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## The monarch butterfly might end up on the endangered species list this year



A monarch butterfly rests on a visitor's hand at the Monarch Grove Sanctuary in Pacific Grove, California, December 30, 2014. REUTERS/Michael Fiala

By Abby Ohlheiser / December 31 2014

After conservationists warned that the monarch butterfly's population is declining in a "deadly free fall," the U.S. Fish and Wildlife Service are reviewing a proposal to include it on the endangered species list, the federal agency announced this week.

Over the past 20 years, the monarch population has fallen by as much as 90 percent, according to the Center for Biological Diversity - one of the groups that petitioned the federal agency for a review. Monarchs are known for their distinctive orange and black markings, but also for their yearly, seemingly grueling, migrations. The butterflies fly thousands of miles from Canada, through the U.S., and down to Mexico, each year.

"This journey has become more perilous for many monarchs," U.S. Fish and Wildlife said in its announcement, "because of threats along their migratory paths and on their breeding and wintering grounds." A particular concern? The dwindling supply of the monarch caterpillar's only foods source: milkweed. In the Midwest, where the species breeds, the caterpillar's food source is increasingly doused in powerful pesticides used on industrial corn and soybean farms.

Also petitioning the agency for a review: the Center for Food Safety, the Xerces Society for Invertebrate Conservation, and arguably the world's most established monarch butterfly expert, Lincoln Brower. Brower has been tracking the species for decades.

In an interview with the Washington Post earlier this year, Brower said that the "most catastrophic thing from the point of view of the monarch butterfly has been the expansion of crops that are planted on an unbelievably wide

scale throughout the Midwest and have been genetically manipulated to be resistant to the powerful herbicide Roundup."

Brower also mentioned two additional negative factors on the butterflies' population: severe weather over the past few years, and illegal deforestation in the overwintering habitat for the adult butterflies in Mexico. Their habitat, the Monarch Butterfly Biosphere Reserve, is protected, but still threatened by illegal loggers. The satellite imagery at right gives a good visual representation of the continued erosion of the habitat.

If the monarchs go extinct, Brower said, it would be "just like going into a museum and pulling a rare painting off the wall and destroying it." In the petition to protect the monarch, its advocates write that the monarch "has played a unique and prominent role in the imagination of our country, especially so for an insect."

Among other things, the petition reads, "millions of school children have reared monarchs in classrooms and learned about metamorphosis by watching the caterpillars transform." It is also the official state butterfly of at least seven U.S. states.

It will take the U.S. Fish and Wildlife Services a year to review the petition for the monarch's inclusion on the endangered species list. The first step of that process is a 60-day information gathering process. Among other things, the agency will look for information on the butterflies' population trends, habitat requirements and genetics; its current distribution patterns; the monarch's "microclimate requirements;" and past and current conservation measures, the announcement says.

Once that review is completed, one of three things will happen: the agency might determine that protection is "not warranted" in the monarch's case. Or, if the data supports protection, the agency could propose protection under the Endangered Species Act. A third option places the species on a sort of waiting list, referred to by the agency as "warranted but precluded," meaning that officials will continue to evaluate the petition on a yearly basis.