

should harmonize the license plate holder requirements with the most recent revision of SAE Standard J587 and the requirements in European Union.<sup>3</sup>

In 1995, the agency stated that FMVSS No. 108 “incorporated SAE J587 in its entirety, and there is no exclusion of paragraph 6.1.” The agency made this statement in an interpretation letter addressed to Volkswagen of America, Inc.<sup>4</sup>

Notwithstanding that interpretation, NHTSA takes note that there has been significant confusion among the relevant stakeholders as to whether or not the mounting provisions of SAE Standard J587 were incorporated into FMVSS No. 108 via Table III as referenced through S5.1.1. On the one hand, the Motorcycle Industry Council (MIC) petitioned this agency for rulemaking in March of 2005 (before the December 30, 2005 NPRM in this rulemaking) requesting that the agency update the incorporated SAE Standard J587 to allow for a 30 degree upward angle mounting position for license plates. The March 2005 petition seems to indicate that MIC believed that the license plate mounting provisions of SAE Standard J587 were incorporated into FMVSS No. 108 via S5.1.1 and Table III. On the other hand, the Alliance of Automobile Manufacturers commented on March 30, 2006 to the 2005 NPRM and disputed the view that those provisions were ever incorporated into FMVSS No. 108.

### Conclusion

Given the confusion over whether or not SAE Standard J587’s provisions on license plate holders were incorporated into the prior version of FMVSS No. 108 and given the petition to initiate rulemaking premised on their incorporation and requesting their relaxation, the agency has decided to resolve this matter through rulemaking. Thus, through this document, the agency denies the aforementioned petitions for reconsideration as they relate to S6.6.3 (License Plate Holder) of the December 4, 2007 final rule. However, the agency is granting the petition from MIC requesting the agency to initiate rulemaking to examine the issue of license plate holders and their mounting requirements<sup>5</sup> in a separate

<sup>3</sup> The 1997 revision of SAE Standard J587 permits license plates mounted at less than 1.2 meters above the ground to be angled upwards at 30 degrees and maintained the requirement for plates to be angled downward at no more than 15 degrees.

<sup>4</sup> Available at <http://isearch.nhtsa.gov/files/0788.html>.

<sup>5</sup> Motorcycle Industry Council Petition for Rulemaking, March 14, 2005 (Docket No. NHTSA-2005-20286-0009)

document published in today’s **Federal Register**. Further, due to the confusion and special circumstances surrounding this rule, the agency announced in the aforementioned document in today’s **Federal Register** that it will not enforce the 15 degree license plate holder mounting requirement during the pendency of rulemaking on the issue of that requirement.

The agency also notes that it is still considering the comments and requests relating to other issues in the petitions for reconsideration of the December 4, 2007 final rule and will respond to them in a separate document.

Issued on: April 21, 2011.

**Christopher J. Bonanti,**

*Associate Administrator for Rulemaking.*

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## DEPARTMENT OF THE INTERIOR

### Fish and Wildlife Service

#### 50 CFR Part 17

[Docket No. FWS-R6-ES-2011-0019]

#### Endangered and Threatened Wildlife and Plants; 90-Day Finding on a Petition To List the Arapahoe Snowfly as Endangered or Threatened

**AGENCY:** Fish and Wildlife Service, Interior.

**ACTION:** Notice of petition finding and initiation of status review.

**SUMMARY:** We, the U.S. Fish and Wildlife Service, announce a 90-day finding on a petition to list the Arapahoe snowfly (*Capnia arapahoe*) as endangered or threatened under the Endangered Species Act of 1973, as amended (Act), and to designate critical habitat. Based on our review, we find that the petition presents substantial scientific or commercial information indicating that listing this species may be warranted. Therefore, with the publication of this notice, we are initiating a review of the status of the species to determine if listing the Arapahoe snowfly is warranted. To ensure that this status review is comprehensive, we are requesting scientific and commercial data and other information regarding this species. Based on the status review, we will issue a 12-month finding on the petition, which will address whether the petitioned action is warranted under the Act.

**DATES:** To allow us adequate time to conduct this review, we request that we receive information on or before June

27, 2011. The deadline for submitting an electronic comment using the Federal eRulemaking Portal (*see ADDRESSES* section below) is 11:59 p.m. Eastern Time on this date. After June 27, 2011, you must submit information to the Field Office (*see FOR FURTHER INFORMATION CONTACT* section below). Please note that we might not be able to address or incorporate information that we receive after the above-requested date.

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

- *Federal eRulemaking Portal:* <http://www.regulations.gov>. In the box that reads “Enter Keyword or ID,” enter the Docket number for this finding, which is FWS-R6-ES-2011-0019. Check the box that reads “Open for Comment/ Submission,” and then click the Search button. You should then see an icon that reads “Submit a Comment.” Please ensure that you have found the correct rulemaking before submitting your comment.

- *U.S. mail or hand-delivery:* Public Comments Processing, Attn: [Docket number FWS-R6-ES-2011-0019]; Division of Policy and Directives Management; U.S. Fish and Wildlife Service; 4401 N. Fairfax Drive, MS 2042-PDM; Arlington, VA 22203.

We will not accept e-mail or faxes. We will post all information we receive on <http://www.regulations.gov>. This generally means that we will post any personal information you provide us (*see* the Request for Information section below for more details).

**FOR FURTHER INFORMATION CONTACT:** Susan Linner, Project Leader, by U.S. mail at Colorado Field Office, P.O. Box 25486, Denver, CO 80225; by telephone at (303) 236-4773, or by facsimile at (303) 236-4005. If you use a telecommunications device for the deaf (TDD), please call the Federal Information Relay Service (FIRS) at (800) 877-8339.

#### SUPPLEMENTARY INFORMATION:

##### Request for Information

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

interested parties. We seek information on:

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

If, after the status review, we determine that listing the Arapahoe snowfly is warranted, we will propose critical habitat (*see* definition in section 3(5)(A) of the Act), under section 4 of the Act, to the maximum extent prudent and determinable at the time we propose to list the species. Therefore, within the geographical range currently occupied by the Arapahoe snowfly, we request data and information on:

- (1) What may constitute "physical or biological features essential to the conservation of the species";
- (2) Where these features are currently found; and
- (3) Whether any of these features may require special management considerations or protection.

In addition, we request data and information on "specific areas outside the geographical area occupied by the species" that are "essential to the conservation of the species." Please provide specific comments and information as to what, if any, critical habitat you think we should propose for designation if the species is proposed for listing, and why such habitat meets the requirements of section 4 of the Act. Please include sufficient information with your submission (such as scientific journal articles or other publications) to allow us to verify any scientific or commercial information you include.

Submissions merely stating support for or opposition to the action under consideration without providing supporting information, although noted,

will not be considered in making a determination. Section 4(b)(1)(A) of the Act directs that determinations as to whether any species is an endangered or threatened species must be made "solely on the basis of the best scientific and commercial data available."

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

Information and supporting documentation that we received and used in preparing this finding is available for you to review at <http://www.regulations.gov>, or you may make an appointment during normal business hours at the U.S. Fish and Wildlife Service, Colorado Field Office (see **FOR FURTHER INFORMATION CONTACT**).

### Background

Section 4(b)(3)(A) of the Act (16 U.S.C. 1533(b)(3)(A)) requires that we make a finding on whether a petition to list, delist, or reclassify a species presents substantial scientific or commercial information indicating that the petitioned action may be warranted. We are to base this finding on information provided in the petition, supporting information submitted with the petition, and information otherwise available in our files. To the maximum extent practicable, we are to make this finding within 90 days of our receipt of the petition and publish our notice of the finding promptly in the **Federal Register**.

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

### Petition History

On April 6, 2010, we received a petition of the same date from The Xerces Society for Invertebrate Conservation, Dr. Boris Kondratieff, Save the Poudre: Poudre Waterkeeper, Cache la Poudre River Foundation, WildEarth Guardians, and Center for Native Ecosystems, requesting that the Arapahoe snowfly be listed as endangered and that critical habitat be designated under the Act. The petition clearly identified itself as such and included the requisite identification information for the petitioners, as required by 50 CFR 424.14(a). In an April 13, 2010, letter to the petitioners, we responded that we reviewed the information presented in the petition and determined that issuing an emergency regulation temporarily listing the species under section 4(b)(7) of the Act was not warranted. We also stated that due to previously received petitions, court orders, other listing actions with statutory deadlines, and judicially approved settlement agreements that would take the remainder of Fiscal Year 2010 to complete, we anticipated responding to the petition in Fiscal Year 2011. On December 1, 2010, the petitioners filed a Notice of Intent to sue regarding our failure to complete a 90-day finding concerning their April 6, 2010, petition to list the Arapahoe snowfly. This finding addresses the petition.

### Previous Federal Actions

On July 30, 2007, we received a formal petition dated July 24, 2007, from Forest Guardians (now WildEarth Guardians), requesting that the Service consider all full species in our Mountain-Prairie Region ranked as G1 or G1G2 by the organization NatureServe (except those that are currently listed, proposed for listing, or candidates for listing), and list each species as either endangered or threatened. The Arapahoe snowfly was one of the 206 species included in the petition. On March 19, 2008, WildEarth Guardians filed a complaint indicating that the Service failed to make a preliminary 90-day finding on their two multiple-species petitions—one for mountain-prairie species, and one for southwest species. We subsequently published two 90-day findings, on January 6, 2009 (74 FR 419), and February 5, 2009 (74 FR 6122). The February 5, 2009 (74 FR 6122), 90-day finding concluded that the petition did not present substantial scientific or commercial information indicating that listing may be warranted for 165 of the 206 species, including the Arapahoe

snowfly. The finding noted that the petition described two actions potentially impacting Arapahoe snowfly—construction of a small lake in the headwaters of one tributary providing habitat for the species, and recreational use along the length of the other tributary providing habitat for the species. However, the 2007 petition did not link these actions with impacts to the species. The most recent petition, dated April 6, 2010, provided new and more detailed information regarding the Arapahoe snowfly. This finding responds to that additional information.

### Species Information

#### Taxonomy

The Arapahoe snowfly is a species in the class Hexapoda (insects), in the order Plecoptera (stonefly), the family Capniidae (small winter stoneflies), and the genus *Capnia* (NatureServe 2009, p. 1). The species was first discovered in 1986 and was identified as a new species in 1988 (Nelson and Kondratieff 1988, p. 77). The Arapahoe snowfly is most closely related to the Utah snowfly (*Capnia utahensis*), found in Utah, Nevada, and California, and the Sequoia snowfly (*C. sequoia*), found in California (Nelson and Kondratieff 1988, p. 79). Its current taxonomic status is accepted by the scientific community (Integrated Taxonomic Information System 2010, p. 1). Therefore, we recognize the Arapahoe snowfly as a valid species and a listable entity.

#### Physical Description

Arapahoe snowfly adults are dark colored (Mazzacano undated, p. 1) and have a body length of approximately 0.2 inches (in) (5 millimeters (mm)) and a wing length of also approximately 0.2 in (5 mm) (Nelson and Kondratieff 1988, p. 77). Both sexes have unusually large wings for stoneflies (Nelson and Baumann 1989, p. 312). The species' size at the immature stage has not been described.

#### Life History

Few studies have been conducted on the Arapahoe snowfly. Therefore, most of the information below comes from knowledge about stoneflies (order Plecoptera) in general, and other members of the winter stonefly family (family Capniidae). We expect that the life history of the Arapahoe snowfly would be consistent with that found for other stoneflies and snowflies. Stoneflies have a complex lifecycle that requires terrestrial habitat during adult phases and aquatic habitat during the immature (nymph) phases (Lillehammer *et al.* 1989, p. 183; Williams and

Feltmate 1992, p. 33). In late winter, adult winter stoneflies commonly emerge from the space that forms under stream ice as water levels fall through the winter (Hynes 1976, p. 136). In early spring, both male and female adult stoneflies fly upstream along the stream corridor (Macneale *et al.* 2005, p. 1117). The Arapahoe snowfly's dispersal capabilities are unknown. However, known dispersal distances of other stoneflies range from 197 feet (ft) (60 meters (m)) to several miles (mi) (kilometers (km)), with long-distance dispersal possibly due to drifting in the wind or attraction to lights (Petersen *et al.* 1999, p. 411). In their search for mates, male winter stoneflies drum (beat their abdomen on the ground or on dead vegetation) with a frequency that is species-specific (Hynes 1976, p. 139). Mated females detach a ripened egg mass onto the water (Hynes 1976, p. 140). The eggs hatch in early spring. As water temperatures rise, the nymphs move into the stream's hyporheic zone (a loose rocky substrate under the stream saturated with water), undergo a period of inactivity (diapause) during the warm months, complete development during the late fall and early winter, and emerge as adults in late winter and early spring (Mazzacano undated, p. 1). This development is completed in a 1-year life cycle.

Additional details regarding the life history of many species in the genus *Capnia* are poorly known due to the inherent difficulties of sampling under ice in winter and distinguishing between species (Mazzacano undated, p. 2). Consequently, specific feeding behavior has not been observed, but nymphs of most species in this family feed by shredding detritus (Mazzacano undated, p. 2).

#### Habitat

Stoneflies, including the Arapahoe snowfly, are typically found in cold, well-oxygenated streams and rivers with a mean temperature less than 61 degrees Fahrenheit (°F) (16 degrees Celsius (°C)) (Baumann 1979, p. 242; Hart *et al.* 1991, p. 124; Williams and Feltmate 1992, p. 33). Stoneflies are sensitive to most types of pollution, and their numbers will decrease with a decrease in water quality (Baumann 1979, p. 241; Hart *et al.* 1991, p. 136; Williams and Feltmate 1992, p. 35; Rosenberg and Resh 1993, p. 244; Barbour *et al.* 1999, pp. 7–15).

The Arapahoe snowfly has been collected from two small tributaries to the Cache la Poudre River (Young Gulch and Elkhorn Creek) in the Front Range of the Rocky Mountains of Colorado (Nelson and Kondratieff 1988, p. 79). The species was collected near the

confluence of both streams with the river (Colorado State University (CSU) 2005, p. 1). Aerial distance between these two tributaries is approximately 5 mi (8 km). Upper reaches of the streams are typified by steep slopes with ponderosa pine (*Pinus ponderosa*) (CSU 2005, p. 1). Lower reaches, near the confluence with the river, have a more open topography, with narrowleaf cottonwood (*Populus angustifolia*), coyote willow (*Salix exigua*), Drummond's willow (*S. drummondiana*), Rocky Mountain maple (*Acer glabrum*), chokecherry (*Padus virginiana*), and alder (*Alnus incana*) occurring along the stream margins (CSU 2005, p. 1). The stream substrate consists of pebble, cobble, and bedrock (CSU 2005, p. 1). In summer and fall, portions of both streams have only intermittent water flow (CSU 2005, p. 1).

Both streams where the Arapahoe snowfly has been located are within the Canyon Lakes Ranger District in Roosevelt National Forest on U.S. Forest Service (USFS) lands, but some adjacent land is privately owned, particularly in the Elkhorn Creek watershed (Matheson *et al.* 2010, p. 9; Mazzacano undated, p. 3).

#### Distribution, Abundance, and Trends

The distribution and abundance of the Arapahoe snowfly are not known prior to the species' discovery in 1986. Elkhorn Creek and Young Gulch are the only known locations where the Arapahoe snowfly has been detected (CSU 2005, p. 1). From 2007 to 2009, B. Kondratieff and B. Heinold searched six additional sites that have suitable habitat, including the Cache la Poudre River and its nearby tributaries close to Young Gulch and Elkhorn Creek, but did not locate the species (Matheson *et al.* 2010, p. 7). Numerous visits to Young Gulch since the species was found there in 1986 have failed to yield additional specimens (Nelson and Kondratieff 1988, p. 79; CSU 2005, p. 1; Mazzacano undated, p. 2). During routine survey work on Elkhorn Creek from 2007 to 2009, only 5 of the 500 *Capnia* stoneflies collected were identified as the Arapahoe snowfly, indicating rarity at its only known occupied habitat (Matheson *et al.* 2010, p. 7). Based upon the information available, the species currently has an extremely narrow distribution near the confluence of one small stream, is rare within its only known occupied habitat, and has likely been extirpated from one of the two streams where it was known to occur.

### Evaluation of Information for This Finding

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

(A) The present or threatened destruction, modification, or curtailment of its habitat or range;

(B) Overutilization for commercial, recreational, scientific, or educational purposes;

(C) Disease or predation;

(D) The inadequacy of existing regulatory mechanisms; or

(E) Other natural or manmade factors affecting its continued existence.

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

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

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

#### Information Provided in the Petition

The petition asserts that recreation, grazing, certain forest management practices, development, and barriers to dispersal threaten the Arapahoe snowfly. These assertions are described in more detail below.

**Recreation**—The petition asserts that recreation is a threat to the Arapahoe snowfly, and provides citations indicating that both stream drainages, but especially Young Gulch, experience recreational activities such as hiking, bicycling, camping, cross-country skiing, and horseback riding (Singletracks 2006, p. 1; USFS 2009a, p. 1; Two Knobby Tires 2009, p. 1; Trailcentral 2010, p. 1; Localhikes undated, p. 1). The petition asserts that these activities can adversely affect Arapahoe snowfly habitat via: (1) Runoff of pollutants from roads and trails (2) the introduction of bacteria and excess nutrients from dog, horse, and human waste; (3) trampling of streamside riparian habitat; (4) increased sedimentation from erosion caused by foot and bike traffic; and (5) the construction and maintenance of stream crossings and culverts that can interrupt streamflow and deposit sediments. The petition provided two references that speak generally to the impacts of recreation on stream habitats (Goeft and Alder 2001, p. 193; International Mountain Biking Association 2007, pp. 1, 8); however, these sources do not directly reference the Arapahoe snowfly or its habitat.

**Grazing**—The petition asserts that grazing can degrade water quality and negatively impact aquatic invertebrates such as the Arapahoe snowfly via: (1) Livestock trampling and consuming riparian vegetation, (2) livestock defecating and urinating in or adjacent to the stream channel, and (3) livestock increasing rates of erosion and sedimentation in the stream channel (Matheson *et al.* 2010, p. 14). The petition provided several citations to support the assertions regarding the general impacts of livestock on riparian habitat and associated invertebrate communities (Kennedy 1977, p. 52; Roath and Krueger 1982, p. 100; Clary and Webster 1989, p. 1; Schulz and Leininger 1990, p. 295; Chaney *et al.* 1993, p. 6; Fleischner 1994, pp. 629, 635; Leonard *et al.* 1997, p. 3; Belsky *et al.* 1999, pp. 419, 420–424; Strand and Merritt 1999, pp. 17–18; Agouridis *et al.* 2005, p. 592; Braccia and Voshell 2007, pp. 186, 196–198; McIver and McInnis 2007, pp. 293, 294, 298, 301). However,

these sources do not directly reference the Arapahoe snowfly or its habitat.

**Forest Management Practices**—The petition asserts that control of the mountain pine beetle (*Dendroctonus ponderosae*) and the Red Feather Fuels Reduction Project—both conducted by the USFS—threaten the Arapahoe snowfly (Matheson *et al.* 2010, p. 16). The petition notes that spraying with carbaryl to control the ongoing mountain pine beetle outbreak is occurring at sites near Elkhorn Creek (USFS 2009c, pp. 1–2). It also notes that carbaryl is highly toxic to invertebrates, including stoneflies (Beyers *et al.* 1995, p. 32; U.S. Environmental Protection Agency (EPA) 2004, pp. 1, 46).

The Red Feather Fuels Reduction Project includes the removal of hazardous timber in order to restore healthy forests. The petition notes that road construction and controlled burning are actions associated with the removal of timber, and asserts that these actions impact the Arapahoe snowfly. We address potential impacts from roads under the “Development” section below. The source associated with controlled burns does not directly reference the Arapahoe snowfly or its habitat (Neary *et al.* 2008, pp. 142–143). Furthermore, the petition notes that an uncontrolled wildfire, which may be more likely to occur without prescribed burning, would likely be catastrophic (Matheson *et al.* p. 17).

**Development**—The petition asserts that the proximity of Elkhorn Creek to the Red Feather Lakes community poses risks to stream water quality and consequently to the Arapahoe snowfly, because of recreational use, road impacts, dewatering, and waste seepage from septic systems.

The petition notes general impacts to water systems caused by erosion from roads (Cederholm *et al.* 1980, p. 1; Anderson and Potts 1987, p. 681; Furniss *et al.* 1991, p. 302; Forman and Alexander 1998, p. 219; Trombulak and Frissell 2000, p. 18; Fischel 2001, p. ii; Gucinski *et al.* 2001, pp. 24–25; Angermeir *et al.* 2004, p. 19; Center for Environmental Excellence 2009, pp. 4–7). The petition notes that an increase in recreational activities is anticipated due to recently improved road and trail access in the Elkhorn Creek watershed (USFS 2009b, p. 4). It also notes that roads and trails are already causing damage to Elkhorn Creek (USFS 2009a, p. 48). The petition notes that road salts, primarily magnesium chloride, are used as deicers on roads in the area and may increase the salinity of Elkhorn Creek (Lewis 1999, p. i). The petition asserts that an increase in salinity could pose risks to the Arapahoe snowfly (Lewis

1999, p. 30). However, this reference does not directly address the Arapahoe snowfly or its habitat.

The petition also asserts that existing water withdrawals from Elkhorn Creek may result in higher water temperatures and decreased dissolved oxygen concentrations, thereby impacting the species, which requires cool, well-oxygenated waters. The petition notes the numerous water rights associated with the community of Red Feather Lakes (Red Feather Historical Society 2004, p. 405). The petition asserts that dewatering can impact biological activity in stream substrates, rendering them unsuitable for many aquatic invertebrates (Hancock 2002, p. 764). However, these references do not directly address the Arapahoe snowfly or its habitat.

The petition notes that most development in the Red Feather Lakes area relies on septic systems (George Weber Environmental, Inc. 2007, p. 11). The petition asserts that septic systems pose a potential risk of introducing excess nutrients and bacteria into Elkhorn Creek (Hancock 2002, pp. 764–765; Peterson *et al.* 2003, pp. 6, 16). However, these sources do not directly reference the Arapahoe snowfly or its habitat.

**Barriers to Dispersal**—The petition notes that habitat conditions in the Cache la Poudre River are impaired (City of Fort Collins 2008a, p. 7). The petition asserts that this may limit the capacity of the Arapahoe snowfly to use the river as a route for dispersal to colonize other nearby tributaries. This outcome would result in the species being entirely confined to Elkhorn Creek. However, this reference does not directly address the Arapahoe snowfly or its habitat.

#### Evaluation of Information Provided in the Petition and Available in Service Files

**Recreation**—As the petition noted, the Young Gulch trail is popular with hikers and mountain bikers (Localhikes.com undated, p. 1). Young Gulch also is one of the few trails that allows off-leash dogs, so it is particularly popular with dog owners (Singletracks 2006, p. 1; Trailcentral 2010, p. 1; Localhikes.com undated, p. 1). Horseback riding, cross-country skiing, backcountry camping, and hunting also are allowed (Two Knobby Tires 2009, p. 1). A USFS campground is located adjacent to where the Arapahoe snowfly was found in Young Gulch.

Information in our files supports the assertion in the petition that mountain biking can cause soil erosion and compaction, degraded water quality,

trail widening, and changes in vegetation (Goefft and Alder 2001, p. 193; International Mountain Biking Association 2007, p. 1). Eroded soil can enter water bodies at stream crossings, resulting in sedimentation that can affect aquatic organisms and contribute to algal blooms that deplete dissolved oxygen (International Mountain Biking Association 2007, p. 8). Sedimentation in the stream substrate can clog pore spaces in the substrate, resulting in a decrease in invertebrates that depend on a well-oxygenated hyporheic zone (Anderson 1996, p. 6). Hiking and horseback riding can have similar effects, and animal waste may have an additional impact on water quality (Mazzacano undated, p. 2). In addition, the total number of species of aquatic insect larvae (including stoneflies) present in a stream decreases as the number of stream crossings increases (Gucinski *et al.* 2001, p. 26). Young Gulch is estimated to have 30–48 stream crossings (Singletracks 2006, p. 1; Two Knobby Tires 2009, p. 1; Trailcentral 2010, p. 1; Localhikes undated, p. 1).

Recreational use is currently lower in Elkhorn Creek than in Young Gulch (USFS 2009a, p. 4). However, construction of a parking area for 12 cars and 6 trucks pulling horse trailers is under way, to provide improved access for hikers, bikers, and horseback riders (USFS 2009b, p. 4). The Elkhorn Creek watershed is currently rated as Class II, or “at risk” of no longer being able to support its beneficial uses related to native plants and wildlife, soils, and watershed functions, with several areas where roads and trails are causing increased runoff and erosion into the Creek (USFS 2009a, p. 48). Class-II watersheds exhibit some impairment relative to their potential optimum condition (USFS 2009a, p. 48). Taxa in the order Plecoptera (stoneflies), which includes the Arapahoe snowfly, are sensitive to impaired water quality caused by run-off and erosion, and their numbers will decrease with a decrease in water quality (Baumann 1979, p. 241; Hart *et al.* 1991, p. 136; Williams and Feltmate 1992, p. 35; Rosenberg and Resh 1993, p. 244; Barbour *et al.* 1999, pp. 7.15–7.16).

Most visitors to USFS lands are from local areas (USFS 2008b, p. 8). The population of nearby Fort Collins has grown in recent years (City of Fort Collins 2008, p. 1; City of Fort Collins 2009, p. 1). Consequently, recreational use at Elkhorn Creek and Young Gulch is likely to increase (USFS 2009b, p. 1). Increased recreational use will likely increase erosion and resultant sedimentation in both streams. Water quality in both streams also is likely to

decrease, due to the introduction of more animal waste.

Information we have in our files supports the assertion in the petition that the recreational use documented for Elkhorn Creek and Young Gulch will increase the rate of erosion of sediments and the amount of fecal deposition into those streams. However, the only site-specific water quality information we have is that the Elkhorn Creek watershed is currently rated as Class II, or “at risk” of no longer being able to support its beneficial uses, with several areas where roads and trails are causing increased runoff and erosion into the creek (USFS 2009a, p. 48). Young Gulch currently receives more recreational use than Elkhorn Creek. Consequently, we assume that similar impacts to the Young Gulch watershed are likely. More detailed water quality information is not available. Taxa in the order Plecoptera (stoneflies), which includes the Arapahoe snowfly, are sensitive to most types of pollution, and their numbers will decrease with a decrease in water quality (Baumann 1979, p. 241; Hart *et al.* 1991, p. 136; Williams and Feltmate 1992, p. 35; Rosenberg and Resh 1993, p. 244; Barbour *et al.* 1999, pp. 7.15–7.16). Based on the above evaluation, we find that the information provided in the petition, as well as other information readily available in our files, presents substantial scientific or commercial information indicating that recreational use in both Elkhorn Creek and Young Gulch may pose a threat to the Arapahoe snowfly such that the petitioned action may be warranted.

**Grazing**—Three active allotments lie within the Elkhorn Creek watershed, including one directly upstream from known Arapahoe snowfly habitat (USFS 2009a, p. 56). No active grazing allotments occur within the Young Gulch watershed. The effects of cattle grazing on stream water quality in the western United States have been well documented, and include increased soil erosion, sedimentation, fecal deposition, and water temperature, as well as decreased dissolved oxygen and willow canopy (Chaney *et al.* 1993, p. 6; Fleischner 1994, pp. 631–635; Belsky *et al.* 1999, p. 420; Agouridis *et al.* 2005, p. 592; Holland *et al.* 2005, p. 149; Coles-Ritchie *et al.* 2007, p. 733; McIver and McInnis 2007, p. 294). Livestock excrement elevates streamwater concentrations of inorganic phosphorus and nitrogen, which in turn increases growth of filamentous algae and production by microbes that can reduce dissolved oxygen concentrations (Strand and Merritt 1999, p. 17).

Reduced concentrations of dissolved oxygen can adversely affect stonefly

nymphs, which have high oxygen requirements (Williams and Feltmate 1992, p. 39). Overall, these changes can result in decreased populations of invertebrates that require cleaner, colder waters and coarser substrates (Belsky *et al.* 1999, p. 424). When this occurs, sensitive taxa such as stoneflies are typically replaced by more tolerant taxa such as Chironomidae (Braccia and Reese Voshell 2007, p. 186; McIver and McInnis 2007, p. 301). We have no site-specific water quality data regarding concentrations of phosphorus, nitrogen, or dissolved oxygen, or water temperature or other parameters affected by fecal deposition from livestock. We also have no site-specific data regarding sedimentation caused by livestock disturbance. However, based upon the presence of known active grazing allotments in the Elkhorn Creek watershed, and well-documented impacts to water quality caused by grazing at other streams in the western United States, there appears to be substantial information indicating that grazing may be negatively impacting the species. Based on the above evaluation, we find that the information in the petition, as well as other information readily available in our files, presents substantial scientific or commercial information indicating that livestock grazing may pose a threat to the Arapahoe snowfly such that the petitioned action may be warranted.

**Forest Management Practices**—The forest management practices noted by the petition were control of the mountain pine beetle and the Red Feather Fuels Reduction Project. Both of these management practices could result in increased road use or the construction of new roads (USFS 2009a, RAP Appendix). We address impacts from roads in the following “Development” section. Effects from spraying insecticide, tree thinning, and controlled burns are discussed in this section.

Recent mountain pine beetle outbreaks have killed millions of trees in Colorado (Black *et al.* 2010, p. 3). Mountain pine beetle infestations are building in ponderosa pine forests along the Colorado Front Range, including in Larimer County (Ciesla 2010, p. 2). Control of the mountain pine beetle in the Canyon Lakes Ranger District includes use of the insecticide carbaryl. The USFS crews sprayed more than 11,000 infested trees in 2009 and 16,000 infested trees in 2010 in the Canyon Lakes Ranger District, with some locations near Elkhorn Creek, including campgrounds at West and Bellaire Lakes (USFS 2009c, p. 1; Matheson 2010, p. 16). Despite the existence of no-spray

buffer zones near aquatic habitats, insecticide can be deposited in streams via aerial drift or runoff from adjacent upland areas (Beyers *et al.* 1995, p. 27). Stoneflies are particularly sensitive to carbaryl. The EPA rated carbaryl as “very highly toxic” to aquatic invertebrates, and used a species of stonefly (*Chloroperla grammatica*) as one of the test species in their evaluation (EPA 2004, p. 46). We assume that, as a species of stonefly, the Arapahoe snowfly would be similarly vulnerable. Another study reported that virtually all stoneflies were dead following an application of carbaryl (Courtemanch and Gibbs 1980, as reported by Beyers *et al.* 1995, p. 32). In a healthy invertebrate population, colonization by unaffected organisms living upstream would probably compensate for this mortality (Beyers *et al.* 1995, p. 32). However, a narrow endemic such as the Arapahoe snowfly could potentially be extirpated. Therefore, there appears to be substantial information indicating that the use of carbaryl to control the ongoing outbreak of mountain pine beetles may be a potential threat to the Arapahoe snowfly. Based on the above evaluation, we find that the information provided in the petition, as well as other information readily available in our files, presents substantial scientific or commercial information indicating that the use of carbaryl to control the ongoing outbreak of mountain pine beetles may pose a threat to the Arapahoe snowfly such that the petitioned action may be warranted.

The ongoing Red Feather Fuels Reduction Project includes thinning of forest stands and controlled burns. Tree removal associated with thinning can increase sedimentation within the drainage basin (Anderson 1996, p. 1). Increased sedimentation can reduce exchange between surface waters and the hyporheic zone, and, without flow to renew nutrients and oxygen and flush wastes, the sediments become unsuitable for invertebrates that utilize this zone (Hancock, 2002, p. 764). Arapahoe snowfly nymphs depend upon the hyporheic zone as habitat to undergo diapause during the summer months (Mazzacano undated, p. 1). However, as noted by the petitioners, an intense wildfire in the Elkhorn Creek drainage, which would be more likely to occur without fuel reduction, could be catastrophic for the species. The responses of aquatic invertebrates to fire are indirect and vary widely, with some studies showing a decline in abundance, species richness, and diversity, and others showing a long-term increase in

these same parameters (Neary *et al.* 2008, pp. 142–143). Consequently, there is not substantial information to suggest that the Red Feather Fuels Reduction Project is likely to adversely impact the Arapahoe snowfly. Based on the above evaluation, we find that the information provided in the petition, as well as other information readily available in our files, does not present substantial scientific or commercial information indicating that the Red Feather Fuels Reduction Project may pose a threat to the Arapahoe snowfly such that the petitioned action may be warranted.

**Development**—The petition asserts that development from roads, dewatering, and septic systems associated with the Red Feather Lakes community poses a risk to the Arapahoe snowfly. Red Feather Lakes has approximately 600 residents, as well as several tourist facilities. At its closest point, Elkhorn Creek comes within approximately 2.5 mi (4 km) of Red Feather Lakes.

Information in our files supports the fact that road construction and subsequent use and maintenance can result in increased erosion and sedimentation of streams, as well as decreased water quality due to accidental spills and use of deicers (Cederholm *et al.* 1980, p. 1; Anderson and Potts 1987, p. 681; Furniss *et al.* 1991, p. 302; Forman and Alexander 1998, p. 219; Trombulak and Frissell 2000, p. 18; Fischel 2001, p. ii; Gucinski *et al.* 2001, pp. 24–25; Angermeir *et al.* 2004, p. 19; Center for Environmental Excellence 2009, pp. 4–7). Increased sedimentation can compromise the hyporheic zone, upon which Arapahoe snowfly nymphs depend (Mazzacano undated, p. 1). We are not aware of any road crossings or roads running adjacent to Young Gulch. There are several areas where roads and trails along Elkhorn Creek are causing increased runoff and erosion, and the watershed is rated as Class II or “at risk” (*i.e.*, the watershed exhibits moderate integrity relative to its potential condition and is at risk of no longer being able to support its beneficial uses) (USFS 2009a, p. 48). Total average road density in the Red Feather Lakes area of the Canyon Lakes Ranger District is 3.5 mi of road per square mile (mi<sup>2</sup>) (2.2 km of road per square kilometer (km<sup>2</sup>), with five stream crossings in the Elkhorn Creek watershed (USFS 2009a, RAP Appendix). Additional temporary roads will be constructed during the Red Feather Fuels Reduction Project and later rehabilitated; however, they will be in upland areas, at least 100 ft (30 m) from any streams or riparian areas (USFS 2008, p. 10).

The Elkhorn Creek watershed is currently rated as Class II, or "at risk" of no longer being able to support its beneficial uses, with several areas where roads and trails are causing increased runoff and erosion into the Creek (USFS 2009a, p. 48). Based upon the presence of roads in the Elkhorn Creek watershed, including several stream crossings of Elkhorn Creek, there appears to be substantial information indicating that erosion from roads may be adversely impacting the species. Based on the above evaluation, we find that the information provided in the petition, as well as other information readily available in our files, presents substantial scientific or commercial information indicating that erosion from roads in the Elkhorn Creek watershed may pose a threat to the Arapahoe snowfly such that the petitioned action may be warranted.

The Colorado Department of Transportation uses magnesium chloride liquid deicers on mountain roads (Lewis 1999, p. i). Deicers can increase salinity of nearby water bodies that receive runoff from roads, which in turn degrades habitat for aquatic organisms (Kaushal *et al.* 2005, p. 13517). If streams are frozen, flushing may not occur until temperatures rise in the spring (Silver *et al.* 2009, p. 942). Stoneflies are not commonly found in waters where salinities are greater than 1,000 milligrams per Liter (mg/L) (1,000 parts per million (ppm)) (Hart *et al.* 1991, pp. 124, 136). Most studies indicate that contamination begins to decline within 66 ft (20 m) from the road, but may occur 660 ft (200 m) or more from the road (Trombulak and Frissell 2000, p. 22). We have no information indicating what the amount of deicer used on these roads may be, or if any of the roads where deicer is used are near Elkhorn Creek or Young Gulch. We also do not have any evidence that these stream systems are impacted by deicers. Consequently, there is not substantial information that deicers are likely to adversely impact the Arapahoe snowfly. Based on the above evaluation, we find that the information provided in the petition, as well as other information readily available in our files, does not present substantial scientific or commercial information indicating that deicers may pose a threat to the Arapahoe snowfly such that the petitioned action may be warranted.

Existing and proposed water rights, associated with private lands in and around Red Feather Lakes, allow well construction and irrigation diversion, and may result in dewatering of adjacent streams (Red Feather Historical

Society 2004, p. 4; Colorado Water Conservation Board 2009, p. 10). Based upon topographic maps, these water rights appear to be predominantly in the Gordon Creek and Lone Pine watersheds adjacent to Elkhorn Creek. We have no information indicating that these diversions may have an impact on the Elkhorn Creek watershed. Similarly, septic systems in and around Red Feather Lakes appear to be located predominantly in the Gordon Creek and Lone Pine watersheds, and not the Elkhorn Creek watershed (Red Feather Historical Society 2004, p. 4; Colorado Water Conservation Board 2009, p. 10). However, one wastewater treatment facility is located on Elkhorn Creek (George Weber Environmental, Inc. 2007, p. 11). Effluents in wastewater discharge may concentrate in the hyporheic zone (Hancock 2002, pp. 763–764). However, we have no information indicating that these septic systems and treatment facility are impacting the Elkhorn Creek watershed. Consequently, there is not substantial information that dewatering or septic systems is likely to adversely impact the Arapahoe snowfly. Based on the above evaluation, we find that the information provided in the petition, as well as other information readily available in our files, does not present substantial scientific or commercial information indicating that dewatering or septic systems may pose a threat to the Arapahoe snowfly such that the petitioned action may be warranted.

Barriers to Dispersal—Most stoneflies are clumsy fliers that have difficulty crossing even small ecological barriers (Hynes 1976, p. 135). Consequently, they are poor dispersers (Lillehammer *et al.* 1989, p. 173). However, precise dispersal capabilities for the Arapahoe snowfly are unknown (Mazzacano undated, p. 2). The species has unusually large wings for a stonefly (Nelson and Baumann 1989, p. 312), but there is no information indicating what effect this may have on dispersal capabilities. There also is no information regarding whether the species uses the Cache la Poudre River as a dispersal corridor. Typically, adult stoneflies fly upstream along the stream corridor prior to mating and laying eggs (Macneale *et al.* 2005, p. 1127) and, therefore, would not likely use the river, which is downstream of the locale. Dispersal of larval stoneflies can include downstream drift and upstream movement (Peterson *et al.* 2004, p. 935), so it is possible that larvae could drift downstream into the river. Upstream portions of the river, which would include the confluences with Elkhorn

Creek and Young Gulch, are considered generally pristine, with no contaminants detected during several years of routine sampling (George Weber Environmental, Inc. 2007, p. 7). In Fort Collins, the river is highly modified, with reduced flow, increased water temperature, and nutrient loading that are detrimental to aquatic insects (City of Fort Collins 2008a, pp. 5–7). However, the river reach through Fort Collins does not have the necessary habitat for the species and is many miles downstream from Elkhorn Creek and Young Gulch. Consequently, there is not substantial information that barriers to dispersal are likely to adversely impact the Arapahoe snowfly. Based on the above evaluation, we find that the information provided in the petition, as well as other information readily available in our files, does not present substantial scientific or commercial information indicating that barriers to dispersal may pose a threat to the Arapahoe snowfly such that the petitioned action may be warranted.

#### Summary of Factor A

Based upon the information provided in the petition, as well as other information readily available in our files, and considering the very limited range of the Arapahoe snowfly and its apparent small numbers, we find that the petition presents substantial scientific or commercial information indicating that the Arapahoe snowfly may warrant listing due to the present or threatened destruction, modification, or curtailment of the species' habitat or range primarily due to: (1) Sedimentation caused primarily by erosion from recreation, livestock grazing, and roads; (2) reduced concentrations of dissolved oxygen caused by nutrient enrichment from waste deposition during recreation and livestock grazing; and (3) the use of carbaryl to control the ongoing outbreak of mountain pine beetles. There is not substantial information to indicate that tree thinning, controlled burns, deicers, dewatering, septic systems, or barriers to dispersal are causing noticeable impacts within the Elkhorn Creek or Young Gulch watersheds. We will assess all of these stressors more thoroughly during our status review in order to better quantify potential effects on the Arapahoe snowfly.

#### *B. Overutilization for Commercial, Recreational, Scientific, or Educational Purposes*

The petition notes that the Arapahoe snowfly is not used commercially and is not at risk of over collection. Neither the petition nor information within our files



presents substantial scientific or commercial information that collection was, or is, occurring at a level that impacts the overall status of the species. Therefore, we find the petition does not present substantial scientific or commercial information to indicate that overutilization for commercial, recreational, scientific, or educational purposes may present a threat to the Arapahoe snowfly such that the petitioned action may be warranted. However, we will assess this factor more thoroughly during our status review for the species.

#### C. Disease or Predation

##### Information Provided in the Petition

The petition notes that disease and predation are not known to threaten the Arapahoe snowfly. However, the petition also notes that threats from disease and predation have never been assessed. The petition asserts that the rarity and limited range of the species make it more vulnerable to extinction from normal population fluctuations resulting from disease or predation.

##### Evaluation of Information Provided in the Petition and Available in Service Files

We address the potential risks due to a small population size under Factor E. We reviewed information in our files and the information provided by the petition, and did not find substantial information to indicate that disease or predation may be outside the natural range of variation such that either could be considered a threat to the Arapahoe snowfly. Therefore, we find the petition does not present substantial scientific or commercial information to indicate that disease or predation may present a threat to the Arapahoe snowfly such that the petitioned action may be warranted. However, we will assess this factor more thoroughly during our status review for the species.

#### D. The Inadequacy of Existing Regulatory Mechanisms

##### Information Provided in the Petition

The petition claims that the Arapahoe snowfly receives no recognition or protection under Federal or state law. The petition notes that it is recognized as “critically imperiled” by Colorado’s Natural Heritage Program. This designation means that the species is considered to be at very high risk of extinction due to extreme rarity (five or fewer populations), very steep declines, or other factors. However, this designation does not provide any protection for the species or its habitat. The petition notes that the Arapahoe

snowfly is not listed as a “sensitive species” by the USFS. On June 23, 2003, we designated a portion of the Cache la Poudre River, including the confluences of Elkhorn Creek and Young Gulch, as critical habitat for the Preble’s meadow jumping mouse (*Zapus hudsonius preblei*) (68 FR 37275). On December 15, 2010, we published a revised critical habitat rule for Preble’s meadow jumping mouse, reaffirming the designation of this area (75 FR 78429). However, the petition notes that this designation does not affect any upstream activities, and there is no signage within the critical habitat area of Elkhorn Creek and Young Gulch indicating the presence of the mouse. Therefore, the petition asserts that the Arapahoe snowfly derives no protection from the critical habitat designation.

##### Evaluation of Information Provided in the Petition and Available in Service Files

The Arapahoe snowfly currently receives no direct protection under Federal or State law. It is designated as “critically imperiled” at both the State and global level by Colorado’s Natural Heritage Program and NatureServe (NatureServe 2009, p. 1), respectively, but, as previously noted, this designation does not provide any legal protection for the species or its habitat. The Colorado Natural Heritage Program has proposed a Potential Conservation Area (PCA) for the species that would encompass approximately 5,000 acres (ac) (2,000 hectares (ha)) and include portions of both Elkhorn Creek and Young Gulch (CSU 2005, p. 2). This PCA has a Biodiversity Significance Rank of B1 for outstanding biodiversity significance. This is the highest level of biological diversity that can be assigned to a site. A PCA can provide planning and management guidance, but infers no legal status. The Arapahoe snowfly is designated as a “species of greatest conservation need” by Colorado Division of Wildlife, based upon its global and State ranking by the Colorado Natural Heritage Program (Colorado Division of Wildlife 2006, pp. 17, 20), but this also confers no protection.

The Arapahoe snowfly occurs on USFS lands and is protected indirectly by general Federal laws and regulations mandating how USFS lands are managed. However, no direct protection of the Arapahoe snowfly is provided by USFS.

Projects conducted within the species’ occupied habitat may be subject to the requirements of the National Environmental Policy Act of 1970 (42 U.S.C. 4321 *et seq.*) (NEPA). 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 action. 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.

Both stream reaches where the Arapahoe snowfly has been located are included in critical habitat designated for the Preble’s meadow jumping mouse in 2010. Critical habitat extends 360 ft (110 m) from the edge of the stream on both sides for Young Gulch, and extends 394 ft (120 m) from the edge of the stream on both sides for Elkhorn Creek. The bodies of the streams are not included. This designation indirectly provides some protection to the Arapahoe snowfly through section 7(a)(2) of the Act, which requires Federal agencies to confer with us on any action funded, authorized, or carried out by a Federal agency that is likely to jeopardize the continued existence of the Preble’s meadow jumping mouse or destroy or adversely modify its critical habitat.

Examples of specific actions that may adversely affect Preble’s meadow jumping mouse critical habitat and therefore require consultation include land clearing, road construction, grazing, water diversions, and activities that change water, sediment, or nutrient inputs, or that significantly and detrimentally alter water quantity (75 FR 78456). Any other activities that might adversely affect critical habitat would also require consultation. However, actions that do not affect the Preble’s meadow jumping mouse or its habitat, or do not have a Federal nexus, would not require consultation. Additionally, Federal actions that occurred prior to 2003 did not require consultation because critical habitat for the Preble’s meadow jumping mouse had not yet been designated. Consequently, there was no potential benefit to the Arapahoe snowfly with regard to these types of actions before the 2003 critical habitat designation.



Although there are no regulatory mechanisms that directly protect the Arapahoe snowfly, its habitat may be protected from future adverse impacts caused by Federal actions that impact Preble's meadow jumping mouse critical habitat. It is not clear whether the existing regulatory mechanisms, including consultation with Federal agencies under section 7 of the Act, adequately protect the Arapahoe snowfly from potential threats such as those determined to be substantial under Factor A. At this phase in the review process, we cannot seek input from outside agencies such as the USFS. However, we intend to contact them during the status review regarding any additional information that they may be able to provide on the extent to which their existing regulatory mechanisms serve to protect the Arapahoe snowfly.

There is uncertainty about whether or not existing regulatory mechanisms are adequate for protecting Arapahoe snowfly. The petitioners present information for further consideration of this factor. The fact that the known sites lie within the designation of Preble's meadow jumping mouse critical habitat offers the Arapahoe snowfly some protection from several potential threat factors. Additionally, Arapahoe snowfly-occupied habitat is on USFS lands that are subject to general Federal laws and regulations mandating how those lands are managed. Given the level of information that we have at this 90-day finding stage, it is unclear whether the regulatory mechanisms pertaining to Preble's meadow jumping mouse critical habitat and impacts from Factor A are inadequate. We recognize that the information presented in Factor A was substantial. Consequently, we will assess all factors, including the adequacy of existing regulatory mechanisms, more thoroughly during our status review for the species, including consideration of stressors existing in the immediate vicinity of occupied habitat, as well as stressors that exist upstream from the critical habitat designation.

#### *E. Other Natural or Manmade Factors Affecting Its Continued Existence*

##### Information Provided in the Petition

The petition asserts that small population size and climate change threaten the Arapahoe snowfly. The petition presents one citation that supports that small populations are generally at greater risk of extinction from normal population fluctuations, natural disasters, and loss of genetic diversity (Shaffer 1981, p. 131). The petition provides several citations

describing current and future impacts in the western United States from climate change (Rood *et al.* 2005, p. 217; Field *et al.* 2007, p. 623; Barnett *et al.* 2008, p. 1080; Saunders *et al.* 2008, p. 42). The petition asserts that global climate change may impact the species through increased floods and droughts and management actions taken in response to the proliferation of mountain pine beetles.

##### Evaluation of Information Provided in the Petition and Available in Service Files

**Small Population Size**—The Arapahoe snowfly is currently known to occur only at one site on Elkhorn Creek near its confluence with the Cache la Poudre River. It is likely extirpated from the other known location on Young Gulch. The species is apparently rare at its only known occupied habitat on Elkhorn Creek—during routine survey work from 2007 through 2009, only 5 of the 500 *Capnia* stoneflies collected were identified as the Arapahoe snowfly (Matheson *et al.* 2010, p. 7). Information in our files supports the information presented in the petition that a species with such limited distribution and rarity is vulnerable to extinction from systematic pressures or stochastic (random) disruptions (Shaffer 1981, p. 131). This vulnerability is increased when threats are present. Systematic pressures on the Arapahoe snowfly include impacts on habitat from sedimentation caused by recreational use, livestock grazing, and road construction. Potential stochastic disruptions could include natural catastrophes such as flood, fire, and drought, or genetic changes resulting from limited genetic diversity.

Based upon the information discussed under Factor A, and considering the very limited range of the Arapahoe snowfly and its apparent rarity, we find that the petition presents substantial scientific or commercial information indicating that the petitioned action may be warranted due to the species' small population size. Such a small population is more vulnerable to systematic pressures such as those described above, and any adverse effects are likely exacerbated. However, there is not sufficient information to indicate that stochastic disruptions are likely. We will assess all of these stressors more thoroughly during our status review in order to better quantify potential effects on the Arapahoe snowfly.

**Climate Change**—According to the Intergovernmental Panel on Climate Change (IPCC 2007, p. 6), "warming of the climate system is unequivocal, as is

now evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice, and rising global average sea level." Average Northern Hemisphere temperatures during the second half of the 20th century were very likely the highest in at least the past 1,300 years (IPCC 2007, p. 6). It is very likely that over the past 50 years, cold days, cold nights, and frosts have become less frequent over most land areas, while hot days and hot nights have become more frequent (IPCC 2007, p. 6). It is likely that heat waves have become more frequent over most land areas, and the frequency of heavy precipitation events has increased over most areas (IPCC 2007, p. 6).

Changes in the global climate system during the 21st century are likely to be larger than those observed during the 20th century (IPCC 2007, p. 19). For the next two decades, a warming of about 0.4 °F (0.2 °C) per decade is projected (IPCC 2007, p. 19). By the end of the 21st century, average global temperatures are expected to increase 1.1 to 7.2 °F (0.6 to 4.0 °C) from current temperatures, with the greatest warming expected over land (IPCC 2007, p. 20). Several scenarios are virtually certain or very likely to occur in the 21st century, including: (1) Over most land, there will be warmer days and nights in general, fewer cold days and nights, and more frequent hot days and nights; (2) areas affected by drought will increase; and (3) the frequency of warm spells and heat waves over most land areas will likely increase (IPCC 2007, pp. 22, 27). The IPCC predicts that the resiliency of many ecosystems is likely to be exceeded this century by an unprecedented combination of climate change, associated disturbances (*e.g.*, flooding, drought, wildfire, and insects), and other global drivers. With medium confidence, IPCC predicts that approximately 20 to 30 percent of plant and animal species assessed so far are likely to be at an increased risk of extinction if increases in global average temperature exceed 3 to 5 °F (1.5 to 2.5 °C).

The western United States is being affected more by a changed climate than any other part of the United States outside of Alaska (Saunders *et al.* 2008, p. iv). Colorado is 3.1 °F (1.7 °C) warmer over the past 100 years (Saunders *et al.* 2008, p. 42). Numerous studies of the western United States show more winter precipitation falling as rain instead of snow, earlier snow melt, and associated changes in river flow (Barnett *et al.* 2008, p. 1080). Sensitive coldwater species are likely to be stressed by increasing water temperatures (Rood *et*

*al.* 2005, p. 217). Disturbances such as wildfire and insect outbreaks are increasing and are likely to intensify with drier soils and a longer growing season (Field *et al.* 2007, p. 619). The mountain pine beetle has expanded its range into areas previously too cold to support it (Field *et al.* 2007, p. 623; Saunders *et al.* 2008, pp. 21, 23). The USFS predicts that in Colorado and southern Wyoming, mountain pine beetles will likely kill the majority of mature lodgepole pine forests within the next 3 to 5 years (Saunders *et al.* 2008, pp. 21 and 23).

Aquatic insects may respond to elevated temperatures in the following ways: (1) Behaviorally, by emigrating from, or changing distribution within, stressed regions; or (2) physiologically, by adjusting the duration and extent of growth and development in immature stages, and ultimate size, condition, and fecundity as adults (Williams and Feltmate 1992, p. 285). Impacts from global warming will vary greatly at the species level (Williams and Feltmate 1992, p. 287). The Arapahoe snowfly will likely be affected by warmer streamflows and by continuing outbreaks of mountain pine beetle. However, we cannot predict the extent to which the species will be able to adjust behaviorally or physiologically to these changes. We will assess this factor more thoroughly during our status review for the species.

In summary, we find that the information provided in the petition, as well as other information readily available in our files, presents substantial scientific or commercial information indicating that the petitioned action may be warranted due to other natural or manmade factors affecting its continued existence such as the apparent small population size of the Arapahoe snowfly, especially given the stressors it faces from recreation, grazing, and certain forest management practices. The species also will likely be affected by climate change; however, we cannot currently predict the extent to which it will be able to adjust to these changes.

### Finding

On the basis of our determination under section 4(b)(3)(A) of the Act, we have determined that the petition presents substantial scientific or commercial information indicating that listing the Arapahoe snowfly throughout its entire range may be warranted. This finding is based on information provided under factors A and E. The information provided in the petition under factors B, C, and D is not substantial.

We are not aware of any information regarding impacts from factors A and E that specifically pertains to the Arapahoe snowfly. However, there is adequate information documenting that recreation, grazing, carbaryl spraying, and road usage are ongoing in Elkhorn Creek and that recreation is occurring in Young Gulch. There also is adequate information documenting the likely adverse effects of these activities on stoneflies. Consequently, we have concluded that since the Arapahoe snowfly is a species of stonefly, it is likely being adversely affected by these activities, particularly in view of its very narrow known range and rarity within that range. We will assess all of these factors more thoroughly during our status review for the species.

Because we have found that the petition presents substantial information indicating that listing the Arapahoe snowfly may be warranted, we are initiating a status review to determine whether listing the Arapahoe snowfly under the Act is warranted.

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

### References Cited

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

### Author

The primary authors of this notice are staff members of the Regional Office and the Colorado Field Office (see **ADDRESSES**).

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

Dated: April 13, 2011.

### Rowan Gould,

Director, U.S. Fish and Wildlife Service.

[FR Doc. 2011-9973 Filed 4-25-11; 8:45 am]

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## DEPARTMENT OF THE INTERIOR

### Fish and Wildlife Service

#### 50 CFR Part 17

[Docket No. FWS-R4-ES-2011-0007; MO 92210-0-0008]

### Endangered and Threatened Wildlife and Plants; 90-Day Finding on a Petition To List the Smooth-Billed Ani as Threatened or Endangered

**AGENCY:** Fish and Wildlife Service, Interior.

**ACTION:** Notice of 90-day petition finding.

**SUMMARY:** We, the U.S. Fish and Wildlife Service, announce a 90-day finding on a petition to list the smooth-billed ani (*Crotophaga ani*) as threatened or endangered under the Endangered Species Act of 1973, as amended (Act). Based on our review, we find that the petition does not present substantial information indicating that listing the species may be warranted. Therefore, we are not initiating a status review in response to this petition. However, we ask the public to submit to us any new information that becomes available concerning the status of, or threats to, the smooth-billed ani or its habitat at any time.

**DATES:** The finding announced in this document was made on April 26, 2011.

**ADDRESSES:** This finding is available on the Internet at <http://www.regulations.gov> at Docket Number FWS-R4-ES-2011-0007. 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, South Florida Ecological Services Office, 1339 20th Street, Vero Beach, Florida 32960-3559. Please submit any new information, materials, comments, or questions concerning this finding to the above address.

#### FOR FURTHER INFORMATION CONTACT:

Spencer Simon, Assistant Field Supervisor, of the South Florida Ecological Services Office (see **ADDRESSES**) by telephone 772-562-3909, or by facsimile to 772-562-4288. 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)(A) of the Act (16 U.S.C. 1531 *et seq.*) requires that we make a finding on whether a petition to