

AUGUST 2014

FAQs ON THE MONARCH BUTTERFLY ENDANGERED SPECIES ACT PETITION

WHO FILED THE PETITION? The Center for Biological Diversity and Center for Food Safety, co-lead petitioners, are joined by Xerces Society and renowned monarch scientist Prof. Lincoln Brower in filing the petition.

WHY DOES THE MONARCH NEED ENDANGERED SPECIES ACT (ESA) PROTECTION? The monarch needs federal protection because the threats it faces are so large in scale that it has declined by 90 percent from the 20-year average since the mid-1990s. If monarchs were people, that would be like losing every living person in the United States except those in Florida and Ohio.

WHY IS THE MONARCH BUTTERFLY THREATENED WITH EXTINCTION? One of the major threats pushing monarchs toward extinction is the near-eradication of milkweed, the monarch caterpillar's only food source, from Midwestern cropland where most monarchs were once born. Milkweed has fallen victim to skyrocketing use of the herbicide glyphosate (brand name Roundup®) sprayed on genetically engineered Roundup Ready® corn and soybeans now planted on more than 150

million acres of land. Studies show that monarchs lay nearly four times more eggs per plant on milkweed growing in cropland than in other areas, making its loss even more harmful to monarchs. Additional habitat is being lost to urban sprawl and to conversion of natural habitat areas to genetically engineered corn fields to produce ethanol for biofuel. Climate change is another primary threat to the monarch butterfly.

HOW CAN MONARCHS BE THREATENED IF THEY ARE STILL SOMETIMES FOUND IN PEOPLE'S BACKYARDS? During summer, monarchs are found throughout the United States, but at only 10 percent of their former abundance. Monarchs need a very large population size to be resilient to threats from climate change, severe weather, predation and disease. Monarchs from east of the Rockies migrate to forests in Mexico to overwinter. A single winter storm in 2002 killed up to 500 million monarchs - 14 times the entire current population - in their Mexican overwintering grounds. Scientists predict that climate change will increase the frequency of drought, heat waves and severe storms that cause high levels of monarch mortality and significantly reduce the population size. In

A collaborative effort of:



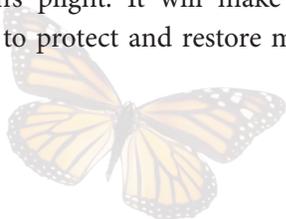
fact, some scientists have predicted that climate change could make the forests where the monarch's overwinter in Mexico entirely unsuitable to support butterflies by the end of the century. Likewise, parts of the monarch's summer range in the United States are expected to become too hot for monarchs to be able to reproduce. In addition, nearly half of the overwintering population in Mexico can be eaten by bird and mammal predators each winter.

IS IT POSSIBLE FOR A WIDESPREAD SPECIES TO BECOME EXTINCT?

There is a tragic record of rapid and unexpected declines of once common and widespread species. Examples of extremely abundant species that plummeted to unforeseen extinction include the passenger pigeon and the Rocky Mountain grasshopper. The passenger pigeon went extinct in the early 20th century despite the fact that in the late 19th century it was one of the most abundant birds in the country, with flocks so numerous that by some accounts they darkened the sky for up to 14 hours at a time. Similarly, the Rocky Mountain grasshopper once ranged throughout western North America and was so numerous that a swarm that passed through Nebraska in 1874 numbered more than 12 *trillion* grasshoppers. Due to habitat loss from plowing and irrigation, the grasshopper plunged to extinction in less than 30 years. There is a long and growing list of abundant species that are undergoing precipitous declines, including many species of mollusks, pollinators, amphibians, bats, songbirds and fishes. Faulty assumptions about the resiliency of once-common species can lead to lack of timely intervention, delays in protection, further population declines, greater recovery costs, or ultimately, extinction.

HOW WILL ESA PROTECTION HELP MONARCHS?

Listing will make it illegal to intentionally kill monarchs or modify their habitat without a permit. Listing will also lead to designation and protection of "critical habitat" to help recover abundant monarch populations. Federal scientists will develop a recovery plan to guide efforts to restore long-term, healthy populations of monarchs. ESA protection will also bring much needed funding to monarch conservation efforts and will increase awareness of the monarch's plight. It will make federal funding available to states to protect and restore monarch habitat.



IF LISTED, CAN CHILDREN STILL RAISE MONARCHS? CAN CITIZEN MONITORS STILL TAG MONARCHS? CAN SCIENTISTS STILL DO EXPERIMENTS WITH MONARCHS?

If the monarch is protected, then children will still be able to raise them in classrooms and at home, scientists will still be able to conduct research using monarchs, and citizen monitors will still be able to tag monarchs. The U.S. Fish and Wildlife Service will implement a permitting system to allow these activities to continue in a manner that supports monarch conservation. Petitioners have specifically requested that the Service implement a "4(d) rule," a special rule under the ESA that would allow activities that support monarch conservation to continue so that those beneficial activities will not be considered as "take" or harm to the monarch population.

HOW ARE MONARCHS IDENTIFIED?

Monarchs are large orange and black butterflies with a wingspan of about 4 inches. They have two rows of white dots on the black edges of their wings. They do *not* have a black line cutting across the lower half of their bottom wing like the similar-looking viceroy butterfly.

HOW CAN INDIVIDUALS HELP MONARCHS?

People can help monarchs by planting milkweed species native to the region where they live that haven't been treated with pesticides. People can also help monarchs by not using pesticides on their lawns and gardens. It also helps monarchs when consumers choose foods, especially corn and soy, that are organic and that have not been genetically engineered. Increased pesticide use to grow corn and soybeans that have been genetically engineered to be resistant to herbicides is the primary factor driving monarch decline. Individuals can support this legal petition by signing on to a letter supporting the petition from Center for Food Safety and the Center for Biological Diversity.

IF MONARCHS ARE LISTED UNDER THE ESA, HOW WILL THAT AFFECT THE MANY VOLUNTARY EFFORTS CURRENTLY UNDERWAY TO CONSERVE MONARCHS?

The monarch's alarming decline shows that the many well-intended voluntary efforts are not enough and that protection is warranted. ESA listing would not supplant the many beneficial conservation efforts that are being undertaken for monarchs. In fact, listing will likely

bring additional funding to the programs that are already in place for monarch conservation. The listing process takes many years and often once a species has been petitioned for protection, fiscal resources are designated from federal money, states, and private entities to help the species recover.

HOW LONG HAVE MONARCHS BEEN IN DECLINE? Since historical data are scarce, we have no sure way of knowing, but anecdotal evidence suggests that monarchs were quite abundant in the 19th century. An 1850s observer of the monarch migration in the Mississippi Valley reported so many monarchs that clouds of them darkened the sky. An early account in California described tree branches breaking under the weight of so many gathered monarchs. Monarchs breed only on milkweeds, thus their fates are closely intertwined. A recent estimate of milkweed abundance in the pre-settlement prairies of Iowa – based on milkweed prevalence in today’s prairie remnants – found ten-fold more milkweeds on the prairies than exist today, suggesting more milkweed habitat that supported larger monarch populations.

IF MONARCH COUNTS ARE UP THIS YEAR, DOES IT MEAN THE SPECIES ISN'T THREATENED WITH EXTINCTION? Insect populations can fluctuate widely from year to year. Weather conditions in particular strongly influence how many monarchs are produced in a particular breeding season, and then survive through migration and overwintering. Though population size fluctuates annually, the number of monarchs overall show a steep and statistically significant decline of nearly 90 percent over 20 years.

IF THE GREAT MAJORITY OF CORN AND SOYBEANS GROWN IN THE UNITED STATES ARE ALREADY ROUNDUP READY AND SPRAYED WITH GLYPHOSATE, THEN ISN'T MONARCH DECLINE ALREADY AT ITS LOWEST POINT? No, for several reasons. In the push to produce biofuels, natural areas that are home to a substantial share of remnant milkweed populations are being converted to corn and soybeans, and this will result in additional milkweed loss. New crops have recently been approved that are genetically-engineered for resistances to multiple herbicides, including glyphosate. They will lead to still more intensive herbicide use, and increased herbicide drift that kills the flowering

plants monarchs depend upon for the nectar that fuels their migration and other life activities. A new group of pesticides called neonicotinoids or “neonics” that are highly toxic to pollinators and that persist in the environment pose a growing threat to monarchs. Development continues apace. In addition, other threats such as global climate change, which increases the frequency of storms, drought, and other severe weather events, can kill large numbers of monarchs making it harder for the population to rebound from historic lows.

WHAT HAPPENS NEXT? The U.S. Fish and Wildlife Service must issue a “90-day finding” on the petition to determine if it presents substantial information indicating that protection may be warranted for the monarch. If the finding is positive, then the Service will conduct a one-year status review to gather additional information on whether the monarch should be added to the list of threatened species.

For more information and full citations, please refer to the [petition](#).

For further inquiries, please contact:



CENTER FOR
FOOD SAFETY

660 Pennsylvania Ave, SE, #302
Washington, DC 20003

phone (202) 547-9359 | fax (202) 547-9429

www.centerforfoodsafety.org

office@centerforfoodsafety.org



CENTER for
BIOLOGICAL
DIVERSITY
Because life is good.

P.O. Box 710

Tucson, AZ 85702-0710

phone (520) 623-5252 | fax (520) 623-9797

www.biologicaldiversity.org

center@biologicaldiversity.org