened species, we must next consider whether there are any significant portions of the range where the Steptoe Valley crescentspot is in danger of extinction or is likely to become endangered in the foreseeable future. The Act defines ''endangered species'' as any species which is ''in danger of extinction throughout all or a significant portion of its range,'' and ''threatened species'' as any species which is ''likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.'' 16 U.S.C. 1532(6) and 1532(20). The definition of ''species'' is also relevant to this discussion. The Act defines ''species'' as follows: ''The term 'species' includes any subspecies of fish or wildlife or plants, and any distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature.'' 16 U.S.C. 1532(16). The phrase ''significant portion of its range'' (SPR) is not defined by the statute, and we have never addressed in our regulations: (1) The consequences of a determination that a species is either endangered or likely to become so throughout a significant portion of its range, but not throughout all of its range; or (2) what qualifies a portion of a range as ''significant.''

Two recent district court decisions have addressed whether the SPR language allows the Service to list or protect less than all members of a defined ''species'': *Defenders of Wildlife* v. *Salazar,* 729 F. Supp. 2d 1207 (D. Mont. 2010), concerning the Service's delisting of the Northern Rocky Mountains gray wolf (74 FR 15123, April 2, 2009); and *WildEarth Guardians* v. *Salazar,* 2010 U.S. Dist. LEXIS 105253 (D. Ariz. September 30, 2010), concerning the Service's 2008 finding on a petition to list the

Gunnison's prairie dog (73 FR 6660, February 5, 2008). The Service had asserted in both of these determinations that, under the Act, it had authority, in effect, to protect only some members of a ''species,'' as defined by the Act (i.e., species, subspecies, or DPS). Both courts ruled that the determinations were arbitrary and capricious on the grounds that this approach violated the plain and unambiguous language of the Act. The courts concluded that reading the SPR language to allow protecting only a portion of a species' range is inconsistent with the Act's definition of ''species.'' The courts concluded that once a determination is made that a species (i.e., species, subspecies, or DPS) meets the definition of ''endangered species'' or ''threatened species,'' it must be placed on the list in its entirety and the Act's protections applied consistently to all members of that species throughout its range (subject to modification of protections through special rules under sections 4(d) and 10(j) of the Act).

Consistent with that interpretation, and for the purposes of this finding, we interpret the phrase ''significant portion of its range'' in the Act's definitions of ''endangered species'' and ''threatened species'' to provide an independent basis for listing. Thus there are two situations (or factual bases) under which a species would qualify for listing: A species may be endangered or threatened throughout all of its range, or a species may be endangered or threatened in only a significant portion of its range. If a species is in danger of extinction throughout an SPR, it, the species, is an ''endangered species.'' The same analysis applies to ''threatened species.'' Based on this interpretation and supported by existing case law, the consequence of finding that a species is endangered or threatened in only a significant portion of its range is that the entire species shall be listed as endangered or threatened, respectively, and the Act's protections shall be applied across the species' entire range.

We conclude, for the purposes of this finding, that interpreting the SPR phrase as providing an independent basis for listing is the best interpretation of the Act because it is consistent with the purposes and the plain meaning of the key definitions of the Act; it does not conflict with established past agency practice (i.e., prior to the 2007 Solicitor's Opinion), as no consistent, long-term agency practice has been established; and it is consistent with the judicial opinions that have most closely examined this issue. Having concluded that the phrase ''significant portion of its range'' provides an independent basis for listing and protecting the entire species, we next turn to the meaning of ''significant'' to determine the threshold for when such an independent basis for listing exists.

Although there are potentially many ways to determine whether a portion of a species' range is ''significant,'' we conclude, for the purposes of this finding, that the significance of the portion of the range should be determined based on its biological contribution to the conservation of the species. For this reason, we describe the threshold for ''significant'' in terms of an increase in the risk of extinction for the species. We conclude that a biologically based definition of ''significant'' best conforms to the purposes of the Act, is consistent with judicial interpretations, and best ensures species' conservation. Thus, for the purposes of this finding, and as explained further below, a portion of the range of a species is ''significant'' if its contribution to the viability of the species is so important that, without that portion, the species would be in danger of extinction.

We evaluate biological significance based on the principles of conservation biology using the concepts of redundancy, resiliency, and representation. Resiliency describes the characteristics of a species and its habitat that allow it to recover from periodic disturbance. Redundancy (having multiple populations distributed across the landscape) may be needed to provide a margin of safety for the species to withstand catastrophic events. Representation (the range of variation found in a species) ensures that the species' adaptive capabilities are conserved. Redundancy, resiliency, and representation are not independent of each other, and some characteristic of a species or area may contribute to all three. For example, distribution across a wide variety of habitat types is an indicator of representation, but it may also indicate a broad geographic distribution contributing to redundancy (decreasing the chance that any one event affects the entire species), and the likelihood that some habitat types are less susceptible to certain threats, contributing to resiliency (the ability of the species to recover from disturbance). None of these concepts is intended to be mutually exclusive, and a portion of a species' range may be determined to be ''significant'' due to its contributions under any one or more of these concepts.

For the purposes of this finding, we determine if a portion's biological contribution is so important that the portion qualifies as ''significant'' by asking whether, without that portion, the representation, redundancy, or resiliency of the species would be so impaired that the species would have an increased vulnerability to threats to the point that the overall species would be in danger of extinction (i.e., would be ''endangered''). Conversely, we would not consider the portion of the range at issue to be ''significant'' if there is sufficient resiliency, redundancy, and representation elsewhere in the species' range that the species would not be in danger of extinction throughout its range if the population in that portion of the range in question became extirpated (extinct locally).

We recognize that this definition of ''significant'' (a portion of the range of a species is ''significant'' if its contribution to the viability of the species is so important that, without that portion, the species would be in danger of extinction) establishes a threshold that is relatively high. On the one hand, given that the consequences of finding a species to be endangered or threatened in an SPR would be listing the species throughout its entire range, it is important to use a threshold for ''significant'' that is robust. It would not be meaningful or appropriate to establish a very low threshold whereby a portion of the range can be considered ''significant'' even if only a negligible increase in extinction risk would result from its loss. Because nearly any portion of a species' range can be said to contribute some increment to a species' viability, use of such a low threshold would require us to impose restrictions and expend conservation resources disproportionately to conservation benefit: Listing would be rangewide, even if only a portion of the range of minor conservation importance to the species is imperiled. On the other hand, it would be inappropriate to establish a threshold for ''significant'' that is too high. This would be the case if the standard were, for example, that a portion of the range can be considered ''significant'' only if threats in that portion result in the entire species' being currently endangered or threatened. Such a high bar would not give the SPR phrase independent meaning, as the Ninth Circuit held in *Defenders of Wildlife* v. *Norton,* 258 F.3d 1136 (9th Cir. 2001).

The definition of ''significant'' used in this finding carefully balances these concerns. By setting a relatively high threshold, we minimize the degree to which restrictions will be imposed or resources expended that do not contribute substantially to species conservation. But we have not set the

threshold so high that the phrase ''in a significant portion of its range'' loses independent meaning. Specifically, we have not set the threshold as high as it was under the interpretation presented by the Service in the *Defenders* litigation. Under that interpretation, the portion of the range would have to be so important that current imperilment there would mean that the species would be currently imperiled everywhere. Under the definition of ''significant'' used in this finding, the portion of the range need not rise to such an exceptionally high level of biological significance. (We recognize that if the species is imperiled in a portion that rises to that level of biological significance, then we should conclude that the species is in fact imperiled throughout all of its range, and that we would not need to rely on the SPR language for such a listing.) Rather, under this interpretation, we ask whether the species would be endangered everywhere without that portion (i.e., if that portion were completely extirpated). In other words, the portion of the range need not be so important that even the species being in danger of extinction in that portion would be sufficient to cause the species in the remainder of the range to be endangered; rather, the complete extirpation (in a hypothetical future) of the species in that portion would be required to cause the species in the remainder of the range to be endangered.

The range of a species can theoretically be divided into portions in an infinite number of ways. However, there is no purpose to analyzing portions of the range that have no reasonable potential to be significant or to analyzing portions of the range in which there is no reasonable potential for the species to be endangered or threatened. To identify only those portions that warrant further consideration, we determine whether there is substantial information indicating that: (1) The portions may be ''significant,'' and (2) the species may be in danger of extinction there or likely to become so within the foreseeable future. Depending on the biology of the species, its range, and the threats it faces, it might be more efficient for us to address the significance question first or the status question first. Thus, if we determine that a portion of the range is not ''significant,'' we do not need to determine whether the species is endangered or threatened there; if we determine that the species is not endangered or threatened in a portion of its range, we do not need to determine if that portion is ''significant.'' In practice, a key part of the determination that a species is in danger of extinction in a significant portion of its range is whether the threats are geographically concentrated in some way. If the threats to the species are essentially uniform throughout its range, no portion is likely to warrant further consideration. Moreover, if any concentration of threats to the species occurs only in portions of the species' range that clearly would not meet the biologically based definition of ''significant,'' such portions will not warrant further consideration.

We evaluated the current range of the Steptoe Valley crescentspot to determine if there is any apparent geographic concentration of the primary stressors potentially affecting the subspecies, including water development, livestock grazing, nonnative species invasion, agriculture, mining and energy development, climate change, limited range, and small population size. On the basis of our review, we found no geographic concentration of threats either on public or private lands to suggest that the Steptoe Valley crescentspot may be in danger of extinction in that portion of its range. We found no area within the range of the Steptoe Valley crescentspot where the potential threats are significantly concentrated or substantially greater than in other portions of its range. We also found that lost historical range does not constitute a significant portion of the range for the Steptoe Valley crescentspot because there is no information indicating that there has been a range contraction for this subspecies. Therefore, we find factors affecting the subspecies are essentially uniform throughout its range, indicating no portion of the butterfly's range warrants further consideration of possible status as an endangered or threatened species under the Act.

We found no information to indicate that the Steptoe Valley crescentspot is in danger of extinction now, nor is it likely to become endangered within the foreseeable future, throughout all or a significant portion of its range. Therefore, listing the Steptoe Valley crescentspot as an endangered or threatened species under the Act is not warranted at this time.

We request that you submit any new information concerning the status of, or threats to, the Steptoe Valley crescentspot to our Nevada Fish and Wildlife Office (see **ADDRESSES** section) whenever it becomes available. New information will help us monitor the Steptoe Valley crescentspot and encourage its conservation. If an emergency situation develops for the Steptoe Valley crescentspot or any other species, we will act to provide immediate protection.

Species Information for Baking Powder Flat Blue Butterfly

Taxonomy and Species Description

We accept the characterization of the Baking Powder Flat blue butterfly (*Euphilotes bernardino minuta*) as a valid subspecies based on its description by Austin (1998c, p. 549). This subspecies is in the Lycaenidae family (Austin 1998c, p. 539; 1998b, p. 841) and was an unnamed segregate of the *E. battoides* complex in Nevada (Austin 1998c, p. 549). The male's wingspan ranges from 0.35 to 0.40 inch (in) (9.0–10.2 mm). The upper side of the male is purplish-blue with a black outer margin (wing edge) of moderate width. Veins are black distally (away from the point of attachment) on both wings. Submarginal orange often occurs in posterior (behind or at the rear) cells on the hindwing. Wing fringes are white and lightly checkered with gray. The underside of the male's wings is grayish-white; there is a slight posterior gray flush on the forewing and the hindwing has an orange aurora (colored marginal band of hindwing) of moderate width (Austin 1998c, p. 549). The female's wingspan ranges from 0.43 to 0.97 in (9.7–11.0 mm). The upper side of the wing is a dark brownish-gray and slightly grayer basally. The hindwing has an orange aurora of moderate width and is outlined with blackish marginal spots distally. Wing fringes and the undersides are like that of the male (Austin 1998c, p. 549). Please refer to Austin (1998c, p. 549) for a more detailed description of this subspecies.

Distribution and Habitat

Descriptions of locations where the Baking Powder Flat blue butterfly has been found are vague, but this subspecies is only known from the Baking Powder Flat area (on BLM lands) in Spring Valley, in Lincoln and White Pine Counties, Nevada, a flat valley bottom with scattered sand dunes (Austin 1998c, p. 550; Austin and Leary 2008, pp. 68–69). The type locality is located approximately 1.0 mi (1.6 km) from Blind Spring in Baking Powder Flat (Spring Valley, White Pine County) (Austin 1998c, p. 550). The Baking Powder Flat area also contains areas of wetland-type habitats (wetlands, springs, seeps). The Baking Powder Flat area contains the largest known contiguous habitat for the Baking Powder Flat blue butterfly (BLM 2009a,

p. 20). In 1993, Austin (1993, p. 5) reported two occupied sites for the Baking Powder Flat blue butterfly in the Baking Powder Flat area in southern Spring Valley, and also suggested that other areas could support the host plant (Austin 1993, pp. 5–6), indicating a possible wider distribution of this butterfly. The only documented host plant, *Eriogonum shockleyi* (Shockley's buckwheat), which the Baking Powder Flat blue butterfly uses for both larval and adult life stages (see *Biology* section below), is a perennial forb (*http://www.plants.usda.gov,* accessed January 6, 2012) and grows on relatively hard and bare areas between the sand dunes in the Baking Powder Flat area (Austin 1993, p. 5; 1998c, p. 550). In this area the plants occur in large, open, loose mats (Kartesz 1987, pp. 282–283).

Throughout its range, *Eriogonum shockleyi* grows mostly on gravelly, clayey, or sandy soils, or on rocky outcrops and ledges, in association with *Sarcobatus* sp. (greasewood), *Atriplex* sp. (shadscale), and *Artemisia* sp. (sagebrush) (Kartesz 1987, p. 282); it is not a wetland-dependent species. The host plant (*E. shockleyi*) is common in Nevada, occurring in Mineral, Esmeralda, Nye, Lincoln, Clark, White Pine, and Elko Counties (Kartesz 1987, p. 282). It is also known to occur in California, Idaho, Utah, Colorado, New Mexico, and Arizona (Kartesz 1987, p. 283; *http://www.plants.usda.gov,* accessed January 6, 2012). Searches of nearby areas in southern Spring Valley did not reveal additional colonies of the subspecies or its host plant (Austin 1993, p. 5; 1998c, p. 550); however, Austin and Leary (2008, pp. 68–69) list what appear to be seven discrete locations in the Baking Powder Flat area where this subspecies (adults and larvae) has been seen between 1969 and 2002.

The NNHP database (2010) also indicates that this subspecies occurs in the Baking Powder Flat area near Blind Spring. The site was visited seven times between 1969 and 2002 (Austin and Leary 2008, pp. 68–69). The other six sites identified by Austin and Leary (2008, pp. 68–69) were visited once (five of the sites) or three times (one site) between the late 1980s and early 2000s. 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). The aerial extent of each occupied site or the host plant, or host plant abundance, has not been reported. The Baking Powder Flat Area of Critical Environmental Concern (ACEC) encompasses most, if not all, of the known Baking Powder Flat blue butterfly locations. A few of the locations may occur outside of the ACEC as all of the site descriptions are not clear.

Biology

The Baking Powder Flat blue butterfly is associated with *Eriogonum shockleyi* 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; 1998c, p. 550), and there is one brood (Austin 1993, p. 6).

There is little biological information available at the subspecies level, but some inferences can be made from biological information from related species at the species level. Information for the buckwheat blue (*Euphilotes battoides*) indicates eggs are pale bluish-white, turning white, and they are laid singly on the host plant's flowers (Scott 1986, p. 403). Larvae eat flowers and fruit and are attended by ants (Scott 1986, p. 403). No nests are constructed (Scott 1986, p. 403). Adults sip flower nectar and mud, and males patrol around the host plant during the day seeking females (Scott 1986, p. 403).

The best available information does not include surveys documenting this subspecies' population dynamics, nor its overall abundance, number or size of populations, number of extirpated populations or sites, if any, or population trends.

Five-Factor Evaluation for the Baking Powder Flat Blue Butterfly

Information pertaining to the Baking Powder Flat blue butterfly in relation to the five factors provided in section 4(a)(1) of the Act is discussed below.

Factor A. The Present or Threatened Destruction, Modification, or Curtailment of Its Habitat or Range

Potential factors that may affect the habitat or range of the Baking Powder Flat blue butterfly are discussed in this section, including: (1) Water development, (2) fire, (3) livestock grazing, (4) nonnative plant invasion, (5) agriculture, (6) recreation (off-highway vehicles), (7) mining and energy development, (8) plant collection, and (9) climate change.

Water Development

For general background information on water development, please refer to the Water Development section under *Factor A. The Present or Threatened Destruction, Modification, or Curtailment of Its Habitat or Range* in the Five-Factor Evaluation for the White River Valley Skipper.

The NNHP (2007, p. 42) estimates that about 30 percent of the Baking Powder Flat playa/ephemeral pool/spring pool complex has been degraded or converted to other land uses, including by water development. The NNHP (2007) does not delineate this area on a map or define it in terms of acreage; therefore, the amount of Baking Powder Flat blue butterfly habitat that may occur within this area and may be impacted by various land use practices, if any, is not documented. However, it is important to note that the Baking Powder Flat blue butterfly's host plant occurs in dry areas and not within wetland areas. The extent to which the various land use practices have degraded or converted this area is also not individually delineated or quantified by NNHP (2007).

Concerns have been raised regarding SNWA's proposed water development project and its potential impacts to the Baking Powder Flat area and the Baking Powder Flat ACEC (Charlet 2006, p. 19; BLM 2009a, pp. 20–21). During ROWs surveys for various facilities associated with the SNWA project (i.e., powerlines, pipelines), the Baking Powder Flat blue butterfly was not observed (BLM 2011a, pp. 3.6–19; 3.14–4), but all facility locations have not yet been determined (BLM 2011a, p. 2–5). The butterfly has been recorded from Spring Valley within the proposed groundwater development area within the ACEC (BLM 2011a, pp. 3.6–22; 3.14–4); this location is in reference to the site near Blind Spring. The Baking Powder Flat blue butterfly and its habitat could be impacted during construction and facility maintenance activities by direct mortality resulting from construction or vehicles, disruption of breeding success, temporary or permanent loss of habitat, and habitat fragmentation (BLM 2011a, p. 3.6–70). However, BLM mitigation recommendation GW–WL–6 has been included in the proposed project (BLM 2011a, p. 3.6–70). This mitigation recommendation involves pre-construction surveys and the avoidance of Baking Powder Flat blue butterfly occurrence sites and habitat during facility siting to the extent practicable (BLM 2011a, p. 3.6–71). Because the ACEC is large (13,640 ac (5,520 ha)) (72 FR 67748, November 30, 2007), any

facilities constructed, if approved, would impact a small percentage of the ACEC's area. This is in addition to the restoration requirements provided for in the BLM's Ely RMP (BLM 2011a, p. 3.6–70) and BLM's determination for the Baking Powder Flat ACEC that an issuance of a ROW permit will result in minimal conflict with identified resource values and that impacts can be mitigated.

In addition to possible construction impacts, the groundwater flow model estimate for 200 years post full buildout (BLM 2011a, p. 3.3–102) shows Blind Spring within the project's greater than 10-foot (3.0-m) drawdown contour. Blind Spring is located in the ACEC and within 1 mi (1.6 km) of some Baking Powder Flat blue butterfly observations (Austin and Leary 2008, pp. 68–69). As stated earlier, the host plant, described as common in Baking Powder Flat (BLM 2009a, p. 20), grows on relatively hard and bare areas between sand dunes (Austin 1998c, p. 550) and mostly on gravelly, clayey, or sandy soils, or on rocky outcrops and ledges in association with upland plants (Kartesz 1987, p. 282); it is not a wetland-dependent species. Therefore, it is unlikely SNWA's proposed water development project will indirectly impact the Baking Powder Flat blue butterfly in Spring Valley through groundwater drawdowns. The Baking Powder Flat blue butterfly habitat is not specifically considered in the Spring Valley Stipulation because the subspecies and its habitat are not considered to be at risk from groundwater development (SNWA, *in litt.* 2011, p. 36).

Because the Baking Powder Flat blue butterfly's host plant grows in dry areas and not within the Baking Powder Flat wetland areas, it is unlikely that current groundwater rights or SNWA's proposed water development project which have been and are considered under Nevada water law will indirectly impact the butterfly through groundwater drawdowns. The host plant is considered common in the Baking Powder Flat area, and the butterfly has been documented in several areas in the ACEC, and possibly outside it as some butterfly location descriptions are unclear. Any facilities constructed in the ACEC would impact a small percentage (unknown at this time) of the ACEC's total area and would be mitigated by SNWA project mitigations or BLM requirements. At this time, the best available information does not indicate that water development is modifying the subspecies' habitat or that its habitat may be modified through SNWA's proposed project to the extent that it represents a threat to this subspecies now or in the future.

Fire

Butterflies have specialized habitat requirements (Thomas 1984, p. 337). Changes in the structure and composition of vegetation due to natural or other means can threaten butterfly populations as these changes can disrupt specific habitat requirements (Thomas 1984, pp. 337–341). The effects of fire on the landscape depend on the composition of plant species present, and the size, frequency, and intensity of fire. Burning can also allow invasive species, such as *Bromus tectorum,* to increase (Stewart and Hull 1949 and Wright and Britton 1976, cited in Yensen 1982, p. 28).

Fleischman (2000, pp. 688–689) found that a prescribed fire in a watershed in Nevada did not appear to affect butterfly species richness or composition between burned areas and their paired controls. Vogel *et al.* (2007, p. 78) evaluated three restoration practices in prairie habitat on butterfly communities and found that the total butterfly abundance was highest in areas restored through burning and grazing, and was lowest in areas that were only burned. Species richness did not differ among the practices. Species diversity was highest in areas that were only burned. Individual butterfly species responses to the restoration practices were variable.

The petition mentions fire as a potential threat to the Baking Powder Flat blue butterfly (Bruce Boyd, pers. comm. cited in Wild Earth Guardians 2010, p. 14) though it does not provide specific information to support this claim. Fires have occurred in many areas of Nevada over the years and will occur in the future. The best available information does not indicate that fire has occurred in areas that are occupied by the Baking Powder Flat blue butterfly (Podborny 2012, pers. comm.). The Baking Powder Flat area occurs in a valley bottom with sandy soils and widespread vegetation, thus the amount and distribution of vegetation needed to support a fire through this area are not available (Podborny 2012, pers. comm.). In addition, the host plant, *Eriogonum shockleyi,* remains common in the Baking Powder Flat area (BLM 2009a, p. 20). Actions regarding fire management within Baking Powder Flat blue butterfly habitat would be addressed in consideration of the Ely District Record of Decision and Approved RMP (BLM 2008a), BLM's 6840 Manual (BLM 2008b) (see our discussion of these authorities in the analysis of the White River Valley skipper), the Emergency Stabilization and Burned Area Rehabilitation Program, Baking Powder Flat ACEC restrictions, and possibly NEPA. We did not receive any information as a result our 90-day petition finding notice, nor did we locate information indicating that fire is impacting the habitat or populations of the Baking Powder Flat blue butterfly. Consequently, the best available information does not indicate that fire is modifying the subspecies' habitat to the extent that it is a threat to this subspecies now or in the future.

Livestock Grazing

For general background information on livestock grazing, please refer to the Livestock Grazing section under *Factor A. The Present or Threatened Destruction, Modification, or Curtailment of Its Habitat or Range* in the Five-Factor Evaluation for the White River Valley Skipper.

The NNHP (2007, p. 42) indicates that a portion of the Baking Powder Flat playa/ephemeral pool/spring pool complex has been degraded or converted to other land uses, including livestock grazing. The petition indicates that livestock will graze *Eriogonum shockleyi* (WildEarth Guardians 2010, p. 13), but disturbance to this host plant from trampling and soil compaction from livestock was mentioned in the petition and by others as a greater potential threat (Austin 1993, p. 7; Austin *et al., in litt.* 2000, p. 3; NatureServe 2009c, p. 2; B. Boyd, pers. comm. cited in WildEarth 2010, p. 13), though specific information to support this concern is not provided. Injury to or loss of host plant populations would negatively impact larvae and adults as both life stages utilize this plant for food and shelter. Livestock grazing is occurring over widespread general habitat areas where the Baking Powder Flat blue butterfly is either known to occur or could be occurring. In the early 1990s, there were reports of grazing at the site near Blind Spring; in 1992, heavy cattle grazing and trampling was reported (Barber, *in litt.* 1992b, p. 1), while 2 years later, in 1994, light use and minimal trampling by cattle was noted at this one site (Barber, *in litt.* 1994, p. 1). Currently, grazing is authorized within the Baking Powder Flat ACEC and is controlled through grazing permit terms and conditions (BLM 2007c, pp. 2.4–101; 2.4–106). BLM has indicated that some (undefined) areas of the ACEC can be ''heavily impacted'' by livestock grazing (BLM 2009a, p. 21). Over 70 percent of the ACEC is within the South Spring Valley Allotment (SNWA, *in litt.* 2011, p. 37).

However, the host plant is not known to be heavily grazed upon or preferred by livestock within the ACEC (Podborny 2012, pers. comm.). While livestock can and do move through the ACEC, concentrations in the butterfly's habitat do not occur as water is not readily available to them (Podborny 2012, pers. comm.). Thus, trampling of the host plant by livestock is not likely. The best available information indicates that the host plant, *Eriogonum shockleyi,* remains common in the Baking Powder Flat area (BLM 2009a, p. 20), and injury to or declines in the host plant species, larvae, or adults due to livestock grazing practices have not been documented. Activities involving grazing management within the Baking Powder Flat blue butterfly habitat would be addressed in consideration of the Ely District Record of Decision and Approved RMP (BLM 2008a), BLM's authority under Regulations on Grazing Administration Exclusive of Alaska, BLM's 6840 Manual (BLM 2008b), Baking Powder Flat ACEC restrictions, and possibly NEPA (see our discussion of these authorities in the above analysis for the White River Valley skipper and below, with respect to the Baking Power Flat ACEC). We did not receive any information as a result of our 90-day petition finding notice, nor did we locate information indicating that livestock grazing is negatively impacting the habitat or populations of the Baking Powder Flat blue butterfly. Thus, the best available information does not indicate that livestock grazing is modifying the subspecies' habitat to the extent that it represents a threat to this subspecies now or in the future.

Nonnative Plant Invasion

For general background information on nonnative plant invasion, please refer to the Nonnative Plant Invasion section under *Factor A. The Present or Threatened Destruction, Modification, or Curtailment of Its Habitat or Range* in the Five-Factor Evaluation for the White River Valley Skipper.

The NNHP (2007, p. 42) indicates that a portion of the Baking Powder Flat playa/ephemeral pool/spring pool complex has been degraded, including by nonnative species invasion. The petition states that nonnative plant species invasion may be a potential threat to the Baking Powder Flat blue butterfly (B. Boyd, pers. comm. cited by WildEarth 2010, p. 14) though specific information to support this claim is not provided. Because numerous nonnative and invasive plant species occur in Nevada, it is likely that nonnative and invasive plant species occur to some extent, though this has not been quantified, within the ACEC and the habitat of the Baking Powder Flat blue butterfly. However, the issue of nonnative plant species invasion is not known to be a concern in the ACEC (Podborny 2012, pers. comm.). Though the Baking Powder Flat blue butterfly is associated with only one plant species for its life-history requirements, nonnative plant species do not appear to be competing with it and causing it to decline, as the host plant remains common in the Baking Powder Flat area and ACEC.

Activities involving nonnative plant species management within the Baking Powder Flat blue butterfly habitat would be addressed in consideration of the Ely District Record of Decision and Approved RMP (BLM 2008a), BLM's authority under Regulations on Grazing Administration Exclusive of Alaska, the Plant Protection Act of 2000, BLM's programmatic EIS for vegetation treatments on BLM's administered lands in the western United States (BLM 2007a), BLM's 6840 Manual (BLM 2008b), Baking Powder Flat ACEC restrictions, and possibly NEPA (see our discussion of these authorities above in the analysis of the White River Valley skipper, and below with respect to the Baking Power Flat ACEC). We did not receive any information as a result of our 90-day petition finding notice, nor did we locate information indicating that nonnative or invasive plant species are negatively impacting occupied habitat or populations of the Baking Powder Flat blue butterfly. Therefore, the best available information does not indicate that nonnative plant species are modifying the subspecies' habitat to the extent that it represents a threat to this subspecies now or in the future.

Agriculture

The NNHP (2007, p. 42) indicates that a portion of the Baking Powder Flat playa/ephemeral pool/spring pool complex has been degraded or converted to other land uses, including agriculture. Although impacts of agriculture were mentioned in the petition as a potential threat to the Baking Powder Flat blue butterfly (WildEarth Guardians 2010, p. 13), information was not provided to support this claim. Agriculture does not occur in the ACEC (Podborny 2012, pers. comm.). The best available information does not indicate agriculture is occurring in areas occupied by the Baking Powder Flat blue butterfly. We did not receive any information as a result of our 90-day petition finding notice, nor did we locate information that indicates agriculture is impacting occupied habitat or populations of the Baking Powder Flat blue butterfly. Thus, the best available information does not indicate that agriculture is modifying this subspecies' habitat to the extent that it represents a threat to Baking Powder Flat blue butterfly populations, their host plants, or nectar sources, now or in the future.

Recreation (Off-Highway Vehicles)

Off-highway vehicle (OHV) impacts on wildlife can include habitat loss and fragmentation, patch size reduction, and an increase in the ratio of edge to the interior (U.S. Geological Survey (USGS) 2007, p. 16). These effects can influence population dynamics, predator-prey relationships, and animal movements (e.g., dispersal, recolonization, gene flow). Even narrow roads and trails can create a barrier to animal movements. Additionally, OHV roads can facilitate range extensions or invasions of nonnative and opportunistic species, direct mortality through collisions, and nest and burrow damage or destruction, and they create noise. These factors can lead ultimately to reduced survivorship of a species.

One study involving butterflies found wide highways did not affect movement with open populations (immigration and emigration continues to occur), but did slightly impact those with closed populations (Munguira and Thomas 1992, cited in USGS 2007, p. 18). Another study found some butterfly species may not attempt to fly across roads possibly due to the microclimate over roads (van der Zande 1980, cited in USGS 2007, p. 18).

In 2008, BLM designated a portion of Baking Powder Flat (13,640 acres (ac)) (5,520 hectares (ha)) as the Baking Powder Flat ACEC to protect the Baking Powder Flat blue butterfly (72 FR 67748; 73 FR 55867, September 26, 2008; BLM 2009a, p. 20). According to BLM (2009b, 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.''

Limited OHV use is authorized within the Baking Powder Flat ACEC on

designated roads and trails (72 FR 67748; BLM 2007c, pp. 2.4–101, 2.4–106). Austin (1993, p. 7) and Austin *et al.* (*in litt.* 2000, p. 3) indicate that soil compaction or direct destruction of host plants from vehicles may impact the Baking Powder Flat blue butterfly, however, no additional information was provided to support this claim. A site visit to the occupied location near Blind Spring found evidence of one motorcycle going through the area as reported by a BLM employee in 1994 (Barber *in litt.* 1994, p. 1). Today, with use limited to designated roads and trails, this recreational activity is not considered a concern in the ACEC (Podborny 2012, pers. comm.). Activities involving OHV use within the Baking Powder Flat blue butterfly habitat would be addressed in consideration of the Ely District Record of Decision and Approved RMP (BLM 2008a), BLM's 6840 Manual (BLM 2008b), Baking Powder Flat ACEC restrictions, and possibly NEPA (see also our discussion of several of these authorities in our analysis of the White River Valley skipper, above). We did not receive additional information as a result of our 90-day petition finding notice, nor did we locate information indicating that OHV use is damaging this subspecies' habitat. Consequently, the best available information does not indicate that OHV use is modifying this subspecies' habitat to the extent that it represents a threat to Baking Powder Flat blue butterfly populations or their habitats now or in the future.

Mining and Energy Exploration and Development, Power Lines

The NNHP (2007, p. 42) indicates that a portion of the Baking Powder Flat playa/ephemeral pool/spring pool complex has been degraded or converted to other land uses, including energy development. Baking Powder Flat blue butterfly habitat was not identified within the study area for Southwest Intertie Project (BLM 1993, p. 3–65). The Baking Powder Flat blue butterfly was also not observed during wildlife surveys conducted for the One Nevada Transmission Line Project (BLM 2010c, Appendix 3D, Table 2, pp. 1–5).

There are closures or limits on mineral development within the Baking Powder Flat ACEC to protect the unique cultural values, and special status plants and animals, which includes the Baking Powder Flat blue butterfly (72 FR 67748; BLM 2007c, p. 2.4–101), and these types of projects are not occurring in the ACEC (Podborny 2012, pers. comm.). Additionally, actions involving mineral and energy development within Baking Powder Flat blue butterfly habitat would be addressed in consideration of the Ely District Record of Decision and Approved RMP (BLM 2008a), the FLPMA of 1976, the Mineral Leasing Act of 1920, BLM's 6840 Manual (BLM 2008b), and NEPA (see our discussion of these authorities above in our analysis of the White River Valley skipper). The available information does not indicate that mineral and energy development are occurring in areas occupied by the Baking Powder Flat blue butterfly. We did not receive additional information as a result of our 90-day petition finding notice, nor did we locate information that indicates mining or energy development, or transmission line installation is impacting the Baking Powder Flat blue butterfly habitat. Thus, the best available information does not indicate that mining and energy development are modifying the subspecies' habitat or impacting Baking Powder Flat blue butterfly populations to an extent that they represent a threat to this subspecies now or in the future.

Plant Collection

Plant collecting is authorized within the Baking Powder Flat ACEC (72 FR 67748; BLM 2007c, p. 2.4–101). Plant materials, including common species, require a permit to be collected (BLM 2007c, pp. 2.4–101; 2.4–106). There have been no permit requests for collection of the host plant, *Eriogonum shockleyi,* for any purpose (Podborny 2012, pers. comm.). As indicated earlier, this host plant remains common in the Baking Powder Flat area (BLM 2009a, p. 20), and declines in this plant species have not been documented. Actions involving plant collection within Baking Powder Flat blue butterfly habitat would be addressed in consideration of the Ely District Record of Decision and Approved RMP (BLM 2008a), BLM's 6840 Manual (BLM 2008b), the Baking Powder Flat ACEC, and possibly the Plant Protection Act of 2000 and NEPA (see our discussion of these authorities above in the analysis of the White River Valley skipper). We did not receive any information as a result of our 90-day petition finding notice, nor did we locate information that indicates plant collecting in the ACEC, specifically for the host plant or in general, is occurring in occupied Baking Powder Flat blue butterfly habitat. Therefore, the best available information does not indicate that plant collecting is modifying the subspecies' habitat to an extent that it represents a threat to this subspecies now or in the future.

Climate Change

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 (U.S. Environmental Protection Agency 1998, pp. 1–4; Chambers and Pellant 2008, pp. 29–33). While the petition asserts that climate change may impact this subspecies (WildEarth Guardians 2010, p. 40), 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).

We found no information on how climate change may impact the Baking Powder Flat blue butterfly's host plant, *Eriogonum shockleyi.* In general, increasing temperatures and drought frequency could impact the host plant by causing physiological stress, altering phenology, reducing recruitment events, and reducing seed establishment. However, at this time, it is difficult to predict local climate change impacts to *Eriogonum Shockleyi* and how individual plant species will react to climate change, especially for a species which grows in dry, warm sites and thus has adaptations for such conditions.

Thus, while information indicates that climate change has the potential to affect vegetation and habitats used by the Baking Powder Flat blue butterfly in the Great Basin, there is much uncertainty regarding which habitat attributes could be affected, and the timing, magnitude, and rate of their change as it relates to this subspecies. The available information does not indicate that climate change is affecting occupied Baking Powder Flat blue butterfly habitat. We did not receive any further information as a result of our 90-day petition finding notice, nor did we locate specific information that indicates climate change is impacting Baking Powder Flat blue butterfly populations or their habitats. Thus, the best available information does not indicate that climate change is modifying the subspecies' habitat to an extent that it represents a threat to this subspecies now or in the future.

Summary of Factor A

While several activities such as water development, fire, livestock grazing, nonnative species invasion, agriculture, mining and energy development may be

impacting a portion of the Baking Powder Flat wetland complex according to NNHP (2007 p. 42), available information does not indicate that these impacts are occurring in and negatively impacting occupied Baking Powder Flat blue butterfly habitat, which occurs outside of wetland areas. The available information does not indicate that these activities, or additional activities such as OHV use, plant collecting, or climate change, are negatively impacting Baking Powder Flat blue butterfly habitat or populations. The subspecies' larval host plant and adult nectar source (*Eriogonum shockleyi*) does not occur in wetland areas and is unlikely to be indirectly impacted by current or proposed water development activities. The host plant remains common in the Baking Powder Flat area (BLM 2009a, p. 20). In addition to the larval host plant not being a wetland species, any direct impacts to the plant through proposed SNWA water development facility construction activities, if approved, should be minor due to the commitment to implement avoidance, reduction, and mitigation measures. While information indicates that climate change has the potential to affect vegetation used by this subspecies, much uncertainty remains regarding which plant attributes may be affected, and the timing, magnitude, and rate of their change. We conclude based on the best scientific and commercial information available that the present or threatened destruction, modification, or curtailment of its habitat or range does not currently pose a threat to the Baking Powder Flat blue butterfly, nor is it likely to become a threat to the subspecies in the future.

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

We are unaware of any studies analyzing impacts of removal of individuals from populations of the Baking Powder Flat blue butterfly. According to Austin (1998c, p. 550), 61 males and 41 females of this subspecies were collected between 1978 and 1980 at one site. No additional information is known about the numbers of specimens collected in the past, and we are not aware of any ongoing or current collecting of this subspecies. Given the relatively low number of individuals collected over this 3-year period, the length of time since the collections were made, and the lack of information about the relative impact to the population, the available information does not indicate that collection may be a threat to this subspecies.

We found no information indicating that overutilization has led to the loss of populations or a significant reduction in numbers of individuals for this subspecies. Therefore, we conclude based on the best scientific and commercial information available that overutilization for commercial, recreational, scientific, or educational purposes does not currently pose a threat to the Baking Powder Flat blue butterfly, nor is it likely to become a threat to the subspecies in the future.

Factor C. Disease or Predation

We found no information on the incidence of disease in the Baking Powder Flat blue butterfly.

Predation by other species, such as birds or insects, on eggs, larvae, pupae, or adult Baking Powder Flat blue butterflies is assumed, but we found no information indicating that predation levels are any greater than naturally occurring levels typical of the biological community in which the Baking Powder Flat blue butterfly occurs.

Available information does not indicate that there are impacts from disease or predation on the Baking Powder Flat blue butterfly. Therefore, we conclude based on the best scientific and commercial information available that disease or predation does not currently pose a threat to the Baking Powder Flat blue butterfly, nor is either likely to become a threat to the subspecies in the future.

Factor D. The Inadequacy of Existing Regulatory Mechanisms

The discussion of existing regulatory mechanisms under Factor D for the White River Valley skipper is hereby incorporated into this discussion for the Baking Power Flat blue butterfly. As discussed above under Factor D for the White River Valley skipper, Nevada State law pertaining to wildlife does not offer protection to the Baking Powder Flat blue butterfly specifically because it is an invertebrate species not classified as wildlife. Although not protected by State wildlife law, the best available information, as discussed in Factor B, does not indicate that collection or other forms of overutilization is a threat to the Baking Powder Flat blue butterfly.

A large portion of habitat for the Baking Powder Flat blue butterfly occurs on Federal lands administered by BLM. Numerous policies, guidance, and laws have been developed to assist the agency in management of these lands (see Factor D discussion under White River Valley skipper). BLM policies and guidance address species of concern, actions covered by RMPs, and regulatory authority for grazing and oil and gas leasing and operating activities. As discussed under Factor A, the best available information does not indicate that activities such as livestock grazing, nonnative plant control, mining and energy exploration and development, and recreational activities that are regulated by various policies, guidance, and laws on Federal lands are impacting Baking Powder Flat blue butterfly populations. After reviewing the best available commercial and scientific information, we conclude that the inadequacy of existing regulatory mechanisms does not currently pose a threat to the Baking Powder Flat blue butterfly, nor is it likely to become a threat to the subspecies in the future.

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

Potential other natural or manmade factors that may affect the continued existence of the Baking Powder Flat blue butterfly are discussed in this section and include: (1) Limited range and (2) small population size(s).

For general background information on other natural or manmade factors which could affect the Baking Powder Flat blue butterfly, please refer to the discussion on limited range and population size under *Factor E. Other Natural or Manmade Factors Affecting Its Continued Existence* in the Five-Factor Evaluation for the White River Valley Skipper.

The Baking Powder Flat blue butterfly is known from seven discrete areas in the Baking Powder Flat area in Spring Valley, in Lincoln and White Pine Counties, Nevada (Austin 1998c, p. 550; Austin and Leary 2008, pp. 68–69). As indicated earlier, the host plant species, *Eriogonum shockleyi,* is common in Nevada and occurs in several other states. For the Baking Powder Flat blue butterfly, little information is available related to its distribution and numbers of populations, and no information is available about size of populations, loss of populations, if any, or population trends. Information pertaining to the aerial extent of habitat or populations is also not available. Available information does not include comprehensive surveys for this subspecies, though researchers have recommended these surveys to determine if additional populations exist. Without data to indicate population trends, it is difficult to support claims of adverse impacts to the Baking Powder Flat blue butterfly.

We found no information on connections between chance events and population impacts for the Baking Powder Flat blue butterfly. This subspecies is distributed over several

areas in the Baking Powder Flat area, and as mentioned above, recommendations have been made for surveys to determine if it is more widespread than currently known. Potential impacts due to stochastic events are reduced because it occurs in several areas. In the absence of chance events connected to known populations, we do not consider restricted geographic range or small population numbers by themselves to be threats to this subspecies. The best available information does not indicate the Baking Powder Flat blue butterfly is negatively impacted by limited range or small population numbers. Therefore, we conclude based on the best available scientific and commercial information that other natural or manmade factors do not currently pose a threat to the Baking Powder Flat blue butterfly, nor are they likely to become a threat to the subspecies in the future.

Synergistic Interactions Between Threat Factors

We have evaluated individual threats to the Baking Powder Flat blue butterfly. This subspecies faces potential threats from water development, fire, livestock grazing, nonnative plant invasion, agriculture, OHV use, mining and energy development, plant collection, climate change, limited range, and small population size. In considering whether the threats to a species may be so great as to warrant listing under the Act, we must look beyond the possible impacts of potential threats in isolation and consider the potential cumulative impacts of all of the threats facing a species.

In making this finding, we considered whether there may be cumulative effects to the Baking Powder Flat blue butterfly from the combined impacts of the existing stressors such that even if each stressor individually does not result in population-level impacts, that cumulatively the effects may be significant. We considered whether the combined effects of water development and mining and energy development may result in a significant impact to the Baking Powder Flat blue butterfly because these potential impacts have the potential to result in some level of habitat loss. However, we conclude that synergistic effects between water development and mining and energy development are unlikely to result in a significant overall population impact to the Baking Powder Flat blue butterfly because the proposed water development construction footprint would be small, indirect impacts from the water development project are not likely, and BLM policies and mitigation measures ensure that impacts to this subspecies' habitat in the Baking Powder Flat ACEC will be minimized.

Mining and energy development were not found to occur in the butterfly's habitat. If mining and energy development projects are proposed in the future, BLM policies and management offer protection through limitations for these types of activities within the ACEC. Livestock grazing, nonnative plant invasion, and OHV use could impact the Baking Powder Flat blue butterfly and its habitat. However, BLM policies and management provide terms and conditions for livestock grazing to protect resources; nonnative plant species invasion is not known to be a concern in the ACEC; and OHV use is limited to existing roads and trails in the ACEC.

Therefore, we conclude that livestock grazing, nonnative plant species invasion, and OHV use impacts combined with potential impacts from water development and mining and energy development would not be of sufficient severity, frequency, or geographic scope to result in significant habitat impacts or cause population-level impacts to the Baking Powder Flat blue butterfly. Fire is unlikely to occur in Baking Powder Flat blue butterfly habitat due to the sandy soils and widely spaced vegetation being unable to support a fire. Agriculture and collection of the host plant species were not found to occur within this subspecies habitat and, therefore, will not have a cumulative impact on the Baking Powder Flat blue butterfly.

Limited range and small population size could make the Baking Powder Flat blue butterfly more vulnerable to potential threats discussed above. However, we cannot conclude that synergistic effects between limited range and small population size and other potential threats are operative threats to the continued existence of the Baking Powder Flat blue butterfly given the lack of information on the range and population size of this butterfly. There is no information on population size or change in population abundance for the Baking Powder Flat blue butterfly, and the limited information on occurrence (distribution) is insufficient to define this butterfly's range.

Synergistic interactions are possible between effects of climate change and effects of other stressors such as livestock grazing, nonnative plant invasion, and OHV use. Increases in carbon dioxide and temperature and changes in precipitation are likely to affect vegetation, and the Baking Powder Flat blue butterfly is closely associated with the presence of certain types of vegetation. However, it is difficult to project how climate change will affect vegetation because certain plant species may increase in cover while other species may decrease. Uncertainty about how different plant species will respond under climate change, combined with uncertainty about how changes in plant species composition would affect suitability of Baking Powder Flat blue butterfly habitat, make projecting possible synergistic effects of climate change on the Baking Powder Flat blue butterfly too speculative.

Finding for the Baking Powder Flat Blue Butterfly

As required by the Act, we considered the five factors in assessing whether the Baking Powder Flat blue butterfly is an endangered or threatened species throughout all of its range. We examined the best scientific and commercial information available regarding the past, present, and future threats faced by this subspecies.

Factors potentially affecting the Baking Powder Flat blue butterfly, including water development, fire, livestock grazing, nonnative species invasion, agriculture, mining and energy development, OHV, plant collecting, climate change, and limited range and small population size, are either limited in scope or lack documentation that they are occurring in occupied habitat and adversely impacting the subspecies. Though climate change may be affecting the Baking Powder Flat blue butterfly and its habitat and effects are likely to increase in the future, the available information does not support a determination that climate change has or will result in a population-level impact to this subspecies. The available information does not indicate that overutilization, disease, or predation is a threat to the Baking Powder Flat blue butterfly. The available information also does not indicate that existing regulatory mechanisms are inadequate to protect the subspecies from potential threats. Furthermore, there is no evidence to suggest that the combined factors acting together are a threat to the Baking Powder Flat blue butterfly. Based on our review of the best scientific and commercial information available, we find these stressors, either singly or in combination with one another, are not threats to the Baking Powder Flat blue butterfly or its habitat.

We found no information to indicate that threats are of sufficient imminence, intensity, or magnitude such that the Baking Powder Flat blue butterfly is in danger of extinction (endangered) or likely to become endangered within the

foreseeable future (threatened), throughout all of its range. Therefore, we find that listing the Baking Powder Flat blue butterfly as an endangered or threatened species throughout its range is not warranted.

Significant Portion of the Range

Having determined that the Baking Powder Flat blue butterfly does not meet the definition of an endangered or a threatened species, we must next consider whether there are any significant portions of the range where the Baking Powder Flat blue butterfly is in danger of extinction or is likely to become endangered in the foreseeable future. The Act defines ''endangered species'' as any species which is ''in danger of extinction throughout all or a significant portion of its range,'' and ''threatened species'' as any species which is ''likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.'' 16 U.S.C. 1532(6) and 1532(20). The definition of ''species'' is also relevant to this discussion. The Act defines ''species'' as follows: ''The term 'species' includes any subspecies of fish or wildlife or plants, and any distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature.'' 16 U.S.C. 1532(16). The phrase ''significant portion of its range'' (SPR) is not defined by the statute, and we have never addressed in our regulations: (1) The consequences of a determination that a species is either endangered or likely to become so throughout a significant portion of its range, but not throughout all of its range; or (2) what qualifies a portion of a range as ''significant.''

Two recent district court decisions have addressed whether the SPR language allows the Service to list or protect less than all members of a defined ''species'': *Defenders of Wildlife* v. *Salazar,* 729 F. Supp. 2d 1207 (D. Mont. 2010), concerning the Service's delisting of the Northern Rocky Mountains gray wolf (74 FR 15123, April 2, 2009); and *WildEarth Guardians* v. *Salazar,* 2010 U.S. Dist. LEXIS 105253 (D. Ariz. September 30, 2010), concerning the Service's 2008 finding on a petition to list the Gunnison's prairie dog (73 FR 6660, February 5, 2008). The Service had asserted in both of these determinations that, under the Act, it had authority, in effect, to protect only some members of a ''species,'' as defined by the Act (i.e., species, subspecies, or DPS). Both courts ruled that the determinations were arbitrary and capricious on the grounds that this approach violated the plain and unambiguous language of the Act. The courts concluded that reading the SPR language to allow protecting only a portion of a species' range is inconsistent with the Act's definition of ''species.'' The courts concluded that once a determination is made that a species (i.e., species, subspecies, or DPS) meets the definition of ''endangered species'' or ''threatened species,'' it must be placed on the list in its entirety and the Act's protections applied consistently to all members of that species throughout its range (subject to modification of protections through special rules under sections 4(d) and 10(j) of the Act).

Consistent with that interpretation, and for the purposes of this finding, we interpret the phrase ''significant portion of its range'' in the Act's definitions of ''endangered species'' and ''threatened species'' to provide an independent basis for listing. Thus there are two situations (or factual bases) under which a species would qualify for listing: A species may be endangered or threatened throughout all of its range, or a species may be endangered or threatened in only a significant portion of its range. If a species is in danger of extinction throughout an SPR, it, the species, is an ''endangered species.'' The same analysis applies to ''threatened species.'' Based on this interpretation and supported by existing case law, the consequence of finding that a species is endangered or threatened in only a significant portion of its range is that the entire species shall be listed as endangered or threatened, respectively, and the Act's protections shall be applied across the species' entire range.

We conclude, for the purposes of this finding, that interpreting the SPR phrase as providing an independent basis for listing is the best interpretation of the Act because it is consistent with the purposes and the plain meaning of the key definitions of the Act; it does not conflict with established past agency practice (i.e., prior to the 2007 Solicitor's Opinion), as no consistent, long-term agency practice has been established; and it is consistent with the judicial opinions that have most closely examined this issue. Having concluded that the phrase ''significant portion of its range'' provides an independent basis for listing and protecting the entire species, we next turn to the meaning of ''significant'' to determine the threshold for when such an independent basis for listing exists.

Although there are potentially many ways to determine whether a portion of a species' range is ''significant,'' we conclude, for the purposes of this finding, that the significance of the portion of the range should be determined based on its biological contribution to the conservation of the species. For this reason, we describe the threshold for ''significant'' in terms of an increase in the risk of extinction for the species. We conclude that a biologically based definition of ''significant'' best conforms to the purposes of the Act, is consistent with judicial interpretations, and best ensures species' conservation. Thus, for the purposes of this finding, and as explained further below, a portion of the range of a species is ''significant'' if its contribution to the viability of the species is so important that, without that portion, the species would be in danger of extinction.

We evaluate biological significance based on the principles of conservation biology using the concepts of redundancy, resiliency, and representation. Resiliency describes the characteristics of a species and its habitat that allow it to recover from periodic disturbance. Redundancy (having multiple populations distributed across the landscape) may be needed to provide a margin of safety for the species to withstand catastrophic events. Representation (the range of variation found in a species) ensures that the species' adaptive capabilities are conserved. Redundancy, resiliency, and representation are not independent of each other, and some characteristic of a species or area may contribute to all three. For example, distribution across a wide variety of habitat types is an indicator of representation, but it may also indicate a broad geographic distribution contributing to redundancy (decreasing the chance that any one event affects the entire species), and the likelihood that some habitat types are less susceptible to certain threats, contributing to resiliency (the ability of the species to recover from disturbance). None of these concepts is intended to be mutually exclusive, and a portion of a species' range may be determined to be ''significant'' due to its contributions under any one or more of these concepts.

For the purposes of this finding, we determine if a portion's biological contribution is so important that the portion qualifies as ''significant'' by asking whether, without that portion, the representation, redundancy, or resiliency of the species would be so impaired that the species would have an increased vulnerability to threats to the point that the overall species would be in danger of extinction (i.e., would be ''endangered''). Conversely, we would

not consider the portion of the range at issue to be ''significant'' if there is sufficient resiliency, redundancy, and representation elsewhere in the species' range that the species would not be in danger of extinction throughout its range if the population in that portion of the range in question became extirpated (extinct locally).

We recognize that this definition of ''significant'' (a portion of the range of a species is ''significant'' if its contribution to the viability of the species is so important that, without that portion, the species would be in danger of extinction) establishes a threshold that is relatively high. On the one hand, given that the consequences of finding a species to be endangered or threatened in an SPR would be listing the species throughout its entire range, it is important to use a threshold for ''significant'' that is robust. It would not be meaningful or appropriate to establish a very low threshold whereby a portion of the range can be considered ''significant'' even if only a negligible increase in extinction risk would result from its loss. Because nearly any portion of a species' range can be said to contribute some increment to a species' viability, use of such a low threshold would require us to impose restrictions and expend conservation resources disproportionately to conservation benefit: Listing would be rangewide, even if only a portion of the range of minor conservation importance to the species is imperiled. On the other hand, it would be inappropriate to establish a threshold for ''significant'' that is too high. This would be the case if the standard were, for example, that a portion of the range can be considered ''significant'' only if threats in that portion result in the entire species' being currently endangered or threatened. Such a high bar would not give the SPR phrase independent meaning, as the Ninth Circuit held in *Defenders of Wildlife v. Norton,* 258 F.3d 1136 (9th Cir. 2001).

The definition of ''significant'' used in this finding carefully balances these concerns. By setting a relatively high threshold, we minimize the degree to which restrictions will be imposed or resources expended that do not contribute substantially to species conservation. But we have not set the threshold so high that the phrase ''in a significant portion of its range'' loses independent meaning. Specifically, we have not set the threshold as high as it was under the interpretation presented by the Service in the *Defenders* litigation. Under that interpretation, the portion of the range would have to be so important that current imperilment there would mean that the species would be currently imperiled everywhere. Under the definition of ''significant'' used in this finding, the portion of the range need not rise to such an exceptionally high level of biological significance. (We recognize that if the species is imperiled in a portion that rises to that level of biological significance, then we should conclude that the species is in fact imperiled throughout all of its range, and that we would not need to rely on the SPR language for such a listing.) Rather, under this interpretation, we ask whether the species would be endangered everywhere without that portion (i.e., if that portion were completely extirpated). In other words, the portion of the range need not be so important that even the species being in danger of extinction in that portion would be sufficient to cause the species in the remainder of the range to be endangered; rather, the complete extirpation (in a hypothetical future) of the species in that portion would be required to cause the species in the remainder of the range to be endangered.

The range of a species can theoretically be divided into portions in an infinite number of ways. However, there is no purpose to analyzing portions of the range that have no reasonable potential to be significant or to analyzing portions of the range in which there is no reasonable potential for the species to be endangered or threatened. To identify only those portions that warrant further consideration, we determine whether there is substantial information indicating that: (1) The portions may be ''significant,'' and (2) the species may be in danger of extinction there or likely to become so within the foreseeable future. Depending on the biology of the species, its range, and the threats it faces, it might be more efficient for us to address the significance question first or the status question first. Thus, if we determine that a portion of the range is not ''significant,'' we do not need to determine whether the species is endangered or threatened there; if we determine that the species is not endangered or threatened in a portion of its range, we do not need to determine if that portion is ''significant.'' In practice, a key part of the determination that a species is in danger of extinction in a significant portion of its range is whether the threats are geographically concentrated in some way. If the threats to the species are essentially uniform throughout its range, no portion is likely to warrant further consideration. Moreover, if any concentration of threats to the species occurs only in portions of the species' range that clearly would not meet the biologically based definition of ''significant,'' such portions will not warrant further consideration.

We evaluated the current range of the Baking Powder Flat blue butterfly to determine if there is any apparent geographic concentration of the primary stressors potentially affecting the subspecies including water development, fire, livestock grazing, nonnative species invasion, agriculture, mining and energy development, OHV, plant collecting, climate change, and limited range and small population size. On the basis of our review, we found no geographic concentration of threats either on public or private lands to suggest that the Baking Powder Flat blue butterfly may be in danger of extinction in that portion of its range. We found no area within the range of the Baking Powder Flat blue butterfly where the potential threats are significantly concentrated or substantially greater than in other portions of its range. We also found that lost historical range does not constitute a significant portion of the range for the Baking Powder Flat blue butterfly because there is no information indicating that there has been a range contraction for this subspecies. Therefore, we find factors affecting the subspecies are essentially uniform throughout its range, indicating no portion of the butterfly's range warrants further consideration of possible status as an endangered or threatened species under the Act.

We found no information to indicate that the Baking Powder Flat blue butterfly is in danger of extinction now, nor is it likely to become endangered within the foreseeable future, throughout all or a significant portion of its range. Therefore, listing the Baking Powder Flat blue butterfly as an endangered or threatened species under the Act is not warranted at this time.

We request that you submit any new information concerning the status of, or threats to, the Baking Powder Flat blue butterfly to our Nevada Fish and Wildlife Office (see **ADDRESSES** section) whenever it becomes available. New information will help us monitor the Baking Powder Flat blue butterfly and encourage its conservation. If an emergency situation develops for the Baking Powder Flat blue butterfly or any other species, we will act to provide immediate protection.

Species Information for the Bleached Sandhill Skipper

Taxonomy and Species Description

We accept the characterization of the bleached sandhill skipper (*Polites sabuleti sinemaculata*) as a valid subspecies based on its description by Austin (1987, pp. 7–8). This subspecies is in the Hesperiidae family (Austin 1998a, p. 838). The male's wingspan ranges from 0.47 to 0.53 in (11.9–13.4 mm). The upperside is bright golden-orange with a black stigma on the primaries. The dark margin of the primaries is absent to faint. The terminal line is black. Wing fringes are the same as the wing color. The secondaries do not have an outer marginal border. The black along the costal (leading edge) margin is narrow, and the base of the wing is lightly dusted with black. The terminal line and wing fringes are like they are on the primaries. The underside of the wing is paler than the upperside. The black of the primaries is restricted to the base of the cell and along the posterior margin. The secondaries have a faint cobweb pattern (Austin 1987, pp. 7–8). The female's wingspan ranges from 0.52 to 0.59 in (13.1–15.0 mm). The upperside of the wing is a pale yellow-orange. The postmedial (on the wing, just past the middle) area of the primaries is whitish-yellow. The terminal line is dark gray, and fringes are grayish on the primaries and white on the secondaries. The underside is paler than on the male. The postmedial areas of the primaries and the postmedian band and secondaries are ghostly white (Austin 1987, p. 8). Please refer to Austin (1987, p. 8) for a more detailed description of this subspecies.

Distribution and Habitat

The bleached sandhill skipper is known from one location (Baltazor Hot Spring) located west of Denio Junction, Humboldt County, located in northwestern Nevada (Austin 1987, p. 8; Austin *et al., in litt.* 2000, p. 4; NNHP 2010; B. Boyd, pers. comm. cited in WildEarth Guardians 2010, p. 15) (on BLM and private lands). Austin (1987, p. 8) indicates that other areas of the Baltazor Hot Spring drainage system need to be investigated for possible other populations. The area is a salt flat near a hot spring and is densely covered with *Distichlis spicata* (salt grass) (Austin 1987, p. 8), this subspecies' possible host plant (see *Biology* section). The size of the known occupied site or the extent of this subspecies' host plant(s), or host plant abundance, has not been reported.

Biology

Distichlis spicata may serve as the larval host plant (Austin 1987, p. 8); this species is a perennial grass (*http://www.plants.usda.gov,* accessed April 24, 2012) and is common and widespread in Nevada (Kartesz, 1987, p. 1611). This plant can be found in wetland and non-wetland areas in Nevada (Reed 1988, p. 24). It is common and can be found throughout most of the United States (*http://www.plants.usda.gov,* accessed April 24, 2012). In the western United States, it can be found in Washington, Oregon, California, Idaho, Montana, Nevada, Utah, Arizona, and New Mexico (Kartesz, 1987, p. 1611; *http://www.plants.usda.gov,* accessed April 24, 2012).

Adults have been seen nectaring on white and yellow composites (Asteraceae) (Sunflower family) (Austin 1987, p. 8), but specific nectar plant species are not identified. It is possible that adults nectar on a variety of plants that are in flower during their flight period. 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., in litt.* 2000, p. 4).

There is little biological information available at the subspecies level, but some inferences can be made from biological information from related species at the species level. Information for the saltgrass skipper (*Polites sabuleti*) indicates eggs are pale bluish-green, turning cream-colored; eggs are laid singly on the host plant or other nearby plants or soil (Scott 1986, p. 443). Larvae eat leaves, and they live in tied-leaf nests (Scott 1986, p. 443). Males perch in low grassy areas during the day seeking females (Scott 1986, p. 444).

According to the petition, 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 2–3 years ago (B. Boyd, pers. comm. cited in WildEarth Guardians 2010, p. 15). The cause or potential cause of this apparent decline is not reported in the petition. The available information does not indicate whether a population decline, if accurate, is unusual or not as butterfly populations are highly dynamic from year to year (Weiss *et al.* 1997, p. 2). The best available information does not include surveys documenting population size, number of extirpated populations or sites, if any, or population trends (other than that mentioned above).

Five-Factor Evaluation for the Bleached Sandhill Skipper

Information pertaining to the bleached sandhill skipper in relation to the five factors provided in section 4(a)(1) of the Act is discussed below.

Factor A. The Present or Threatened Destruction, Modification, or Curtailment of Its Habitat or Range

Potential factors that may affect the habitat or range of the bleached sandhill skipper are discussed in this section, including: (1) Water development, (2) livestock grazing, (3) energy development, and (4) climate change.

Water Development

For general background information on water development, please refer to the Water Development section under *Factor A. The Present or Threatened Destruction, Modification, or Curtailment of Its Habitat or Range* in the Five-Factor Evaluation for the White River Valley Skipper.

Austin *et al.* (*in litt.* 2000, p. 4) state that the bleached sandhill skipper could be impacted by water table changes, but specific information is not provided to support this claim. The Baltazor Meadow-Continental Lake wetland area is estimated to have had 20 percent of its wetland area degraded or converted to other land uses, such as by water development (NNHP 2007, p. 36). The Baltazor Meadow-Continental Lake wetland area includes the Baltazor Hot Spring where the bleached sandhill skipper is known to occur and an additional area, Continental Lake, located to the south where the bleached sandhill skipper is not known to occur. The NNHP (2007) does not delineate these wetland areas on a map or define them in terms of acreage; therefore, the amount of bleached sandhill skipper habitat that may occur within these areas and may be impacted by various activities is not indicated. The extent to which the various land use practices have degraded or converted these areas is also not individually delineated or quantified by NNHP (2007). Therefore, we cannot determine the amount of overlap between the estimated wetland impacts identified by the NNHP and the distribution of the bleached sandhill skipper. Bleached sandhill skipper habitat will not be impacted by the SNWA water development project because the project is proposed in southern and eastern Nevada and in groundwater basins not connected to the basin where this skipper occurs.

While it is likely that human water demands have impacted this drainage system over the decades, pumping of

the Baltazor Hot Spring does not currently occur (Lawson 2012, per. comm.). The best available information does not indicate that changes due to water development have occurred in the area occupied by the bleached sandhill skipper and are negatively impacting the habitat of this subspecies. Actions regarding water management in bleached sandhill skipper habitat in the future would be addressed in consideration of Nevada water law. We did not receive any additional information as a result of our 90-day petition finding notice, nor did we locate information that indicates water development is impacting the subspecies' habitat. Therefore, the best available information does not indicate that water development is modifying the subspecies' habitat to an extent that it represents a threat to the bleached sandhill skipper population now or in the future.

Livestock Grazing

For general background information on livestock grazing, please refer to the Livestock Grazing section under *Factor A. The Present or Threatened Destruction, Modification, or Curtailment of Its Habitat or Range* in the Five-Factor Evaluation for the White River Valley Skipper.

A portion of the Baltazor Meadow–Continental Lake wetland area has been identified as degraded or converted to other land uses, including livestock grazing (NNHP 2007, p. 36). The Baltazor Hot Spring and most of the vegetation associated with bleached sandhill skipper habitat (approximately 100 ac (40.5 ha)) is located within the Continental Pasture of the Pueblo Mountain Allotment on BLM-administered lands (Lawson 2012, pers. comm.). The pasture is on a 3-year rotation with cattle grazing occurring 2 out of every 3 years for 1 month in August; the permittee usually does not graze the entire month (Lawson 2012, pers. comm.). The area is not heavily grazed, and the habitat looks to be in good condition (Lawson 2012, pers. comm.). The possible larval host plant, *Distichlis spicata,* is common here and widespread in Nevada. The Asteraceae Family is a large plant family comprising numerous species, several of which the adults may be using as nectar sources. The best available information does not indicate a decline in either the possible larval host plant or probable adult nectar source populations within the bleached sandhill skipper's habitat due to livestock grazing.

Actions involving livestock grazing within bleached sandhill skipper habitat are addressed in consideration of the Winnemucca District Record of Decision and Approved RMP (BLM 2010a) (see Factor D discussion under White River Valley skipper), BLM's authority under Regulations on Grazing Administration Exclusive of Alaska, BLM's 6840 Manual (BLM 2008b), and possibly NEPA (see our discussion of these authorities above, under White River Valley skipper). We did not receive any information as a result of our 90-day petition finding notice, nor did we locate information indicating that livestock grazing is negatively impacting the habitat or the known population of the bleached sandhill skipper. Thus, the best available information does not indicate that livestock grazing is modifying the subspecies' habitat to the extent that it represents a threat to this subspecies now or in the future.

Energy Development

For general background information on energy development, please refer to the Energy Development section under *Factor A. The Present or Threatened Destruction, Modification, or Curtailment of Its Habitat or Range* in the Five-Factor Evaluation for the White River Valley Skipper.

A portion of the Baltazor Meadow–Continental Lake wetland area has been identified as degraded or converted to other land uses, including energy development (NNHP 2007, p. 36). Energy development is not occurring within the bleached sandhill skipper habitat (Lawson 2012, pers. comm.). Any actions involving energy development within bleached sandhill skipper habitat would be addressed in consideration of the Winnemucca District Record of Decision and Approved RMP (BLM 2010a), the FLPMA of 1976, BLM's 6840 Manual (BLM 2008b), and NEPA (see our discussion of these authorities above under White River Valley skipper). We did not receive any information as a result of our 90-day petition finding notice, nor did we locate information indicating that energy development is negatively impacting the bleached sandhill skipper population or its habitat. Thus, the best available information does not indicate that energy development is modifying the subspecies' habitat to the extent that it represents a threat to this subspecies now or in the future.

Climate Change

For general background information on climate change, please refer to the Climate Change section under *Factor A. The Present or Threatened Destruction, Modification, or Curtailment of Its Habitat or Range* in the Five-Factor Evaluation for the White River Valley Skipper.

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). We found no information on how climate change may impact the bleached sandhill skipper's potential host plant, *Distichlis spicata,* or adult nectar sources. In general, increasing temperatures and drought frequency, more winter precipitation in the form of rain, possible decreases in summer rain, and earlier, rapid snowmelt could impact the host plant by causing physiological stress, altering phenology, reducing recruitment events, and reducing seed establishment. However, at this time, it is difficult to predict local climate change impacts to *Distichlis spicata* and how individual plant species will react to climate change, especially for a species which is common and grows in both wet and dry areas. Thus, while information indicates that climate change has the potential to affect vegetation and habitats used by the bleached sandhill skipper in the Great Basin, there is much uncertainty regarding which habitat attributes could be affected, and the timing, magnitude, and rate of their change as it relates to this subspecies.

The best available information does not indicate that climate change is impacting occupied bleached sandhill skipper habitat. We did not receive any information as a result of our 90-day petition finding notice, nor did we locate specific information that indicates climate change is negatively impacting bleached sandhill skipper habitat. Therefore, the best available information does not indicate that climate change is modifying the subspecies' habitat to the extent that it represents a threat to this subspecies now or in the future.

Summary of Factor A

While a few activities such as water development and livestock grazing may be impacting a portion of the Baltazor Meadow-Continental Lake wetland area, the available information does not indicate that these activities or climate change are negatively impacting the bleached sandhill skipper population or its habitat. Therefore, we conclude based on the best scientific and commercial information available that the present or threatened destruction, modification, or curtailment of its habitat or range does not currently pose

a threat to the bleached sandhill skipper, now or is it likely to become a threat to the subspecies in the future.

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

For general background information on overutilization, please refer to the discussion on collecting under *Factor B. Overutilization for Commercial, Recreational, Scientific, or Educational Purposes* in the Five-Factor Evaluation for the White River Valley Skipper.

We are unaware of any studies analyzing impacts of removal of individuals from populations of the bleached sandhill skipper. According to Austin (1987, p. 8), 27 males and 14 females were collected between 1984 and 1985 at one site. No additional information is known about the numbers of specimens collected in the past, and we are not aware of any ongoing or current collecting of this subspecies. Given the low number of individuals collected over this 2-year period, the length of time since the collections were made, and the lack of information about the relative impact to the populations, the available information does not indicate that collection may be a threat to this subspecies.

We found no information indicating that overutilization has led to the loss of populations or a significant reduction in numbers of individuals for this subspecies. Therefore, we conclude based on the best scientific and commercial information available that overutilization for commercial, recreational, scientific, or educational purposes does not currently pose a threat to the bleached sandhill skipper, nor is it likely to become a threat to the subspecies in the future.

Factor C. Disease or Predation

We found no information on the incidence of disease in the bleached sandhill skipper.

We assume that predation by other species, such as birds or insects, on eggs, larvae, pupae, or adult bleached sandhill skippers occurs, but we found no information indicating that predation levels are any greater than naturally occurring levels typical of the biological community in which the bleached sandhill skipper occurs.

Available information does not indicate that there are impacts from disease or predation on the bleached sandhill skipper. Therefore, we conclude based on the best scientific and commercial information available that disease or predation does not currently pose a threat to the bleached sandhill skipper, nor is either likely to become a threat to the subspecies in the future.

Factor D. The Inadequacy of Existing Regulatory Mechanisms

The discussion of existing regulatory mechanisms under Factor D for the White River Valley skipper is hereby incorporated into this discussion for the bleached sandhill skipper. As discussed above under Factor D for the White River Valley skipper, Nevada State law pertaining to wildlife does not offer protection to the bleached sandhill skipper specifically because it is an invertebrate species not classified as wildlife. Although not protected by State wildlife law, the best available information, as discussed in Factor B, does not indicate that collection or other forms of overutilization is a threat to the bleached sandhill skipper.

A large portion of habitat for the bleached sandhill skipper occurs on Federal lands administered by BLM. Numerous policies, guidance, and laws have been developed to assist the agency in management of these lands (see Factor D discussion under White River Valley skipper). BLM policies and guidance address species of concern, actions covered by RMPs, and regulatory authority for grazing and oil and gas leasing and operating activities. As discussed under Factor A, the best available information does not indicate that activities such as livestock grazing and mining and energy development that are regulated by various policies, guidance, and laws on Federal lands are impacting the habitat of the bleached sandhill skipper. We conclude based on the best available commercial and scientific information that the inadequacy of existing regulatory mechanisms does not pose a threat to the bleached sandhill skipper, nor is it likely to become a threat to the subspecies in the future.

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

Potential other natural or manmade factors that may affect the continued existence of the bleached sandhill skipper are discussed in this section and include: (1) Limited range and (2) small population size(s).

For general background information on other natural or manmade factors which could affect the bleached sandhill skipper, please refer to the discussion on limited distribution and population size under *Factor E. Other Natural or Manmade Factors Affecting Its Continued Existence* in the Five-Factor Evaluation for the White River Valley Skipper.

The bleached sandhill skipper is currently known from only one area (Baltazor Hot Spring) near Denio Junction, Humboldt County, Nevada (see *Distribution and Habitat* section). However, Austin (1987, p. 8) indicates that other areas of the Baltazor Hot Springs drainage system need to be investigated for possible other populations. The petition reports that although thousands had been seen in the past, a decline appears to have occurred 2–3 years ago (A. Warren, pers. comm. and B. Boyd, pers. comm., cited in WildEarth Guardians 2010, p. 15), but details regarding this decline or a reason(s) for it are not provided in the petition. It is unknown whether or not this decline, if accurate, 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).

Little information is available related to population numbers, size, or trends for the bleached sandhill skipper. Information pertaining to the aerial extent of habitat or populations is not available. The available information does not include comprehensive surveys for this subspecies though researchers have recommended these surveys to determine if additional populations exist. Without data to indicate population trends, it is difficult to support claims of adverse impacts to the bleached sandhill skipper. We found no information on connections between chance events and population impacts for the bleached sandhill skipper. In the absence of chance events connected to known populations, we do not consider restricted geographic range or small population numbers by themselves to be threats to a species. The best available information does not indicate that the bleached sandhill skipper is negatively impacted by limited range or small population numbers. Therefore, we conclude based on the best available scientific and commercial information that other natural or manmade factors do not currently pose a threat to the bleached sandhill skipper, nor are they likely to become a threat to the subspecies in the future.

Synergistic Interactions Between Threat Factors

We have evaluated individual threats to the bleached sandhill skipper. This subspecies faces potential threats from water development, livestock grazing, energy development, climate change, limited range, and small population

size. In considering whether the threats to a species may be so great as to warrant listing under the Act, we must look beyond the possible impacts of potential threats in isolation and consider the potential cumulative impacts of all of the threats facing a species.

In making this finding, we considered whether there may be cumulative effects to the bleached sandhill skipper from the combined impacts of the existing stressors such that even if each stressor individually does not result in population-level impacts, that cumulatively the effects may be significant. We considered whether the combined effects of water development and energy development may result in a significant impact to the bleached sandhill skipper because these potential impacts have the potential to result in some level of habitat loss. However, we conclude that synergistic effects between water development and energy development will not result in a significant overall population impact to the bleached sandhill skipper because these activities have not been found to occur within this subspecies' habitat. While livestock grazing could impact habitat of the bleached sandhill skipper, BLM policies and management provide terms and conditions for livestock grazing to protect resources, and we conclude that livestock grazing is not of sufficient severity, frequency, or geographic scope to result in significant habitat impacts or cause population-level impacts to the bleached sandhill skipper.

Limited range and small population size could make the bleached sandhill skipper more vulnerable to potential threats discussed above. However, we cannot conclude that synergistic effects between limited range and small population size and other potential threats are operative threats to the continued existence of the bleached sandhill skipper given the lack of information on the range and population size of this butterfly. There is no information on population size or change in population abundance for the bleached sandhill skipper, and the limited information on occurrence (distribution) is insufficient to define this skipper's range.

Synergistic interactions are possible between effects of climate change and effects of other stressors such as livestock grazing. Increases in carbon dioxide and temperature and changes in precipitation are likely to affect vegetation, and the bleached sandhill skipper is closely associated with the presence of vegetation. However, it is difficult to project how climate change will affect vegetation because certain plant species may increase in cover while other species may decrease. Uncertainty about how different plant species will respond under climate change, combined with uncertainty about how changes in plant species composition would affect suitability of bleached sandhill skipper habitat, make projecting possible synergistic effects of climate change on the bleached sandhill skipper too speculative.

Finding for the Bleached Sandhill Skipper

As required by the Act, we considered the five factors in assessing whether the bleached sandhill skipper is an endangered or threatened species throughout all of its range. We examined the best scientific and commercial information available regarding the past, present, and future threats faced by this subspecies.

Factors potentially affecting the bleached sandhill skipper including water development, livestock grazing, energy development, or climate change, and limited range and small population size, are either limited in scope or lack documentation that they are occurring in occupied habitat and adversely impacting the subspecies. Though climate change may be affecting the bleached sandhill skipper and its habitats, and effects are likely to increase in the future, the available information does not support a determination that climate change will have a population-level impact on this subspecies. The available information also does not indicate that overutilization, disease, or predation is negatively impacting the bleached sandhill skipper. There is also no indication that existing regulatory mechanisms are inadequate to protect the subspecies from potential threats. Furthermore, there is no evidence to suggest that the combined stressors acting together are a threat to the bleached sandhill skipper. Based on our review of the best scientific and commercial information available, we find these stressors, either singly or in combination with one another, are not threats to the bleached sandhill skipper.

We found no information to indicate that threats are of sufficient imminence, intensity, or magnitude such that the bleached sandhill skipper is in danger of extinction (endangered) or likely to become endangered within the foreseeable future (threatened), throughout all of its range. Therefore, we find that listing the bleached sandhill skipper as an endangered or threatened species is not warranted throughout its range.

Significant Portion of the Range

Having determined that the bleached sandhill skipper does not meet the definition of an endangered or a threatened species, we must next consider whether there are any significant portions of the range where the bleached sandhill skipper is in danger of extinction or is likely to become endangered in the foreseeable future. The Act defines ''endangered species'' as any species which is ''in danger of extinction throughout all or a significant portion of its range,'' and ''threatened species'' as any species which is ''likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.'' 16 U.S.C. 1532(6) and 1532(20). The definition of ''species'' is also relevant to this discussion. The Act defines ''species'' as follows: ''The term 'species' includes any subspecies of fish or wildlife or plants, and any distinct population segment of any species of vertebrate fish or wildlife which interbreeds when mature.'' 16 U.S.C. 1532(16). The phrase ''significant portion of its range'' (SPR) is not defined by the statute, and we have never addressed in our regulations: (1) The consequences of a determination that a species is either endangered or likely to become so throughout a significant portion of its range, but not throughout all of its range; or (2) what qualifies a portion of a range as ''significant.''

Two recent district court decisions have addressed whether the SPR language allows the Service to list or protect less than all members of a defined ''species'': *Defenders of Wildlife* v. *Salazar,* 729 F. Supp. 2d 1207 (D. Mont. 2010), concerning the Service's delisting of the Northern Rocky Mountains gray wolf (74 FR 15123, April 2, 2009); and *WildEarth Guardians* v. *Salazar,* 2010 U.S. Dist. LEXIS 105253 (D. Ariz. September 30, 2010), concerning the Service's 2008 finding on a petition to list the Gunnison's prairie dog (73 FR 6660, February 5, 2008). The Service had asserted in both of these determinations that, under the Act, it had authority, in effect, to protect only some members of a ''species,'' as defined by the Act (i.e., species, subspecies, or DPS). Both courts ruled that the determinations were arbitrary and capricious on the grounds that this approach violated the plain and unambiguous language of the Act. The courts concluded that reading the SPR language to allow protecting only a portion of a species' range is inconsistent with the Act's definition of

''species.'' The courts concluded that once a determination is made that a species (i.e., species, subspecies, or DPS) meets the definition of ''endangered species'' or ''threatened species,'' it must be placed on the list in its entirety and the Act's protections applied consistently to all members of that species throughout its range (subject to modification of protections through special rules under sections 4(d) and 10(j) of the Act).

Consistent with that interpretation, and for the purposes of this finding, we interpret the phrase ''significant portion of its range'' in the Act's definitions of ''endangered species'' and ''threatened species'' to provide an independent basis for listing. Thus there are two situations (or factual bases) under which a species would qualify for listing: A species may be endangered or threatened throughout all of its range, or a species may be endangered or threatened in only a significant portion of its range. If a species is in danger of extinction throughout an SPR, it, the species, is an ''endangered species.'' The same analysis applies to ''threatened species.'' Based on this interpretation and supported by existing case law, the consequence of finding that a species is endangered or threatened in only a significant portion of its range is that the entire species shall be listed as endangered or threatened, respectively, and the Act's protections shall be applied across the species' entire range.

We conclude, for the purposes of this finding, that interpreting the SPR phrase as providing an independent basis for listing is the best interpretation of the Act because it is consistent with the purposes and the plain meaning of the key definitions of the Act; it does not conflict with established past agency practice (i.e., prior to the 2007 Solicitor's Opinion), as no consistent, long-term agency practice has been established; and it is consistent with the judicial opinions that have most closely examined this issue. Having concluded that the phrase ''significant portion of its range'' provides an independent basis for listing and protecting the entire species, we next turn to the meaning of ''significant'' to determine the threshold for when such an independent basis for listing exists.

Although there are potentially many ways to determine whether a portion of a species' range is ''significant,'' we conclude, for the purposes of this finding, that the significance of the portion of the range should be determined based on its biological contribution to the conservation of the species. For this reason, we describe the threshold for ''significant'' in terms of an increase in the risk of extinction for the species. We conclude that a biologically based definition of ''significant'' best conforms to the purposes of the Act, is consistent with judicial interpretations, and best ensures species' conservation. Thus, for the purposes of this finding, and as explained further below, a portion of the range of a species is ''significant'' if its contribution to the viability of the species is so important that, without that portion, the species would be in danger of extinction.

We evaluate biological significance based on the principles of conservation biology using the concepts of redundancy, resiliency, and representation. Resiliency describes the characteristics of a species and its habitat that allow it to recover from periodic disturbance. Redundancy (having multiple populations distributed across the landscape) may be needed to provide a margin of safety for the species to withstand catastrophic events. Representation (the range of variation found in a species) ensures that the species' adaptive capabilities are conserved. Redundancy, resiliency, and representation are not independent of each other, and some characteristic of a species or area may contribute to all three. For example, distribution across a wide variety of habitat types is an indicator of representation, but it may also indicate a broad geographic distribution contributing to redundancy (decreasing the chance that any one event affects the entire species), and the likelihood that some habitat types are less susceptible to certain threats, contributing to resiliency (the ability of the species to recover from disturbance). None of these concepts is intended to be mutually exclusive, and a portion of a species' range may be determined to be ''significant'' due to its contributions under any one or more of these concepts.

For the purposes of this finding, we determine if a portion's biological contribution is so important that the portion qualifies as ''significant'' by asking whether, without that portion, the representation, redundancy, or resiliency of the species would be so impaired that the species would have an increased vulnerability to threats to the point that the overall species would be in danger of extinction (i.e., would be ''endangered''). Conversely, we would not consider the portion of the range at issue to be ''significant'' if there is sufficient resiliency, redundancy, and representation elsewhere in the species' range that the species would not be in danger of extinction throughout its range if the population in that portion of the range in question became extirpated (extinct locally).

We recognize that this definition of ''significant'' (a portion of the range of a species is ''significant'' if its contribution to the viability of the species is so important that, without that portion, the species would be in danger of extinction) establishes a threshold that is relatively high. On the one hand, given that the consequences of finding a species to be endangered or threatened in an SPR would be listing the species throughout its entire range, it is important to use a threshold for ''significant'' that is robust. It would not be meaningful or appropriate to establish a very low threshold whereby a portion of the range can be considered ''significant'' even if only a negligible increase in extinction risk would result from its loss. Because nearly any portion of a species' range can be said to contribute some increment to a species' viability, use of such a low threshold would require us to impose restrictions and expend conservation resources disproportionately to conservation benefit: Listing would be rangewide, even if only a portion of the range of minor conservation importance to the species is imperiled. On the other hand, it would be inappropriate to establish a threshold for ''significant'' that is too high. This would be the case if the standard were, for example, that a portion of the range can be considered ''significant'' only if threats in that portion result in the entire species' being currently endangered or threatened. Such a high bar would not give the SPR phrase independent meaning, as the Ninth Circuit held in *Defenders of Wildlife* v. *Norton,* 258 F.3d 1136 (9th Cir. 2001).

The definition of ''significant'' used in this finding carefully balances these concerns. By setting a relatively high threshold, we minimize the degree to which restrictions will be imposed or resources expended that do not contribute substantially to species conservation. But we have not set the threshold so high that the phrase ''in a significant portion of its range'' loses independent meaning. Specifically, we have not set the threshold as high as it was under the interpretation presented by the Service in the *Defenders* litigation. Under that interpretation, the portion of the range would have to be so important that current imperilment there would mean that the species would be currently imperiled everywhere. Under the definition of ''significant'' used in this finding, the portion of the range need not rise to such an exceptionally high level of

biological significance. (We recognize that if the species is imperiled in a portion that rises to that level of biological significance, then we should conclude that the species is in fact imperiled throughout all of its range, and that we would not need to rely on the SPR language for such a listing.) Rather, under this interpretation, we ask whether the species would be endangered everywhere without that portion (i.e., if that portion were completely extirpated). In other words, the portion of the range need not be so important that even the species being in danger of extinction in that portion would be sufficient to cause the species in the remainder of the range to be endangered; rather, the complete extirpation (in a hypothetical future) of the species in that portion would be required to cause the species in the remainder of the range to be endangered.

The range of a species can theoretically be divided into portions in an infinite number of ways. However, there is no purpose to analyzing portions of the range that have no reasonable potential to be significant or to analyzing portions of the range in which there is no reasonable potential for the species to be endangered or threatened. To identify only those portions that warrant further consideration, we determine whether there is substantial information indicating that: (1) The portions may be ''significant,'' and (2) the species may be in danger of extinction there or likely to become so within the foreseeable future. Depending on the biology of the species, its range, and the threats it faces, it might be more efficient for us to address the significance question first or the status question first. Thus, if we determine that a portion of the range is not ''significant,'' we do not need to determine whether the species is endangered or threatened there; if we determine that the species is not endangered or threatened in a portion of its range, we do not need to determine if that portion is ''significant.'' In practice, a key part of the determination that a species is in danger of extinction in a significant portion of its range is whether the threats are geographically concentrated in some way. If the threats to the species are essentially uniform throughout its range, no portion is likely to warrant further consideration. Moreover, if any concentration of threats to the species occurs only in portions of the species' range that clearly would not meet the biologically based definition of ''significant,'' such portions will not warrant further consideration.

We evaluated the current range of the bleached sandhill skipper to determine if there is any apparent geographic concentration of the primary stressors potentially affecting the subspecies including water development, livestock grazing, energy development, climate change, and limited range and small population size. On the basis of our review, we found no geographic concentration of threats either on public or private lands to suggest that the bleached sandhill skipper may be in danger of extinction in that portion of its range. We found no area within the range of the bleached sandhill skipper where the potential threats are significantly concentrated or substantially greater than in other portions of its range. We also found that lost historical range does not constitute a significant portion of the range for the bleached sandhill skipper because there is no information indicating that there has been a range contraction for this subspecies. Therefore, we find factors affecting the subspecies are essentially uniform throughout its range, indicating no portion of the skipper's range warrants further consideration of possible status as an endangered or threatened species under the Act.

We found no information to indicate that the bleached sandhill skipper is in danger of extinction now, nor is it likely to become endangered within the foreseeable future, throughout all or a significant portion of its range. Therefore, listing the bleached sandhill skipper as an endangered or threatened species under the Act is not warranted at this time.

We request that you submit any new information concerning the status of, or threats to, the bleached sandhill skipper to our Nevada Fish and Wildlife Office (see **ADDRESSES** section) whenever it becomes available. New information will help us monitor the bleached sandhill skipper and encourage its conservation. If an emergency situation develops for the bleached sandhill skipper or any other species, we will act to provide immediate protection.

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 Fish and Wildlife Office (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: August 20, 2012.

Benjamin N. Tuggle,

Acting Director, U.S. Fish and Wildlife Service.

[FR Doc. 2012–21243 Filed 8–31–12; 8:45 am]

BILLING CODE 4310–55–P