

# SHOWCASE SPECIES: WEST

## UNCOMPAGHGRE FRITILLARY BUTTERFLY

### The Issue

The very limited range and small population of this butterfly make it susceptible to decline from recreational activity, livestock grazing, drought and collecting, which is the major current threat.

### Natural History

The Uncompahgre fritillary butterfly lives in moist tundra with dwarf willows above 13,000 feet in southwestern Colorado's San Juan Mountains. The species presumably was more widespread during periods of glaciation, when the overall climate was cooler.

**The current population is likely a remnant that retreated up mountainsides as the Earth warmed during the current interglacial period, leaving only limited suitable habitat for the butterfly.**

Its high-altitude habitat has a short growing season, so the butterfly takes two years to pass from egg to adult. At maturity it has a wingspan of less than one and a half inches, with wings dull orange-brown on top, with faded markings, and the underside ranging from grayish to dark orange-brown.

### Listing

Discovered in 1978 and recognized as a new species in 1984, the Uncompahgre fritillary butterfly was listed as endangered in 1991 after a population decline, probably due to intensive collection and possibly due to improper livestock grazing, prolonged drought and mountain recreation.

### Management

At the time of listing, biologists knew of only two colonies of this species. Inventories turned up more populations between 1994 and 2002. As only a limited amount of suitable habitat in the San Juans has not been inventoried, biologists now are unlikely to turn up new populations.



SCOTT HOFFMAN BLACKXERCES SOCIETY

All 11 known populations occur on public land administered by the U.S. Forest Service (10 populations) and the Bureau of Land Management (one population), easing the ability to protect the species from livestock grazing, collection and other activities. Some restrictions have been placed on sheep grazing, and one or two trails have been closed to protect the butterfly. The main threat is collecting, which has been reduced by bans on the practice, stepped-up law enforcement and the presence of researchers.

**The species would qualify for delisting if it occurred in a minimum of 10 populations that each remained stable for at least a decade.**

### Funding

Funding for this species has been limited. The Forest Service has provided about \$7,000 to \$9,000 and the Bureau of Land Management about \$3,000 to \$4,000 from budgets that were not even earmarked for the Uncompahgre fritillary butterfly. The U.S. Fish and Wildlife Service provided a few thousand dollars, too. "For species like this butterfly, a little bit of funding goes a long way," says John Kostyack, director of Wildlife Conservation Campaigns at the National Wildlife Federation. "The funds needed to recover this

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species are small compared to most, yet chronic under-funding means all species, large and small, are not receiving resources needed to achieve recovery.”

**Staffing and funds have proved adequate to discovering new populations, primarily because the butterfly occurs entirely on federal land.**

And yet, even though management of this species is something of a success in terms of its results, shortcomings do plague recovery. Due to a lack of funds, for example, no studies have been done on the species' genetic relationship to more northerly relatives nor on how the butterflies move from mountain to mountain, studies that could provide critical information. Funds recently were provided for hiring a biologist at the Western State College of Colorado in Gunnison to examine long-term population trends. Species population numbers remain unknown.

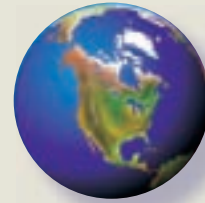
## Local Contacts

National Wildlife Federation Rocky Mountain Natural Resource Center, 303-786-8001; Fish and Wildlife Region Six Office, Ecological Services Division, 303-236-4255; Colorado Dept. of National Resources, 302-297-1192

## Other Threats

Drought and warm spells, likely to be accentuated in the wake of global warming, have already contributed to declines in this species since its discovery about 25 years ago.

## THREATS FROM GLOBAL WARMING



**G**lobal warming is causing rising temperatures on high mountain elevations, forcing species in these areas to move higher to avoid the heat. This factor could eliminate the butterfly's refuges in high mountains, leading to rapid extinction of the insect. According to an article in the peer-reviewed journal *Conservation Biology*, "Butterflies are highly sensitive to weather and climate, making them useful indicators of how other wildlife species may respond to climate change. Species that are limited to islands and mountaintop habitats are particularly at risk, since their options for shifting to more favorable habitat are limited. The highly endangered Uncompahgre fritillary butterfly, which is restricted to a few peaks in the San Juan Mountains of Colorado, could lose virtually all of its viable habitat as average temperatures in the region continue to increase."

