

QUESTIONS AND ANSWERS FOR THE ARAPAHOE SNOWFLY 12-MONTH FINDING

What is the Service's determination regarding the status of the Arapahoe snowfly?

We have determined that protection of the Arapahoe snowfly under the Endangered Species Act (ESA) is warranted. However, listing the Arapahoe snowfly at this time is precluded by the need to address other listings of higher priority. This finding is based upon our evaluation of all the available scientific and commercial information regarding the snowfly, including an analysis of the threats to the species and its habitat.

The Arapahoe snowfly will be added to the list of candidate species under the ESA and will be proposed for listing when funding and workload priorities for other listing actions allow. If the Service proposes the Arapahoe snowfly for listing in the future, the public will have an opportunity to comment.

Why did the Service make this decision?

Using the best available scientific and commercial data, the Service determined that there are ongoing and potential threats to the species, including: the potential present and future threat of habitat modification caused by climate change; the lack of adequate regulatory mechanisms to protect the species from impacts due to climate change; and its small population size. The species is currently only known from one location, where it is subject to reduced snowpack, increased water temperatures, and catastrophic events such as wildfire facilitated by mountain pine beetle infestations.

What is a candidate species?

Candidate species are plants and animals for which the Service has sufficient information on their biological status and threats to propose them for listing as endangered or threatened under the ESA, but for which development of a proposed listing regulation is precluded by higher priority listing actions to address species in greater need.

Candidate species receive no statutory protection under the ESA. The Service encourages voluntary cooperative conservation efforts for these species because they are, by definition, species that warrant future protection under the ESA.

What if the Arapahoe snowfly is proposed for listing?

When a "warranted but precluded" finding is made for a species, the Service classifies it as a candidate for listing. If the Service proposes the Arapahoe snowfly for listing in the future, the public will have an opportunity to comment. When the Service proposes a species for listing, it opens a public comment period, which allows the public an opportunity to provide comment and information on the proposed listed species. The Service then considers all received information in finalizing its listing decision.

If the Arapahoe snowfly is listed in the future, what activities could be impacted?

The Arapahoe snowfly occurs on lands managed by the U.S. Forest Service (USFS). The USFS carries out many management activities, including recreational use, grazing management, and forest management practices, including tree thinning, controlled burns, and removing trees which have been killed by the mountain pine beetle.

In our 12-month finding, we concluded that current USFS management practices do not contribute to the threat to the species. Future USFS activities would be subject to ESA section 7 consultation to ensure that they would not jeopardize the continued existence of the snowfly or adversely modify critical habitat, if any was designated. Additionally, if any “adverse effects” were determined to be likely to occur, the action would be subject to terms and conditions to minimize its effects.

The Service would coordinate with private landowners upstream of known occupied Arapahoe snowfly habitat, to ensure that their activities, including road construction and use, development, and wastewater treatment, would not harm the species.

What does an Arapahoe snowfly look like?

The Arapahoe snowfly is a species of insect in the order Plecoptera (stonefly). Adults are dark-colored and have a body length and wing length of approximately 0.2 inch. The immature stage (nymph) has not been described.

How does an Arapahoe snowfly live?

The Arapahoe snowfly has a 1-year lifecycle that requires aquatic habitat while it is a nymph and terrestrial habitat as an adult. In late winter, adults emerge from beneath stream ice, fly upstream, and mate. Females detach an egg mass onto the water. The eggs hatch in early spring. As water temperatures rise, the nymphs burrow into the stream substrate and undergo a period of dormancy. When water temperature drops in late fall, the nymphs complete their development into adults.

Where do Arapahoe snowflies live?

The Arapahoe snowfly has only been found in two small tributaries (Elkhorn Creek and Young Gulch) of the Cache la Poudre River in the Front Range of the Rocky Mountains of Colorado. Both sites are on Forest Service lands. The species has not been found in Young Gulch since 1986, and is considered extirpated (no longer occurring) at this site.

Does having a small population size affect the Arapahoe snowfly?

The Arapahoe snowfly apparently has a small population size, and its distribution is limited to one known population. Its limited distribution and numbers makes the species more vulnerable to extinction from small or cumulative impacts that cause changes in birth and death rates of the

population. Unexpected natural catastrophes such as flood, fire, and drought could also extirpate the species.

Why should we care about the Arapahoe snowfly?

Many details regarding the life history of the Arapahoe snowfly are not yet known because it is inconspicuous and lives most of its life either in the stream substrate or under the ice. However, stoneflies typically require clean, cold, well-oxygenated streams or rivers. They are very sensitive to pollution. Therefore, their presence can be an indication of a healthy stream ecosystem.