

documentation. The CE under Appendix 2, paragraph 6.h relates to establishing regulations and actions taken pursuant to the regulations implementing procedures to collect fees that will be charged for motor carrier registrations and insurance.

FMCSA has also analyzed this rule under the Clean Air Act, as amended (CAA), section 176(c) (42 U.S.C. 7401 *et seq.*), and implementing regulations promulgated by the Environmental Protection Agency. Approval of this action is exempt from the CAA's General Conformity requirement since it involves policy development.

Executive Order 13211 (Energy Effects)

FMCSA has analyzed this rule under Executive Order 13211, Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use. FMCSA has determined that it would not be a

“significant energy action” under that Executive Order because it would not be likely to have a significant adverse effect on the supply, distribution, or use of energy.

List of Subjects in 49 CFR Part 367

Commercial motor vehicle, Financial responsibility, Motor carriers, Motor vehicle safety, Registration, Reporting and recordkeeping requirements.

■ For the reasons discussed in the preamble, the Federal Motor Carrier Safety Administration is amending title 49 CFR Chapter III, subchapter B, part 367 as follows:

PART 367—STANDARDS FOR REGISTRATION WITH STATES

■ 1. Revise the authority citation for part 367 to read as follows:

Authority: 49 U.S.C. 13301, 14504a; and 49 CFR 1.73.

Subpart A—[Removed and Reserved]

■ 2. Remove and reserve subpart A, consisting of §§ 367.1 through 367.7 and Appendix A to subpart A.

Subpart B—Fees Under the Unified Carrier Registration Plan and Agreement

■ 3. Amend subpart B by revising the heading of § 367.20 to read as follows:

§ 367.20 Fees Under the Unified Carrier Registration Plan and Agreement for Each Registration Year Until Any Subsequent Adjustment in the Fees Becomes Effective.

* * * * *

■ 4. Add § 367.30 to subpart B to read as follows:

§ 367.30 Fees Under the Unified Carrier Registration Plan and Agreement for Registration Years Beginning in 2010.

FEES UNDER THE UNIFIED CARRIER REGISTRATION PLAN AND AGREEMENT FOR EACH REGISTRATION YEAR

| Bracket | Number of commercial motor vehicles owned or operated by exempt or non-exempt motor carrier, motor private carrier, or freight forwarder | Fee per entity for exempt or non-exempt motor carrier, motor private carrier, or freight forwarder | Fee per entity for broker or leasing company |
|----------|--|--|--|
| B1 | 0–2 | \$76 | \$76 |
| B2 | 3–5 | 227 | |
| B3 | 6–20 | 452 | |
| B4 | 21–100 | 1,576 | |
| B5 | 101–1,000 | 7,511 | |
| B6 | 1,001 and above | 73,346 | |

Issued on: April 21, 2010.
Alais L.M. Griffin,
Chief Counsel.
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BILLING CODE 4910-EX-P

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

[Docket No. FWS-R6-ES-2009-0025]
 [MO 92210-0-0008]

Endangered and Threatened Wildlife and Plants; 12-Month Finding on a Petition to List Susan’s Purse-making Caddisfly (*Ochrotrichia susanae*) as Threatened or Endangered

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 Susan’s purse-making caddisfly (*Ochrotrichia susanae*) as endangered and to designate critical habitat under the Endangered Species Act of 1973, as amended. After review of all available scientific and commercial information, we find that listing Susan’s purse-making caddisfly 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 Susan’s purse-making caddisfly or its habitat at any time.

DATES: The finding announced in this document was made on April 27, 2010.

ADDRESSES: This finding is available on the internet at <http://www.regulations.gov> at docket number FWS-R6-ES-2009-0025. 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, Western Colorado Field Office, 764 Horizon Drive, Building B, Grand Junction, CO 81506. Please submit any new information,

materials, comments, or questions concerning this finding to the above street address.

FOR FURTHER INFORMATION CONTACT: Patricia S. Gelatt, Supervisor, Western Colorado Field Office, (see **ADDRESSES**); by telephone (970-243-2778, extension 26); or by facsimile (970-245-6933). Persons who use a telecommunications device for the deaf (TDD) may call the Federal Information Relay Service (FIRS) at 800-877-8339.

SUPPLEMENTARY INFORMATION:

Background

Section 4(b)(3)(B) of the Endangered Species Act of 1973, as amended (Act) (16 U.S.C. 1531 *et seq.*), requires that, for any petition to revise the Federal Lists of Endangered and Threatened Wildlife and Plants that contains substantial scientific or commercial information that listing the species may be warranted, we make a finding within 12 months of the date of receipt of the petition. In this finding, we will determine that the petitioned action is: (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 threatened or endangered, and expeditious progress is being made to add or remove qualified species from the Federal 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 Action

On July 8, 2008, we received a petition via e-mail from the Xerces Society for Invertebrate Conservation, Dr. Boris C. Kondratieff (Colorado State University), Western Watersheds Project, WildEarth Guardians, and Center for Native Ecosystems requesting that we list Susan's purse-making caddisfly as endangered under the Act and designate critical habitat. The petition included supporting information regarding the species' description, taxonomy, historical and current distribution, present status, habitat requirements, and potential threats. We acknowledged the receipt of the petition in a letter to the petitioners dated August 5, 2008. In the letter, we stated that we determined an emergency listing was not necessary. We also stated that, due to court orders and settlement agreements for other listing and critical habitat actions, all of our fiscal year 2008 listing funds had been allocated and that further work on the petition would not take place until fiscal year 2009.

Funding became available in fiscal year 2009, and we began work on the 90-day finding in November 2008. The 90-day finding was published in the **Federal Register** on July 8, 2009 (74 FR 32514). This notice constitutes the 12-month finding on the July 8, 2008, petition to list Susan's purse-making caddisfly as endangered.

Species Information

Species Description

Susan's purse-making caddisfly is a small, hairy, brown caddisfly in the family Hydroptilidae under the Order Trichoptera. Most of its life is spent as an aquatic larva in spring and nearby stream habitats. Adults have forewings 2 millimeters (mm) (0.08 inch (in.)) long. The wings are dark brown with three transverse silver bands, one each

at the wing base, the midline, and the apex (Flint and Herrmann 1976, p. 894).

The larvae of Hydroptilidae are unusual among the case-making families of Trichoptera in that they are free-living until the final (fifth) larval instar (developmental stage between molts) (Wiggins 1996, p. 72). When the larvae molt to the fifth instar, they develop enlarged abdomens, build purse-shaped cases from silk and sand, and become less active (Wiggins 1996, p. 71). They construct a case that can be portable or cemented to the substrate (Wiggins 1996, p. 71). Larvae in this family are very small but can reach up to 6 mm (0.3 in.) in length (Wiggins 1996, p. 71). The head and the dorsal surface (top) of all three thoracic segments are dark brown and sclerotized (hardened) (Flint and Herrmann 1976, p. 894). Larval cases are small, flattened, bivalved, and open at each end, similar to other members of the genus *Ochrotrichia*. However, Susan's purse-making caddisfly larval cases are slightly shorter proportionally and are made from smaller grains of sand (Flint and Herrmann 1976, p. 894). The larvae eventually pupate (metamorphose from a larvae to an adult) within the case.

Feeding behavior of Susan's purse-making caddisfly larvae has not been observed directly, but larvae in this genus generally feed by scraping diatoms from rocks (Wiggins 1996, p. 96), and larvae in the Hydroptilidae have been described as eating the cellular content of algae (Vieira and Kondratieff 2004, p. 47). Where the species has been collected, rocks that were thickly covered with larval cases were associated with heavy growth of filamentous algae and moss (Flint and Herrmann 1976, p. 897).

Adult Trichoptera have reduced mouthparts and lack mandibles, but can ingest liquids. The adult flight period is estimated to be from late June to early August (Flint and Herrmann 1976, p. 897), although Herrmann *et al.* (1986, p. 433) stated that adults were collected from mid-April to late July. The specific life cycle of Susan's purse-making caddisfly is not known (Kondratieff 2009a, pers. comm.; Ruitter 2009a, pers. comm.). They are thought to produce one generation per year (Flint and Herrmann 1976, p. 897). After emerging from their pupal cases, they will mate and lay eggs in the water (Myers 2010, pers. comm.) and most likely only live for a week or two as adults. It is not known how long it takes for Susan's purse-making caddisfly eggs to develop into larvae, how long each larval stage lasts, or how long they are in the pupal stage.

Taxonomy

Susan's purse-making caddisfly was first described as *Ochrotrichia susanae* by Flint and Herrmann (1976, pp. 894-898) from specimens collected in 1974 at Trout Creek in Chaffee County, Colorado. The genus *Ochrotrichia* is widespread and fairly diverse in North America, with over 50 described species (Wiggins 1996, p. 96). Adults can be distinguished from other species in the genus *Ochrotrichia* based on characteristics of the genitalia. No challenges to the taxonomy have arisen since the species was named. We find that Flint and Herrmann (1976, pp. 894-898) provide the best available information on the taxonomy of *Ochrotrichia susanae*. Therefore, we consider the Susan's purse-making caddisfly a valid species for listing under the Act.

Historic and Current Distribution

Susan's purse-making caddisfly has only been historically documented from three sites: (1) Trout Creek Spring in Chaffee County, Colorado; (2) High Creek Fen in Park County, Colorado; and (3) Jaramillo Creek in Valles Caldera, New Mexico. Based on the best available information, we consider all three locations to be extant, as described in more detail below.

From 1974 to 1994, Susan's purse-making caddisfly was only known to exist at and below Trout Creek Spring on U.S. Forest Service (USFS) land (Pike-San Isabel National Forest) in Chaffee County, Colorado (Herrmann *et al.* 1986, p. 433). Larvae, pupae, and adults were collected at the spring outfall area and downstream in Trout Creek at the Highway 285 Bridge, about 130 meters (m) (430 feet (ft)) away from the spring. Multiple collection attempts below the Highway 285 Bridge have not resulted in the caddisfly being found. There is no known reason for lack of occurrence downstream of the bridge (Herrmann 2010, pers. comm.). The spring and downstream stretch of creek habitat will hereafter simply be called Trout Creek Spring unless specific areas are mentioned. Trout Creek Spring is at an elevation of about 2,750 m (9,020 ft). The last known observation of the caddisfly at Trout Creek Spring was by one of the co-authors of the species description, Dr. Scott Herrmann, in 2007 (Herrmann 2009a, pers. comm.). We unsuccessfully attempted to relocate the species at this location at the end of July 2009; however, survey conditions were poor (Ireland 2009, p. 2). Based on the long-term history of occupancy and the poor survey conditions at our last

site visit, we consider the Trout Creek Spring site to still be occupied.

In 1995, Susan's purse-making caddisfly specimens were discovered and collected at High Creek Fen in Park County, Colorado, about 27 kilometers (km) (17 miles (mi)) north of the previously known locality (Durfee and Polonsky 1995, pp. 1, 5, 7). High Creek Fen is a unique groundwater-fed wetland with high ecological diversity. It is considered a rare type of habitat and the southernmost example of this unique habitat in North America (Cooper 1996, pp. 1801, 1808; Rocchio 2005, p. 10; Legg 2007, p. 1). High Creek Fen is primarily owned by The Nature Conservancy (TNC) and the Colorado State Land Board (CSLB), as well as private landowners. The fen is about 2,980 m (9,320 ft) in elevation. Susan's purse-making caddisfly pupae were found at High Creek Fen on July 29, 2009, during a site visit in conjunction with the Trout Creek Spring site visit (Ireland 2009, p. 1). A subsequent visit to High Creek Fen on August 11, 2009, resulted in capture of an adult Susan's purse-making caddisfly (Ruiter 2009b, pers. comm.).

In July 2008, an adult Susan's purse-making caddisfly was discovered near Jaramillo Creek within the Valles Caldera National Preserve (VCNP) west of Los Alamos, New Mexico (Flint 2009a, pers. comm.). The Preserve is owned by the U.S. Department of Agriculture (part of the National Forest System) but run by a nine member Board of Trustees; the Supervisor of Bandelier National Monument, the Supervisor of the Santa Fe National Forest, and seven other members with distinct areas of experience or activity appointed by the President of the United States (Valles Caldera Trust 2003, pp. 46-47). Dr. Oliver Flint, one of the co-authors of the species' description, identified the caddisfly collected from VCNP. The elevation of the capture area is approximately 2,750 m (8,600 ft). No larvae were discovered at the Jaramillo Creek site, so we do not know if the adult caddisfly represents a breeding population. If there is a breeding population in VCNP, it is unknown how close the adult was to its larval habitat and whether larvae are occupying a spring near Jaramillo Creek, Jaramillo Creek only, or a spring or creek in a nearby drainage. Adults are thought to be weak fliers, likely only flying 1 to 2 m (3 to 7 ft) when disturbed. They are thought to remain close to larval habitat for mating and oviposition (Xerces Society *et al.* 2008, pp. 6-7). Therefore, dispersal distance is thought to be very small (Xerces Society *et al.* 2008, pp. 6-7). This suggests that

larval habitat was close to the adult capture site on Jaramillo Creek, but larval or pupal surveys specific to Susan's purse-making caddisfly have not been conducted on Jaramillo Creek or in VCNP. The postulated small dispersal distance also suggests that the population in VCNP is isolated from the populations in Colorado, and that the populations within Colorado are isolated from one another (Xerces Society *et al.* 2008, pp. 5, 12, 15). It is possible that incidental dispersal via wind or adhesion to animals or humans could occur, but neither dispersal method has been documented, and dispersal is likely uncommon (Kondratieff 2010, pers. comm.).

The Service recognizes that only three populations of Susan's purse-making caddisfly have been found since the species' discovery in 1974 (Flint and Herrmann 1976), and they are undoubtedly rare. In 1986, Herrmann *et al.* compiled a list of records for Susan's purse-making caddisfly, but this was only based on existing records and not the result of comprehensive field surveys. Despite the probable rarity, we believe additional populations may exist based on the following: (1) surveys have not encompassed all potential spring habitats in Colorado and New Mexico (Herrmann 2010, pers. comm.; Jacobi 2009, pers. comm.; Kondratieff 2010, pers. comm.; Ruiter 2010, pers. comm.); (2) it is particularly likely that potential spring habitats occurring on private land have not been surveyed (Kondratieff 2010, pers. comm.); (3) the caddisfly can only be identified at the pupal and adult stages so the species could easily be missed if surveys take place outside of the period from mid-June to early August (Flint and Herrmann 1976); (4) the adults are very small, only live for a week or two, and may not fly if conditions are too cold or windy, again causing surveyors to miss them; and (5) general surveys of aquatic species (not focusing on this particular species) may simply miss either pupae or adults due to low population size.

Status

Susan's purse-making caddisfly has a Global Heritage Status Rank of G2, a National Status Rank of N2, and a Colorado State Rank of S2 (NatureServe 2008, pp. 1-4). NatureServe defines the G2 rank as signifying that a species is imperiled (at a high risk of extinction) globally due to a very restricted range, very few populations, steep population declines, or other factors. Species in these categories are defined as vulnerable to extirpation nationally or within a State or province. Only the Trout Creek Spring site is on file with

NatureServe (2008, p. 1), but if High Creek Fen and Jaramillo Creek were added the rank would not change, since the NatureServe ranking system of G2 and N2 allows for 20 or fewer populations (NatureServe 2009, pp. 4, 7). No population estimate exists for the caddisfly at Trout Creek Spring, but Flint and Herrmann (1976, p. 898) collected 237 adults on July 1, 1975, and 118 adults on July 20, 1975. No adults were present during an August 5, 1975, collection attempt at Trout Creek Spring (Flint and Herrmann 1976, p. 898). Similarly, no extensive collection or population size estimate has been made for either High Creek Fen or Jaramillo Creek.

Habitat Requirements

Larval and adult Susan's purse-making caddisflies are found in and around spring and stream habitat (Flint and Herrmann 1976, p. 897). Larvae inhabit waters that are cold, hard, well-oxygenated, highly buffered, and extremely low in trace metals (Flint and Herrmann 1976, p. 897). Adult riparian habitat preferences, if they exist, are unknown (Kondratieff 2009b, pers. comm.; Ruiter 2009c, pers. comm.). Since the adults only live for a week or two, it is possible that a specific vegetation type is not important to them. The riparian habitats adjacent to the streams at Trout Creek Spring and High Creek Fen are quite different from each other in both species present and vegetative structure (Ireland 2009, pp. 1-2), suggesting a lack of vegetation preference. However, riparian vegetation of some sort is likely beneficial for adult shelter and survival (Kondratieff 2009b, pers. comm.; Ruiter 2009c, pers. comm.).

After emerging from their pupal cases as adults, females will mate and lay eggs in the water (Myers 2010, pers. comm.). Caddisflies typically lay eggs on immobile rocks, gravel, rooted vegetation, or anchored wood that will reduce movement of the eggs and, hence, reduce chances of abrasion or burial of the eggs by sediment (Myers 2010, pers. comm.). Specific information on substrate used for egg-laying by Susan's purse-making caddisfly is not available.

Physical and chemical conditions of Trout Creek Spring were assessed in 1975 (Flint and Herrmann 1976, pp. 894-897). Water temperatures in the spring habitat were cold and varied little (14.4 to 15.8 °C (57.9 to 60.4 °F)). Stream conditions included extremely high levels of dissolved oxygen (at or near 100-percent saturation), as well as high concentrations of dissolved calcium (Ca), magnesium (Mg), and

sulfate (SO₄) (see Table 1 below), which gave the water a higher electrical conductance value than typically seen in most regional streams at the same elevation (Flint and Herrmann 1976, p. 897). Conductivity is a measure of the level of salts in water as a result of elements such as calcium and magnesium. In 2009, temperature, pH, and total alkalinity were within the range of samples analyzed in 1975 (Herrmann 2009b, pers. comm.). Analysis of additional water chemistry variables has not been completed.

Water quality samples were taken in 1995 at High Creek Fen by Durfee and Polonsky (1995) and on undisclosed dates by Cooper (1996). High Creek Fen appears to have similar water quality characteristics (see Table 1 below) as Trout Creek Spring (Durfee and Polonsky 1995, p. 5 and Table 2; Cooper 1996, pp. 1801, 1803). Water samples in Jaramillo Creek were taken in 2005 (Brooks 2009). The range of pH in Jaramillo Creek and a nearby spring is similar to the other two sites (see Table 1 below). The conductivity was lower

than Trout Creek Spring or High Creek Fen (Brooks 2009), indicating there are less salts in the water at VCNP.

Trout Creek Spring values in Table 1 incorporate the range for both the spring proper and samples taken in the creek down to the Highway 285 Bridge (Flint and Herrmann 1976, p. 897). High Creek Fen samples incorporate a range from three water sources feeding the fen (Cooper 1996, p. 1803). Jaramillo Creek sample values include both the creek and a nearby spring location (Brooks 2009).

TABLE 1. PHYSIO-CHEMICAL PROPERTIES OF WATER AT SUSAN'S PURSE-MAKING CADDISFLY LOCATIONS (BROOKS 2009; COOPER 1996; FLINT AND HERRMANN 1976).

| SITE | pH | Conductance (μS/cm) | Ca(mg/l) | Mg(mg/l) | Na(mg/l) | K(mg/l) | SO ₄ (mg/l) | Cl(mg/l) |
|--------------------|---------|---------------------|----------|----------|----------|----------|------------------------|----------|
| Trout Creek Spring | 7.2-8.2 | 280-400 | 38-52 | 14-21 | 2.1-5.3 | 0.4-1.32 | 19-59 | 1.5-2.2 |
| High Creek Fen | 7.8-8.1 | 420-2558 | 55-93 | 30-98 | 8.4-25.4 | 0.8-2.7 | 34.7-815.4 | 4.6-42.6 |
| VCNP | 6.6-8.0 | 61-76 | | | | | 3.1-3.9 | 0.3-1.5 |

Flint and Herrmann (1976, p. 897) state that conductance was directly related to calcium, magnesium, and sulfate concentrations. This conclusion appears logical, as High Creek Fen also had high concentrations of these elements and an even higher range of conductance than Trout Creek. Jaramillo Creek had low sulfate and low conductance compared to the other two locations (see Table 1 above). This outcome may suggest that calcium and magnesium levels were low as well, but actual levels were not analyzed. Since only an adult caddisfly was caught near Jaramillo Creek and we do not know if it came from the creek near the capture site, a nearby spring, or elsewhere, we do not know if the low conductance and sulfate (SO₄) and chloride (Cl) values represent a lower range that Susan's purse-making caddisfly larvae and pupae can survive in.

Temperature, pH, dissolved oxygen, total dissolved solids, and conductivity probably have the greatest influence on distribution of the caddisfly (Myers 2009, pers. comm.). Only pH and conductivity were measured at all three sites, and total dissolved solids were not analyzed at any of the three locations. We do not know if the caddisfly prefers springs with higher conductivity. Both Trout Creek Spring and High Creek Fen, where both larvae and pupae have been identified, have high conductivity. However, Jaramillo Creek has relatively low conductivity. Consequently, a range of conductivity levels may be suitable

for Susan's purse-making caddisfly, and, therefore, more springs may be available for occupancy. However, as Myers (2009, pers. comm.) mentions, factors other than conductivity may be influencing habitat occupancy by Susan's purse-making caddisfly. With only three locations and scant available data, the range of habitat Susan's purse-making caddisfly can live in remains unknown, but the best available information suggests that the water quality will be similar to the range of variables analyzed in the Trout Creek Spring and High Creek Fen areas.

Larval and pupal Susan's purse-making caddisfly were collected at Trout Creek Spring in 1974 and 1975 (Flint and Herrmann 1976). Larvae and pupae primarily inhabited the sides of rocks in both the spring outfall and downstream locations. Concentrations of caddisflies were found in areas directly below small waterfalls and were often clustered in clumps that covered the rocks (Flint and Herrmann 1976, pp. 894-897). During a 2009 site visit, concerns were raised that Trout Creek Spring may be impacted by poor water quality because of large amounts of filamentous algae in Trout Creek (Xerces Society 2009, p. 2). However, during earlier collections, larval and pupal cases were often found on the same rocks that had thick growths of moss and filamentous algae (Flint and Herrmann 1976, p. 897). Additionally, temperature, pH, and total alkalinity in 2009 were within the range of samples

analyzed in 1975, indicating that the water quality at Trout Creek Spring has remained the same in these respects since 1975 (Herrmann 2009b, pers. comm.).

Summary of Information Pertaining to the Five Factors

Section 4 of the Act and its implementing regulations (50 CFR 424) set forth procedures for adding 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 endangered or threatened 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 Susan's purse-making caddisfly in relation to the five factors provided in section 4(a)(1) of the Act is discussed below. In making our 12-month finding, we considered and evaluated the best available scientific and commercial information.

A. The Present or Threatened Destruction, Modification, or Curtailment of the Species' Habitat or Range

Livestock Grazing

Susan's purse-making caddisfly appears to require cold and well-oxygenated water (Flint and Herrmann 1976, p. 897). The species could be negatively impacted by decreased riparian vegetation, stream bank destabilization, and increases in water temperature if livestock grazing is not well managed. Intensive grazing may lead to erosion due to removal of riparian and upland vegetation, removal of soil litter, increased soil compaction via trampling, and increased area of bare ground (Schulz and Leininger 1990, pp. 297-298; Fleischner 1994, pp. 631-636). Bare, compacted soils allow less water infiltration, which generates more surface runoff and can contribute to erosion as well as flooding and stream bank alterations (Abdel-Magid *et al.* 1987, pp. 304-305; Orodho *et al.* 1990, pp. 9-11; Chaney *et al.* 1993, pp. 8-15). Increased erosion leads to higher sediment loads in nearby waters, which can degrade in-stream and riparian habitat and increase water turbidity. The more turbid the water, the more sediment it is carrying. Sediment can affect the caddisfly by reducing respiration ability; smothering eggs, larvae, and pupae; reducing forage for the larvae; and limiting suitable sites for egg laying (Myers 2010, pers. comm.).

The combined impacts of vegetation loss, soil compaction, stream bank destabilization, and increased sedimentation associated with intensive livestock grazing can have a profound effect on aquatic macroinvertebrates. One study found a dramatic decline in macroinvertebrate abundance and species richness for some taxa, including caddisflies, on grazed versus ungrazed sites in Oregon (McIver and McInnis 2007, pp. 293, 300-301). A variety of aquatic macroinvertebrate community attributes relating to taxa diversity, community balance, trophic status (what level an animal is on the food chain), and pollution tolerance were negatively impacted by moderate or heavy grazing in small mountain streams in Virginia, compared to lightly grazed or ungrazed control areas (Braccia and Voshell 2007, pp. 196-198).

In 2008, the USFS issued an environmental assessment (EA) for Rangeland Allotment Management Planning in the Salida-Leadville Planning Area (USFS 2008a) that covers about 115,000 hectares (ha) (284,000 acres (ac)) around Trout Creek Spring. Trout Creek Spring is in the extreme

uppermost portion of a finger of a grazing allotment (the Fourmile Allotment) on the Pike-San Isabel National Forest (USFS 2008a, Appendix 1, p. 1). The majority of the allotment does not influence the Trout Creek Spring habitat. No grazing from cattle on the Fourmile Allotment occurs around the caddisfly's habitat in Trout Creek Spring because the only place where cattle could access the spring, the western bank from County Road 309, is steep (Gaines 2009a, pers. comm.; USFS 2009, p. 5).

The Bassam Allotment is immediately downstream of the Fourmile Allotment. The allotment ends at the Highway 285 Bridge, and livestock cannot go upstream due to a fence at the allotment boundary (USFS 2008a, Appendix 1 Bassam C&H Range Improvements, p. 1). Cattle can access the area below the bridge but rarely do (USFS 2010, p. 1). Grazing impacts could affect Susan's purse-making caddisfly habitat downstream of the bridge if the species historically occurred down there, but it has never been collected downstream of the bridge (Herrmann 2010, pers. comm.). Consequently, grazing on the Bassam Allotment is not currently known to impact the caddisfly or its habitat.

The Chubb Park Allotment lies immediately upstream of Trout Creek Spring. The cattle on the Chubb Park Allotment cannot get to Trout Creek Spring because of allotment fences and cattle guards (USFS 2009, p. 5). Consequently, direct impacts to the caddisfly and its habitat do not occur from cattle on the Chubb Park Allotment. However, grazing in this allotment in the upper portion of the Trout Creek drainage has the potential to impact the caddisfly's habitat downstream through vegetation removal, erosion, and subsequent downstream sedimentation in the caddisfly habitat. The Trout Creek drainage becomes ephemeral within 300 m (984 ft) above Trout Creek Spring (Flint and Herrmann 1976, p. 895; USFS 2009, p. 5), and may occasionally run during spring snowmelt or large thunderstorms (Ireland 2009, p. 2). These irregular seasonal flows in combination with increased vegetation and recently implemented improvements in grazing management (as discussed below) likely reduce the amount of sediment reaching the caddisfly habitat. However, we are not aware of any measurements of sediment deposition in the Trout Creek Spring habitat.

The Chubb Park Allotment has split ownership between the USFS, CSLB, and private lands, with roughly three-

quarters in USFS ownership (USFS 2008a, p. 53). From 1996 through 2008, 146 total cow/calf pairs were permitted on the Chubb Park Allotment for 153 days or 983 Animal Unit Months (AUMs) (USFS 2009, p. 6; USFS 2010, p. 1). In 2009, the USFS and CSLB reduced the AUMs by shortening the grazing period to 41 days and allowing 410 cow/calf pairs to graze for a new total of 740 AUMs (USFS 2009, p. 6). The private landowner elected to not graze due to drought and, along with the USFS and CSLB, rested the Chubb Park Allotment for 5 years from 2003-2007 (USFS 2010, p. 1). An electric fence erected for 8 km (5 mi) along Trout Creek upstream of the spring prior to the 2009 grazing season now prevents cattle from accessing this stretch of Trout Creek (USFS 2009, p. 5). However, the USFS may adjust the fence as they determine appropriate to meet the desired conditions (USFS 2010, p. 2). Currently all the pastures in the allotment are moving toward or meeting desired conditions (USFS 2010, p. 1). Herbaceous riparian vegetation appeared lush in July 2009 (Ireland 2009, p. 2), and the cattle did not enter the fenced-off portion of the riparian zone (USFS 2009, p. 4). An increase in vegetative cover in the 8 km (5 mi) stretch of Trout Creek should limit sediment deposition downstream during snowmelt and thunderstorm events.

The USFS installed a well in June 2005 about 8 km (5 mi) upstream of Trout Creek Spring that pipes water to a large holding tank, then into seven float-controlled livestock tanks to draw the livestock away from riparian areas (USFS 2009, p. 6). This action may limit grazing in the riparian areas, thereby further retaining vegetation and reducing sedimentation, but may negatively impact water quantity (see "Dewatering of Spring Habitat" section below).

The USFS (2009, pp. 1-5) provided present-day photos, as well as historical information and photos of Trout Creek in 1921 and 1933, that showed extensive erosion both upstream and downstream from Trout Creek Spring from excessive grazing and logging. Based on the photos, the sediment loads in the 1920s and 1930s almost certainly exceeded present-day loads. This means that the caddisfly was either able to withstand the sediment loads, the sediment was not deposited in the spring (allowing the caddisfly to survive), or conditions have improved since then to the extent that the caddisfly was able to colonize or recolonize Trout Creek Spring. Because cattle on the Bassam and Fourmile Allotments do not graze in the known

caddisfly habitat and grazing on the Chubb Park Allotment appears to be managed adequately, it is unlikely that cattle grazing on any of the three allotments under current and adaptive management causes sedimentation or direct impacts to the caddisfly or its habitat. The USFS has committed to adaptive management of the Chubb Park Allotment, which means that grazing or other actions may be adjusted based on observation of impacts on the ground or through scientific monitoring of conditions or both (USFS 2008b, p. 4). Adaptive management in the Chubb Park Allotment includes a variety of actions that can be categorized as adjusting grazing duration and timing, rotating cattle in different pastures, fencing cattle out of riparian areas, drawing cattle away from riparian areas with water developments, adjusting stocking rates, and managing vegetation (USFS 2008a, p. 28).

No grazing occurs at High Creek Fen. The closest grazing occurs upstream about 1.5 km (0.9 mi) (Pague 2009, pers. comm.). Cattle also graze about 0.4 km (0.6 mi) downstream (easterly) and about 0.8 km (0.5 mi) north and south of the fen (Pague 2009, pers. comm.). No grazing-related impacts to the fen have been noted to date (Pague 2009, pers. comm.) or are expected in the future (Pague 2009, pers. comm.).

The Valles Caldera National Preserve (VCNP) is approximately 36,000 ha (89,000 ac) (Valles Caldera Trust 2009, p. 16), with 31 percent of the area suitable for grazing, including the area near where the adult caddisfly was found (Valles Caldera Trust 2009, pp. 75, 77). Historically, a large number of sheep and cattle were grazed on VCNP, but only cattle have been grazed for the last 40 years (Valles Caldera Trust 2009, p. 61). Historically, cattle and sheep grazing had an impact on Jaramillo Creek drainage, but since VCNP was created conditions have improved. Beginning in 2001, shortly after the VCNP was created, the number of cattle was reduced by about 93 percent (Parmenter 2009a, pers. comm.). Approximately 550 adult cows and 250 calves were grazed in 2009, and this level is expected to continue in the future (Parmenter 2009b, pers. comm.). Cattle were grazed in the pasture surrounding the caddisfly location in 2008, but it was closed to grazing and herding in 2009 (Parmenter 2010, pers. comm.). The pasture is expected to remain closed to grazing and herding in the future (Parmenter 2010, pers. comm.).

The primary native grazer in the VCNP is elk, with numbers of resident elk typically about 2,500 (Valles Caldera

Trust 2009, p. 22). Seven thousand free-roaming elk live in the Jemez Mountains, which surround VCNP (Valles Caldera Trust 2009, p. 22). However, no measureable impact from elk grazing occurs in the area where the caddisfly was captured (Parmenter 2009b, pers. comm.).

Stream condition in the VCNP appears to be improving. A proper functioning condition analysis was done in 2000 and 2006 to assess stream condition in VCNP (Valles Caldera Trust 2009, p. 68). Determining proper functioning condition includes analysis of vegetation, soils, geology, and hydrology but does not include water quality assessment (BLM 1998, pp. 2, 4). Four of five sections of the creek were rated as being in proper functioning condition in 2006, versus two of five in 2000 (Valles Caldera Trust 2009, p. 68). The other sections (three of five in 2000 and one of five in 2006) were rated as being on an upward trend. The section around the adult caddisfly capture site was rated as being in proper functioning condition (McWilliams 2006, pp. 7, 8, 17). Overall, 75 percent of the streams in VCNP are in proper functioning condition (Parmenter 2009a, pers. comm.). However, most of the streams on VCNP have water of quality that is considered impaired by State standards, primarily as a result of turbidity and temperature (Parmenter 2009a, pers. comm.). Unfortunately, temperature at the Jaramillo Creek caddisfly capture site is not known. Jaramillo Creek was one of the streams rated as non-impaired overall in 2000, and was used as a reference stream during a benthic survey (Valles Caldera Trust 2009, p. 67). Jaramillo Creek had the highest number of taxa (31) and the highest diversity of aquatic insects of any creek in VCNP (Valles Caldera Trust 2009, p. 67). Therefore, we believe that livestock and elk grazing are not impairing water quality in a manner that threatens the Susan's purse-making caddisfly in Jaramillo Creek.

In summary, the restricted distribution and narrow habitat requirements of Susan's purse-making caddisfly elevate the likelihood that grazing-induced impacts would have a negative impact on this species. Despite this possibility, no grazing impacts are apparent in the immediate vicinity of Trout Creek Spring. Additionally, there is no evidence that sedimentation from grazing in the Chubb Park Allotment is currently affecting Trout Creek Spring and effects are unlikely in the foreseeable future, considering current and adaptive management commitments. Grazing does not occur around the High Creek Fen caddisfly

occurrence. There is no evidence that grazing at VCNP has impacted the caddisfly's habitat in recent years. We believe that grazing will continue for at least the next 20 years on both the Chubb Park Allotment and VCNP. However, we do not expect grazing to impact the caddisfly in the foreseeable future at either High Creek Fen or VCNP due to management practices currently in place and expected to continue in the future (Pague 2009, pers. comm.; Parmenter 2009a, pers. comm.; Parmenter 2009b, pers. comm.; Parmenter 2010, pers. comm.; Valles Caldera Trust 2009). We find no credible evidence that grazing is a threat to Susan's purse-making caddisfly now or in the foreseeable future.

Hazardous Fuel Reduction Activities

The North Trout Creek Forest Health and Hazardous Fuel Reduction Project (North Trout Creek Project) (USFS 2007a) may impact Trout Creek Spring. The project is proposed to treat approximately 3,500 ha (8,700 ac) out of a 6,200-ha (15,300-ac) project area with salvage logging, thinning, and prescribed fire to reduce hazardous fuel loads (USFS 2007a, p. 1). The various components of the project are projected to take place over 5 to 7 years dependent on funding (USFS 2007a, p. 13). The closest proposed action under the project is about 10 km (6 mi) north of Trout Creek Spring. An additional timber sale project (Ranch of the Rockies Project) could result in 35 ha (86 ac) of impacts in the Trout Creek Pass area 5 to 8 km (3 to 5 mi) upstream of Trout Creek Spring (USFS 2007b, pp. 1-3). This timber sale project involves skidding and storing live and dead trees and piling the resulting slash. Although the proposed North Creek project location is at least 10 km (6 mi) from caddisfly habitat, roads and prescribed fire related to logging and hazardous fuels reduction could potentially impact Susan's purse-making caddisfly as described in the "Logging Roads" and "Prescribed Fire" sections below.

Very few or no harvestable trees occur at High Creek Fen, so logging there is not a potential threat. From 1935 to 1972, logging (particularly clear-cut logging) was conducted on VCNP (Valles Caldera Trust 2009, p. 164). Logging ceased in 1972, as result of a lawsuit (Valles Caldera Trust 2009, p. 164). Only minor selective logging has occurred since 1972, and it is expected that some thinning of second growth forests will continue to occur to prevent massive wildfires. However, no commercial logging is proposed (Parmenter 2009b, pers. comm.). There may be higher spring snowmelt from

thinning of trees, and possibly increased sedimentation, but the Science and Education Director of VCNP believes there should be minimal impact to the caddisfly (Parmenter 2010, pers. comm.). We do not expect any impacts to the caddisfly or its habitat from logging in the High Creek Fen and VCNP areas.

Logging Roads

Disturbance associated with logging road construction and operation is a significant source of sediment load in streams (Cederholm *et al.* 1980, p. 25). Unpaved permanent or temporary roads are a primary source of sediment in forested watersheds (Vora 1988, pp. 117, 119; Sugden and Woods 2007, p. 193). Similar to the effects of livestock grazing on aquatic habitats, roads remove vegetation, compact soil (reducing water infiltration), increase erosion and sedimentation, increase the amount of surface runoff and change its pattern, introduce contaminants, and facilitate the spread of invasive plant species (Anderson 1996, pp. 1-13; Forman and Alexander 1998, pp. 210, 216-221; Jones *et al.* 2000, pp. 77-82; Trombulak and Frissell 2000, pp. 19, 24; Gucinski *et al.* 2001, pp. 12-15, 22-32, 40-42; Angermeier *et al.* 2004, pp. 19-24). The cumulative effects on streams include increases in siltation, increases in nonpoint source pollution, increases in water temperatures, and decreases in dissolved oxygen levels. Since the caddisfly appears to inhabit springs with high dissolved oxygen, relatively low and stable water temperatures, and low trace metals (Flint and Herrmann 1976, p. 897), we investigated the possibility that the cumulative effects of roads could threaten the caddisfly.

The North Trout Creek Project would not create new permanent roads, but would allow creation of about 10 km (6 mi) of new temporary roads and reopen 16 km (10 mi) of existing closed roads (USFS 2007a, p. 83). The sediment yield from construction of temporary roads and reopening of closed roads associated with the fuel reduction project is estimated to be 41.2 tons/year, with 9.3 times greater sediment load in the Trout Creek watershed predicted from the action versus no action alternatives (USFS 2007a, p. 83). However, it is uncertain if the sediment will be deposited at, and affect the caddisfly or its habitat in, Trout Creek Spring, especially with actions described above improving the riparian area upstream of Trout Creek Spring. The riparian vegetation in the ephemeral upper Trout Creek channel will likely act as a sediment trap, thereby limiting the rate and average

amount of sediment deposited in Trout Creek Spring. Since activities under the fuel reduction project have not yet occurred, it is presently unknown what effects the predicted sediment increase will have on Susan's purse-making caddisfly.

Historic timber activities resulted in about 50 percent of VCNP being logged, with over 1,600 km (1,000 mi) of 1960s-era logging roads (Valles Caldera Trust 2009, p. 164) being built in winding and spiraling patterns around hills (Valles Caldera Trust 2009, pp. 59-60). The logging resulted in accelerated run-off and erosion that is still evident or active to some extent including continued erosion in gullies and roads immediately adjacent to Jaramillo Creek (Parmenter 2010, pers. comm.; Valles Caldera Trust 2009, p. 60). However, the run-off has been reduced by natural revegetation of grasses, forbs, and small trees and only minimal administrative use of logging roads (Parmenter 2010, pers. comm.). Jaramillo Creek has improved with better management and is currently considered in good ecological condition (Valles Caldera Trust 2009, p. 68). Assuming that the adult caddisfly found next to Jaramillo Creek was hatched from nearby larval habitat, sedimentation from logging roads does not appear to be a threat to Susan's purse-making caddisfly habitat in the area now or in the foreseeable future.

Fire

In addition to logging, the North Trout Creek Project involves prescribed burns (USFS 2007a, map 2.3). Regular burns conducted around the area of Trout Creek Spring could have a negative impact on stream quality, because burning has been shown to affect aquatic habitats and watersheds in a variety of ways (Neary *et al.* 2005, pp. 1-250). For example, mechanical site preparation and road construction needed to conduct prescribed burns can lead to increased erosion and sediment production, especially on steep terrain (Neary *et al.* 2005, pp. 54, 56, 58). Removal of leaf litter from the soil surface through burning can lead to reduced water infiltration into the soil, increasing the amount of surface runoff into streams. Additionally, ash depositions following a fire can affect the pH of water. Negative impacts may be exacerbated by burning slash piles, since the fire intensity is greater when the fuel is piled in a small area, which can have a stronger impact on the underlying soil (Neary *et al.* 2005, p. 83). No prescribed burns will occur immediately around or upstream of Trout Creek Spring, but burns higher up

in the Trout Creek watershed could add sediment from the burning and thinning activities (USFS 2007a, map 2.3). The proposed Ranch of the Rockies timber sale does not involve burning (USFS 2007b, pp. 1-3). Of course, natural wildfires could have the same effect as the prescribed burns or a more significant effect if burn intensity is high. However, the thinning and prescribed burning program is intended to reduce fuel loads to prevent high intensity wildfires.

Prescribed burning does not take place at High Creek Fen (Schulz 2009, pers. comm.). At VCNP, natural fire patterns were disrupted in the late 1800s with the introduction of livestock, human activities, and intentional fire suppression (Valles Caldera Trust 2009, pp. 96-97). Natural fire events have not occurred in VCNP in many years. Prescribed fire at VCNP has been limited, with only one burn in 2004 that is described as creating a positive vegetation response (Valles Caldera Trust 2009, p. 97). A prescribed fire plan is expected to be developed (Valles Caldera Trust 2009, p. 97), as there is concern for massive fires to occur (Parmenter 2009b, pers. comm.). Massive fires uphill or upstream of the caddisfly capture location would likely have a much greater effect on the caddisfly as there would be less vegetation to hold soil in place. However, thinning of secondary growth should help prevent massive fires in the future (Parmenter 2009b, pers. comm.).

In summary, proposed logging activities and prescribed burning activities in the Trout Creek Spring watershed could potentially have negative impacts on the caddisfly by increasing the sediment load in Trout Creek. None of these activities is occurring at present, so there is no evidence of immediate impacts. If sediment transport does increase as a result of future logging and burning activities, it is unknown if the sediment will be deposited in Trout Creek Spring to an extent where it will affect the caddisfly. Sediment transport and deposition to the caddisfly habitat in the foreseeable future may be ameliorated by increased vegetation in the upper Trout Creek watershed under current grazing management. The VCNP is still experiencing some erosion from logging-related roads developed before 1972, but Jaramillo Creek is in good ecological condition and continues to improve. Since the adult caddisfly has limited dispersal, suggesting larval habitat is nearby, the caddisfly's existence in Jaramillo Creek indicates that sedimentation effects from logging roads do not appear to be having significant

impacts. Erosion and sedimentation is not expected to be a threat in the foreseeable future with increased vegetation, minimal logging, and minimal logging road use.

Dewatering of Spring Habitats

Reduction of stream flow due to increased groundwater use and water diversion can have a dramatic impact on stream habitat and associated macroinvertebrate communities. Artificial flow reductions frequently lead to changes, such as decreased water depth, increased sedimentation, and altered water temperature and chemistry, which can reduce or influence macroinvertebrate numbers, richness, competition, predation, and other interactions (Dewson *et al.* 2007, pp. 401-411).

The development of springs in the upper Trout Creek watershed could affect the hydrology of remaining springs and streams, in addition to reducing potential new habitat for Susan's purse-making caddisfly colonization. Trout Creek Spring itself is not currently proposed for livestock water development, but a well installed in 2005 pumps water from the upper ephemeral part of Trout Creek (USFS 2008a, Appendix 3 Chubb Park C&H, p. 5). The well is 70 m (220 ft) deep and diverts 15 liters (4 gallons) per minute, but it is not known what percentage of the available water this constitutes (USFS 2009, p. 6). Another six developments are planned in ephemeral tributaries to Trout Creek, consisting of water piped from six seeps to nearby stock tanks (USFS 2008a, Appendix 1 Chubb Park C&H Range Improvements, p. 1). The exact groundwater source or sources for Trout Creek Spring are unknown, and no study was conducted on the existing well to determine if it is capturing groundwater from a tributary to Trout Creek Spring (USFS 2008c, p. 34). Trout Creek Spring discharge will be measured twice yearly to determine if water use in Chubb Park is affecting caddisfly habitat (USFS 2008a, p. 43). The USFS has not identified what actions it will take if spring discharge is found to be less than previous years (USFS 2010, p. 2).

High Creek Fen is part of a 464-ha (1,147-ac) preserve owned and managed by TNC. Park County, where the preserve is located, has experienced significant population increases since the 1990s (Miller and Ortiz 2007, p. 2). Population growth in this area is accompanied by an increased demand for fresh drinking water. In 2000, 89 percent of the population of Park County received water from

2007, p. 2). The area surrounding High Creek Fen is currently being protected, but the fen itself is fed by groundwater sources. Sustained or increasing groundwater removal of water sources for the fen could have a deleterious effect on the hydrology of the fen and the invertebrate species it supports, including Susan's purse-making caddisfly.

However, we have no information to quantify the magnitude or temporal aspect of potential effects from groundwater withdrawal. TNC believes the water sources for the fen are fairly secure because there are conservation easements to the west (upstream) of the fen on private land, and water use in a sub-development around Warm Springs uses water that does not appear to be supporting High Creek Fen (Schulz 2009, pers. comm.). Additionally, the CSLB and Colorado Natural Areas Program (CNAP) signed an article of designation in 2001 to conserve 972 ha (2,401 ac) of CSLB land on the north side of the fen, and land on Black Mountain to the west of the fen, for the protection of the land and at least one water source (CNAP 2001, pp. 1-7). The land is included as a State Natural Area under CNAP.

The VCNP contains 136 earthen stock ponds with about 30 percent of the ponds failing and causing erosion and sedimentation (Valles Caldera Trust 2009, pp. 24, 93). However, only two to four appear to be in the Jaramillo Creek drainage, and the amount of sedimentation they cause is minor (Parmenter 2009b, pers. comm.). The stock ponds capture snowmelt and rainwater and do not require water delivery from streams (Parmenter 2009b, pers. comm.). No water is diverted from Jaramillo Creek (Parmenter 2009b, pers. comm.), and no additional water use is expected in the foreseeable future in VCNP (Parmenter 2009c, pers. comm.).

In summary, the restricted distribution and narrow habitat requirements of Susan's purse-making caddisfly make it possible that human-induced alterations in stream hydrology and water chemistry, such as what could occur from dewatering of spring habitats, would have a negative impact on this species. Although groundwater development in the areas around caddisfly habitat has the potential to impact springs and streams, we do not have any data showing that quantity of water has been lowered to date. Consequently, the information that we do have does not indicate that dewatering is currently occurring and impacting caddisfly habitat or that it will impact the caddisfly in the foreseeable future.

Roads

In addition to roads associated with hazardous fuel reduction projects as described above, Trout Creek Spring may be impacted by Highway 285 and County Road 309 (USFS 2007a, map 2.3). Highway 285, which receives heavy traffic, runs within 30 m (100 ft) of Trout Creek Spring on the eastern side of the spring. Roads accumulate a variety of contaminants including brake dust, heavy metals, and organic pollutants, which can be carried into streams by overland runoff (Forman and Alexander 1998, pp. 219-221; Trombulak and Frissell 2000, pp. 19, 22-24; Gucinski *et al.* 2001, pp. 40-42). Highway 285 receives a sand and 3-percent road salt mixture to a wintertime deicer (Cady 2009, pers. comm.). Based on the condition of vegetation around the spring, there is no indication of any effects from the sand/salt mixture (Ireland 2009, pp. 1-2). County Road 309, which is immediately above the spring on the west side, receives occasional snow plowing for a short distance up to a private residence (Gaines 2009b, pers. comm.) and also may occasionally get graded, which can increase the rate of erosion and deliver increased silt loads to Trout Creek Spring (Gucinski *et al.* 2001, pp. 12-15). However, there is no recent information on water quality or sedimentation at Trout Creek Spring to assess whether these factors are impacting Susan's purse-making caddisfly habitat.

Highway 285 crosses High Creek on the western side of High Creek Fen. There also is a little-used dirt access road about 300 m (938 ft) north of High Creek Fen. Neither the highway nor the dirt road appears to be causing impacts to the caddisfly's habitat, as water quality appears good (Cooper 1996) and an adult caddisfly and pupae were found there in 2009 (Ireland 2009, p. 1; Ruiter 2009b, pers. comm.).

One maintained dirt road crosses Jaramillo Creek next to the collection site in VCNP and continues north on the eastern side of the creek for about 2.4 km (1.5 mi). It is unknown how much sediment this contributes to the creek, but it may contribute some. This road connects with another approximately 2.4 km (1.5 mi) upslope from the caddisfly capture site. The second follows upper Jaramillo Creek for about 5 km (3 mi) and deposits sediment into the creek during rainstorms (Parmenter 2009b, pers. comm.). These roads are not open in the winter and no salt, chemicals, or herbicides are used along them (Parmenter 2009b, pers. comm.), so road contaminants are not an issue

around the known caddisfly location in VCNP.

In summary, the restricted distribution and narrow habitat requirements of Susan's purse-making caddisfly make it possible that road contaminants could have a negative impact on this species. However, the available evidence does not support a conclusion that roads in and near Susan's purse-making caddisfly habitat are negatively impacting water quality or habitat at present or will do so in the foreseeable future.

Recreation

Population growth in central Colorado has led to increased numbers of recreational users. The population of Chaffee County increased 28.1 percent from 1990 to 2000, with much of the growth occurring in unincorporated areas, and the population of Colorado is expected to increase by about 50 percent within the next 20 to 25 years (Chaffee County Comprehensive Plan 2000, p. 10). A study of outdoor recreation trends in the United States found increases in participation in most of the activities surveyed, which included bicycling, primitive or developed-area camping, bird watching, hiking, backpacking, and snowmobiling (Cordell *et al.* 1999, pp. 219-321). Additionally, on the national level, off-road vehicle (ORV) usage has risen substantially. The number of people who reported engaging in ORV activities rose by 8 million individuals between 1982 and 1995, and an increase of 16 percent nationally is anticipated during the next 50 years (Bowker *et al.* 1999, pp. 339-340; Garber-Yonts 2005, p. 30). ORV use can negatively impact conditions in riparian areas through damage to riparian vegetation and stream banks, leading to increased sedimentation.

ORV impacts have been documented at Trout Creek Spring (USFS 2007c, pp. 2-3). However, ORV use is restricted to existing roads in the Trout Creek Spring/Chubb Park area (USFS 2010, p. 2). The likelihood of future ORV use impacting the caddisfly's habitat at Trout Creek Spring is low due to fences above and below the spring as well as steep slopes down to the spring. ORV use in the Chubb Park Allotment could contribute sediment to Trout Creek through vegetation destruction and erosion, but road-restricted ORV use should greatly limit ORV-caused sedimentation.

Damage to Trout Creek Spring also is possible from water withdrawal by campers (USFS 2007c, p. 2). Increased human passage to the spring to obtain water could damage the riparian zone

and disturb habitat. However, the proximity to Highway 285, steep slopes off of County Road 309, and open, narrow riparian zone limits the desirability for camping at the spring. People may occasionally go down to Trout Creek Spring proper for water, but if so, this occurrence appears to be limited as no sign of trampled vegetation or other impacts were evident during the July 2009 site visit. People also may use the "parking area" on the downstream side of the Highway 285 bridge to obtain water from Trout Creek, to fish, or to temporarily use the area for other purposes. However, the impact of people using the area below the bridge is likely minimal or non-existent since the caddisfly has only been collected upstream between the bridge and spring (Flint and Herrmann 1976, p. 898; Herrmann 2010, pers. comm.). More specimens of another caddisfly, *O. logana* (no common name), were collected at the bridge site than at the spring. Consequently, Flint and Herrmann (1976, p. 898) hypothesized that *O. logana* replaces Susan's purse-making caddisfly in Trout Creek as it gets farther away from the spring. Additionally, Herrmann (2010, pers. comm.) has never collected the caddisfly downstream of the bridge.

High Creek Fen is accessible to the public, but recreation of any kind is not known to be a threat (Schulz 2009, pers. comm.). The VCNP allows public access, with thousands of visitors annually (Valles Caldera Trust 2009, p. 142). However, VCNP uses reservations and a lottery to manage popular recreation activities or limits events to certain days and times (Valles Caldera Trust 2009, p. 212). Recreation is monitored, and no impacts from recreational activities have been noted in caddisfly habitat (Parmenter 2009b, pers. comm.). No ORV use is allowed in VCNP (Parmenter 2009c, pers. comm.). An environmental impact statement for public access and use is being prepared (Parmenter 2009b, pers. comm.).

In summary, although recreation is growing nationwide, the available information does not support a conclusion that any of the sites inhabited by Susan's purse-making caddisfly are being negatively impacted by recreational activities or that they will be in the foreseeable future.

Global Climate Change

The effects of global climate change are being assessed in North America and throughout the world, and changes in precipitation patterns, stream hydrology, and bloom time have already been observed. Stream flows decreased by about 2 percent per decade across the

last century in the central Rocky Mountain region (Rood *et al.* 2005, p. 231).

Effects of global climate change are anticipated to include warming in the western mountains, causing snowpack and ice to melt earlier in the season (Field *et al.* 2007, pp. 627, 632, 635). These changes could lead to both increased flooding early in the spring, and drier summer conditions, particularly in the arid western areas, which rely on snowmelt to sustain stream flows. Spring and summer snow cover has already been documented as decreasing in the western United States, and drought has become more frequent and intense (Intergovernmental Panel on Climate Change (IPCC) 2007, pp. 8, 12). Major hydrologic events, such as floods and droughts, are projected to increase in frequency and intensity (IPCC 2007, p. 18). Erosion also is projected to increase as the result of a combination of factors, such as decreased soil stability from higher temperatures and reduced soil moisture, and increases in winds and high intensity storms (IPCC 2007, pp. 12, 14, 15, 18). However, IPCC (2007) data can only predict on a regional scale and are not predictive of conditions at specific sites. Ray *et al.* (2008) predict that Colorado will warm by about 1 degree Celsius (°C) (2.5 degrees Fahrenheit (°F)) by 2025 and by about 2 °C (4.0 °F) by 2050. Most of the observed snowpack loss in Colorado has occurred below 2,500 m (8,200 ft) with snowpack loss above this elevation predicted at between 10 and 20 percent (Ray *et al.* 2008). With the lowest known caddisfly site in Colorado (Trout Creek Spring) occurring at 2,750 m (9,020 feet), the chance of effects from hydrological change and a warming climate is lessened.

There is evidence that the temperature has been rising at VCNP since 1914 (Parmenter 2009a, pers. comm.; Parmenter 2009b, pers. comm.) and that precipitation has been dropping (Parmenter 2009b, pers. comm.). Average annual temperatures at Jemez Springs, New Mexico, which is about 16 km (10 mi) south of VCNP, rose from about 10.3 °C (50.5 °F) in 1914 to 11.7 °C (53 °F) in 2005 (Parmenter 2009b). The mean January temperature rose from about 0 to 1 °C (32 to 34 °F) during this time period (Parmenter 2009b). The mean July temperature increase stands out as it increased from about 20.6 to 23.1 °C (69 to 73.5 °F) from 1914 to 2005 (Parmenter 2009b). The average annual precipitation at Jemez Springs decreased from about 46 centimeters (cm) (18 inches (in)) to just over 38 cm (15 in) from 1914 to 2005 (Parmenter 2009b). In 2006, following a

very dry winter and spring, Jaramillo Creek went dry for 30 days (Valles Caldera Trust 2009, p. 68). This was the driest period in 112 years of records (Parmenter 2009a, pers. comm.). However, the caddisfly was found in 2008 on Jaramillo Creek. Consequently, Susan's purse-making caddisfly larvae may survive in springs that had some water in them in 2006, or the caddisfly could have recolonized Jaramillo Creek since 2006 from some nearby refuge or drainage that was not dry in 2006. We are not aware of any historical temperature or precipitation data that have been compiled or analyzed for the Trout Creek area or High Creek Fen area.

In summary, based on predictions from IPCC over the next 40 years, the western United States is predicted to get warmer and dryer and have altered hydrologic cycles. Despite these predicted changes, the caddisfly does appear to have the ability to adapt to warmer and drier conditions from observations of weather patterns around the VCNP site. Furthermore, the high elevations that the caddisfly occurs at in Colorado will help shield it from climate change effects.

Summary of Factor A

Although we have identified potential impacts to the caddisfly from livestock grazing, hazardous fuel reduction activities, logging roads, prescribed fire, current and proposed water development, road sedimentation and contamination, and recreation, the available information does not support a conclusion that these actions are currently impacting the caddisfly. Current management practices and restrictions appear to adequately control these potential impacts so that they do not pose a substantial threat to the caddisfly. Additionally, there is currently no reliable way to predict if sediment and upstream water development will affect the caddisfly in the future.

Climate change could pose a problem to Susan's purse-making caddisfly if water levels, water temperature, or other habitat variables that affect the caddisfly change as a result of global warming. However, there is currently no model or supporting information that can reliably or credibly predict climate change effects at a local enough scale to ascertain whether climate change is, or will become, a threat to Susan's purse-making caddisfly. Furthermore, despite an extremely dry year in 2006, the caddisfly was able to persist in or recolonize the Jaramillo Creek area, indicating that the species can survive with at least occasional dry years and perhaps with decreased precipitation

over a longer period. Additionally, the high elevation of the Colorado sites are expected to shield the caddisfly from potentially negative consequences of warmer and drier conditions within the foreseeable future. The available data do not support the conclusion that potential threats are currently impacting Susan's purse-making caddisfly habitat or that they will impact the caddisfly habitat in the foreseeable future. Therefore, we conclude that the best scientific and commercial information available indicates that Susan's purse-making caddisfly is not threatened by the present or threatened destruction, modification, or curtailment of its habitat or range.

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

Susan's purse-making caddisfly is only known to occur at three sites, so its rarity may pose a collection threat. However, the only people known to collect the caddisfly in any number are Dr. Scott Herrmann and his students in 1974 and 1975 (Flint and Herrmann 1976, p. 898). Because of the high fecundity of insects, their collection typically poses little threat to their populations (Xerces Society *et al.* 2008, p. 15), but it is nonetheless possible to overcollect a species that occurs in relatively isolated habitat areas. We do not have evidence of any collections since 1975 at Trout Creek Spring. Other than a couple specimens collected during the July 2009 field trip at High Creek Fen (2009, p. 2) and a subsequent visit in August 2009 (Ruiter 2009b, pers. comm.), we do not have evidence of any other collections since 1995 at High Creek Fen.

Summary of Factor B

There is no evidence that overutilization has been a threat to Susan's purse-making caddisfly. Further, even though small collections will likely continue to occur absent any permitting requirements, we do not believe these collections will constitute a threat to the species. Therefore, we conclude that the best scientific and commercial information available indicates that Susan's purse-making caddisfly is not now, nor in the foreseeable future, threatened by overutilization for commercial, recreational, scientific, or educational purposes.

C. Disease or Predation

Neither disease nor predation is known to be a threat to Susan's purse-making caddisfly. Given only three known locations and unknown

population sizes, it is possible that disease or predation could pose a threat in the future. However, we have no evidence to suggest that disease or predation will be a threat to the species. Consequently, we conclude that the best scientific and commercial information available indicates that Susan's purse-making caddisfly is not now, nor in the foreseeable future, threatened by disease or predation to the extent that listing under the Act as a threatened or endangered species is warranted.

D. The Inadequacy of Existing Regulatory Mechanisms

Federal

Susan's purse-making caddisfly is listed as a U.S. Forest Service (USFS) Region 2 sensitive species (USFS 2007c, pp. 1-3). The Forest Service Manual (FSM) has direction for management and conservation of sensitive species (FSM 2670.31-2670.32). The FSM states that the USFS will: (1) Integrate available scientific information, including Regional species evaluations, species and ecosystem assessments, and conservation strategies, into USFS planning and implementation; (2) Conduct appropriate inventories and monitoring of sensitive species to improve knowledge of distribution, status, and responses to management activities, coordinating efforts within the Region and with other agencies and partners where feasible; and (3) Analyze and manage for sensitive species in a manner to realize efficiencies of multi-species and ecosystem management approaches.

Potential impacts to Susan's purse-making caddisfly were not addressed in planning documents for the North Trout Creek Project (USFS 2007a, p. 48) or the Ranch of the Rockies Timber Sale Project (USFS 2007b, pp. 1-3). The USFS is not bound to apply sensitive species policies if an ongoing project's Environmental Assessment (EA) under the National Environmental Policy Act (NEPA) (42 U.S.C. 4231 *et seq.*) was written prior to designation of a sensitive species, but the USFS could choose to apply sensitive species policies to those projects (Gaines 2010, pers. comm.). As discussed under Factor A (Livestock Grazing), the Final Grazing EA did address the caddisfly (USFS 2008a). The Final Grazing EA states that Trout Creek Spring discharge will be measured twice yearly to determine if up-valley water use (in Chubb Park) is affecting the caddisfly's habitat (USFS 2008a, p. 43). The USFS does not currently know if a well upstream of the caddisfly's habitat used for cattle watering contributes to Trout Creek

Spring. However, to reduce water usage, the USFS put float valves on the stock tanks so that water only runs when the cows have lowered the water level in the tanks or when minor evaporative loss occurs (USFS 2008a, p. 108). If the float valves are not working, an overflow valve at the well will return water to the drainage upstream of Trout Creek. Additionally, when the cattle are not grazing in Chubb Park, the water will be turned off (USFS 2008a, p. 108). Grazing was conducted for only 41 days in fall 2009 (USFS 2009, p. 4), and desired vegetative utilization levels were not exceeded (USFS 2009, p. 4). An electric fence also was installed along 8 km (5 mi) of riparian habitat upstream of Trout Creek Spring that prevented grazing there (USFS 2009, p. 5). These actions illustrate that regulatory mechanisms can and are being implemented by the USFS.

The USFS assumes presence of the caddisfly in suitable habitat unless adequate surveys determine otherwise (USFS 2008a, p. 103). Although the USFS does not know what the desired conditions should be for the caddisfly, they are managing the riparian area around Trout Creek Spring with the desired future condition for suitable habitat for all aquatic species (USFS 2008a, p. 105). This includes:

- A riparian plant community that is meeting or moving toward at least a mid-seral class (a suite of vegetation that is in the middle of the natural succession process);
- The presence of healthy and self-perpetuating riparian plant communities;
- Compliance with State and Federal water quality standards;
- The presence of stable and well-vegetated shorelines with appropriate species;
- The presence of suitable habitat for viable populations of aquatic invertebrates; and
- The absence of upstream depletions that would reduce the Trout Creek Spring discharge.

The Valles Caldera National Preserve (VCNP) does not have specific regulations protecting the Susan's purse-making caddisfly, as the species was not known to occur there until June 2009 (Flint 2009b, pers. comm.). However, the occupied site lies within a national preserve created by the Valles Caldera Preservation Act of July 25, 2000. The VCNP was created "to protect and preserve the scientific, scenic, geologic, watershed, fish, wildlife, historic, cultural, and recreational values of the preserve, and to provide

for multiple use and sustained yield of renewable resources within the preserve, consistent with this title" (VCPA sec. 105 [b]) (Valles Caldera Trust 2003, p. 47). As described above, the Preserve is federally owned but run by a nine member Board of Trustees (Valles Caldera Trust 2003, pp. 46-47). The VCNP Board of Trustees allows for public input in management decisions through public review of draft environmental assessments and a variety of other avenues (Valles Caldera Trust 2003, pp. 75-81). The multiple-use mandate does create the potential for conflicts with management of the caddisfly; however, it also provides wildlife protection and, based on recent information provided in Factor A, the Service finds that adequate regulatory mechanisms are being implemented to conserve the caddisfly.

For all projects on Federal land, or that are federally funded or authorized, an EA or environmental impact statement will be prepared under NEPA. Categorical exclusion documents also could be prepared under NEPA for projects if they are determined to be minor and would not affect rare or sensitive species. Therefore, because the caddisfly has been designated a sensitive species, NEPA documents can provide protection to the caddisfly by assessing impacts to the caddisfly and presenting actions to avoid or minimize any impacts. The Clean Water Act of 1977 (33 U.S.C. 1251 *et seq.*) also may provide indirect protection to the caddisfly. This law was written to restore and maintain the chemical, physical, and biological integrity of the Nation's waters. States have authority over water rights. The USFS must comply with Federal, State, and local water quality laws and rules, coordinate actions that affect water quality with States, and control nonpoint source pollution (USFS 2008a, p. 24).

State

The Susan's purse-making caddisfly is not a State-protected species in either Colorado or New Mexico. Title 33, Article 1-102 of the Colorado Revised Statutes defines wildlife in Colorado as vertebrates, mollusks, and crustaceans; therefore, caddisflies are not eligible for protection by the State. Likewise, Chapter 17, Article 2 of the New Mexico Statutes does not include non-mollusk or crustacean invertebrates in its definition of wildlife.

The Colorado State Land Board (CSLB), a Colorado State government entity, owns about 1,215 ha (3,000 ac) in Chubb Park as part of the Chubb Park Allotment. The CSLB cooperates with the USFS and manages the land with

the same grazing seasons as the USFS land and combines AUMs to manage the Chubb Park Allotment as a single allotment.

The CSLB also owns part of High Creek Fen and much of Black Mountain, which provides at least one source of water to High Creek Fen (Cooper 1996, p. 1803). The CSLB and Colorado Natural Areas Program (CNAP) designated 972 ha (2,401 ac) of land to the north of TNC-owned land and to the west on Black Mountain as a State Natural Area to help conserve land and water for the fen (CNAP 2001, pp. 1-7). In addition to the CSLB land, the CNAP also designated 464 ha (1,147 ac) of TNC-owned land in 1994 as the High Creek Fen State Natural Area (CNAP 1994, pp. 1-7). The 2001 designation was an addition to the High Creek Fen State Natural Area designation of 1994. The caddisfly was not listed as a reason for the designations, but the designations do help protect the caddisfly by limiting resource development and protecting water sources.

The Nature Conservancy

The Nature Conservancy (TNC) owns 464 ha (1,147 ac) of land and habitat for the caddisfly at High Creek Fen. The actual amount of Susan's purse-making caddisfly habitat protected on TNC land has not been calculated, nor is the extent of occupied habitat known on High Creek or within the fen proper. Additionally, TNC has facilitated several private land conservation easements (of unknown area) around and upstream of High Creek Fen for the fen's protection (TNC 2009, pp. 1-2). Although TNC is a not a regulatory agency and cannot enact State or Federal regulations, their primary mission is to protect native ecosystems. TNC's current management plan (TNC 1993, pp. 1-14) does not specifically mention protection of Susan's purse-making caddisfly, but general protections for the fen provide protection for the caddisfly by eliminating peat extraction and housing development in and around the fen and by managing the area to maintain a natural hydrologic and vegetative state. Consequently, the Service believes the High Creek Fen site is adequately protected.

Summary of Factor D

Susan's purse-making caddisfly is a USFS Sensitive Species. Despite the caddisfly not being addressed in the EAs for the North Trout Creek Project (USFS 2007a) or the Ranch of the Rockies Timber Sale Project (USFS 2007b), we believe that sensitive species

direction provided in the Forest Service Manual (FSM) (FSM 2670.31-2670.32) will continue to be followed under the EA for the Rangeland Allotment Management Planning in the Salida-Leadville Planning Area (USFS 2008a) and the Decision Notice and Finding of No Significant Impact for the project (USFS 2008b). The project area for the Rangeland Allotment Management Planning in the Salida-Leadville Planning Area (USFS 2008a) includes the areas addressed in the North Trout Creek Project (USFS 2007a) and the proposed Ranch of the Rockies Timber Sale Project (USFS 2007b). Consequently, adequate regulatory mechanisms exist to protect the species and its habitat at Trout Creek Spring. If other locations of the caddisfly are discovered on USFS land, the sensitive species policies also would apply.

The CSLB cooperatively manages its lands above Trout Creek and at High Creek Fen with the USFS and TNC, respectively, so even though the State of Colorado does not recognize invertebrates as wildlife, cooperative grazing management provides adequate regulatory mechanisms around the known locations of the caddisfly. TNC and CSLB own a majority of the land around High Creek Fen, and the lack of development and the conservation of the land through State Natural Area designation and implementation of a habitat management plan help to protect the fen. The designation and management of VCNP provides adequate protection to the caddisfly site by preserving the land from housing development; limiting and managing recreational use, logging, road use, and domestic livestock use (thereby allowing natural revegetation); reducing sedimentation; and preserving water resources. We believe that these management plans and regulatory mechanisms provide conservation benefit to the species now and into the foreseeable future.

We conclude that the best scientific and commercial information available indicates that Susan's purse-making caddisfly is not now, or in the foreseeable future, threatened by inadequate existing regulatory mechanisms.

E. Other Natural or Manmade Factors Affecting the Species' Continued Existence

Small Population Size and Stochastic Events

Since we do not know the caddisfly population size at any of the known locations, we considered whether small population size or rarity might pose a

potential threat to the species. Small populations are generally at greater risk of extirpation from normal population fluctuations due to predation, disease, and changing food supply, as well as from stochastic (random) events such as floods or droughts (Xerces Society *et al.* 2008, p. 15). However, we do not consider rarity alone, without corroborating information regarding threats, to meet the information threshold indicating that the species may warrant listing. In the absence of information identifying threats to the species and linking those threats to the rarity of the species, the Service does not consider rarity alone to be a threat. Further, a species that has always had small population sizes or been rare, yet continues to survive, could be well-equipped to continue to exist into the future. Many naturally rare species have persisted for long periods within small geographic areas, and many naturally rare species exhibit traits that allow them to persist despite their small population sizes. Consequently, that fact that a species is rare or has small populations does not necessarily indicate that it may be in danger of extinction now or in the foreseeable future. We need to consider specific potential threats that might be exacerbated by rarity or small population size.

Due to the presumed limited dispersal ability of Susan's purse-making caddisfly between the known populations, loss of genetic variability and reduced fitness due to inbreeding could occur (Bijlsma *et al.* 2000, p. 502; Saccheri *et al.* 1998, p. 491; Xerces Society *et al.* 2008, p. 15). However, we could find no specific literature addressing genetic effects in caddisflies. Although low genetic variability and reduced fitness from inbreeding could occur, at this time we have no evidence that genetic problems are occurring. Based on the limited available information, and fact that the caddisfly has survived for an unknown number of years, we conclude that genetic variability and reduced fitness are not an imminent threat now or in the foreseeable future. Although we have only known of the species' existence since 1974 (Flint and Herrmann 1976), it has likely historically survived floods, drought, and other stochastic events. We do not believe that such stochastic events would eliminate all of the populations at one time or place the species at risk of extinction within the foreseeable future.

Further, with the discovery of the adult caddisfly at VCNP, the potential range of the caddisfly has expanded significantly. Although the USFS'

Sensitive Species Form states that extensive surveys have taken place (USFS 2007c), species experts agree that more populations could exist, especially in light of the New Mexico discovery (Jacobi 2009, pers. comm.; Kondratieff 2010, pers. comm.; Ruiter 2010, pers. comm.).

Summary of Factor E

Although the limited distribution and presumably small size of the three populations of Susan's purse-making caddisfly could be a concern, there is no current evidence that the caddisfly is being impacted as a result of small population size or stochastic events. Consequently, we conclude that the best scientific and commercial information available indicates that Susan's purse-making caddisfly is not now, nor in the foreseeable future, threatened by other natural or manmade factors affecting the species' continued existence.

Finding

As required by the Act, we considered the five factors in assessing whether Susan's purse-making caddisfly is threatened or endangered throughout all or a significant portion of its range. We have carefully examined the best scientific and commercial information available regarding the past, present, and future threats faced by the species. We reviewed the petition, information available in our files, and other available published and unpublished information, and we consulted with recognized caddisfly experts, other Federal agencies, and non-governmental entities. On the basis of the best scientific and commercial information available, we find that Susan's purse-making caddisfly is not in danger of extinction (endangered) now, or likely to become endangered within the foreseeable future (threatened), throughout all or a significant portion of its range. Therefore, we find that listing Susan's purse-making caddisfly as a threatened or an endangered species is not warranted throughout all or a significant portion of its range at this time.

This species is only known from three locations, and there is limited scientific information available regarding its basic biology, life cycle, and habitat preferences. There is no available information regarding population sizes or trends at any of the known locations. Additional research and a species-specific survey effort are needed. We do have information regarding ongoing and potential future activities adjacent to each of the sites as described above.

Our finding is based on the best available information that does not

support a determination that any current activities are impacting the caddisfly or its known habitats, and on current management practices and protections that would limit or prevent possible negative impacts. Although there are projects proposed that could potentially impact occupied caddisfly habitats, especially from sedimentation and upstream water use that could reduce spring flows, we have no credible information as to the potential effects of the actions on the species or its habitat. There is evidence that the VCNP area is getting warmer and dryer. However, even if warmer and dryer trends continue, we do not know at what point climate change may negatively impact the caddisfly. The caddisfly apparently survived the driest period in 112 years at VCNP. Based on our current knowledge of the species, the fact that it occurs in mid- to high-elevation sites that appear less prone to climate change impacts, and the lack of local-scale predictability of climate change effects, we do not believe or have evidence that the species is threatened by climate change now or in the foreseeable future. We do not believe overutilization for commercial, recreational, or scientific use under Factor B is a threat to the species at this time. Neither disease nor predation under Factor C is known or expected to be a threat to the species. We believe adequate regulatory mechanisms under Factor D exist at the known locations to protect the caddisfly and its habitat. For Factor E, we do not consider rarity or small populations alone to be a threat; there must be some likely stressor acting on the species or its habitat that may affect the caddisfly's status such that the species may be threatened now or within the foreseeable future. The information we have does not indicate that the caddisfly is being impacted genetically or in any other way, as a result of small population size, or that it will become threatened or endangered in the foreseeable future due to stochastic events.

Distinct Vertebrate Population Segments

The species is not a vertebrate; therefore, the Service's Distinct Population Segment (DPS) policy does not apply. Thus, there are no population segments that qualify as a DPS under the Service's DPS policy.

Significant Portion of the Range

Having determined that Susan's purse-making caddisfly does not meet the definition of a threatened or endangered species, we must next consider whether there are any significant portions of the range where

the species is in danger of extinction or is likely to become endangered in the foreseeable future.

On March 16, 2007, a formal opinion was issued by the Solicitor of the Department of the Interior, "The Meaning of 'In Danger of Extinction Throughout All or a Significant Portion of Its Range'" (USDI 2007c). That formal opinion informs our analysis that occurs below. A portion of a species' range is significant if it is part of the current range of the species and it contributes substantially to the representation, resiliency, or redundancy of the species. The contribution must be at a level such that its loss would result in a decrease in the ability to conserve the species.

In determining whether a species is threatened or endangered in a significant portion of its range, we first identify any portions of the range of the species that warrant further consideration. The range of a species can theoretically be divided into portions an infinite number of ways. However, there is no purpose to analyzing portions of the range that are not reasonably likely to be significant and threatened or endangered. 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. In practice, a key part of this analysis 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 applies only to portions of the species' range that are not significant, such portions will not warrant further consideration.

If we identify portions that warrant further consideration, we then determine whether the species is threatened or endangered in these portions of its range. Depending on the biology of the species, its range, and the threats it faces, the Service may address either the significance question or the status question first. Thus, if the Service considers significance first and determines that a portion of the range is not significant, the Service need not determine whether the species is threatened or endangered there. Likewise, if the Service considers status first and determines that the species is not threatened or endangered in a portion of its range, the Service need not determine if that portion is significant. However, if the Service determines that both a portion of the range of a species

is significant and the species is threatened or endangered there, the Service will specify that portion of the range as threatened or endangered under section 4(c)(1) of the Act.

To determine whether any portions of the range of Susan's purse-making caddisfly warrant further consideration as possible endangered significant portions of the range, we reviewed the supporting record for the status review done for this 12-month petition finding, with respect to the geographic concentration of threats and the significance of portions of the range to the conservation of the species. In this case, we first evaluated whether substantial information indicated (i) the threats are so concentrated in any portion of the species' range that the species may be currently in danger of extinction in that portion; and (ii) if so, whether those portions may be significant to the conservation of the species.

Our rangewide review of the species concluded that Susan's purse-making caddisfly is not endangered now or in the foreseeable future. As described above, to establish whether any areas may warrant further consideration, we reviewed our analysis of the five listing factors to determine whether any of the significant threats identified were so concentrated in any of the three known caddisfly populations, that some portion of the caddisfly's range may be in danger of extinction now or in the foreseeable future. We found that none of the potential threats evaluated in this rule act were specific to one population or range of the caddisfly. Based on our review of the record, the available information does not indicate that any of the potential threats we evaluated were so concentrated as to find that some portion of the caddisfly's range qualifies as endangered. As a result, we have determined that the best available data show that there are no portions of the range in which the threats are so concentrated as to place the species in danger of extinction now or in the foreseeable future. Because we find that Susan's purse-making caddisfly is not endangered in any portion of its range now or in the foreseeable future, we need not address the question of whether any portion may be significant.

Conclusion

Our review of the information pertaining to the five factors does not support the assertion that there are significant threats acting on the species or its habitat that have rendered Susan's purse-making caddisfly to be in danger of extinction or likely to become so in the foreseeable future, throughout all or

a significant portion of its range. Therefore, listing Susan's purse-making caddisfly as threatened or endangered under the Act is not warranted at this time.

We request that you submit any new information concerning the status of, or threats to, Susan's purse-making caddisfly to our Western Colorado Field Office (see **ADDRESSES**) whenever it becomes available. New information will help us monitor the caddisfly and encourage its conservation. If an emergency situation develops for the caddisfly, 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 Western Colorado Field Office (see **ADDRESSES**).

Authors

The primary authors of this notice are the staff members of the Western Colorado Field Office.

Authority

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

Dated: April 12, 2010

Daniel M. Ashe,

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

[FR Doc. 2010-9458 Filed 4-26-10; 8:45 am]

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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 648

[Docket No. 0908191244-91427-02]

RIN 0648-XV91

Fisheries of the Northeastern United States; Summer Flounder Fishery; Quota Transfer

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Temporary rule; quota transfer.

SUMMARY: NMFS announces that the State of North Carolina is transferring a portion of its 2010 commercial summer flounder quota to the Commonwealth of Virginia. By this action, NMFS adjusts the quotas and announces the revised commercial quota for each state involved.

DATES: Effective April 22, 2010 through December 31, 2010.

FOR FURTHER INFORMATION CONTACT: Sarah Heil, Fishery Management Specialist, 978-281-9257.

SUPPLEMENTARY INFORMATION:

Regulations governing the summer flounder fishery are found at 50 CFR part 648. The regulations require annual specification of a commercial quota that is apportioned among the coastal states from North Carolina through Maine. The process to set the annual commercial quota and the percent allocated to each state are described in § 648.100.

The final rule implementing Amendment 5 to the Summer Flounder,

Scup, and Black Sea Bass Fishery Management Plan, which was published on December 17, 1993 (58 FR 65936), provided a mechanism for summer flounder quota to be transferred from one state to another. Two or more states, under mutual agreement and with the concurrence of the Administrator, Northeast Region, NMFS (Regional Administrator), can transfer or combine summer flounder commercial quota under § 648.100(d). The Regional Administrator is required to consider the criteria set forth in § 648.100(d)(3) in the evaluation of requests for quota transfers or combinations.

North Carolina has agreed to transfer 84,150 lb (38,170 kg) of its 2010 commercial quota to Virginia. This transfer was prompted by summer flounder landings of 12 North Carolina vessels that were granted safe harbor in Virginia due to mechanical problems and severe weather conditions between January 20, 2010, and February 27, 2010. The Regional Administrator has determined that the criteria set forth in § 648.100(d)(3) have been met. The revised quotas for calendar year 2010 are: North Carolina, 3,382,502 lb (1,534,277 kg); and Virginia, 2,897,955 lb (1,314,490 kg).

Classification

This action is taken under 50 CFR part 648 and is exempt from review under Executive Order 12866.

Authority: 16 U.S.C. 1801 *et seq.*

Dated: April 21, 2010.

James P. Burgess,

Acting Director, Office of Sustainable Fisheries, National Marine Fisheries Service.

[FR Doc. 2010-9725 Filed 4-22-10; 4:15 pm]

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