



{ FEATURE }

# SAVING MINNESOTA'S BUTTERFLIES

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Poweshiek skipperling, photographed  
by Joel Sartore, *National Geographic*.



Most office refrigerators hold employee lunches. Mine hibernates some of the world's most endangered butterflies. More than 150 Dakota skipper caterpillars sleeping in plastic cups in my fridge are the foundation of the world's only conservation breeding program dedicated to this increasingly rare butterfly. Earlier this year, my refrigerator also housed one of the world's most critically-endangered animals on earth—another Minnesota native butterfly—the Poweshiek skipperling. Of course, a refrigerator is an unlikely place to keep living endangered species, so let me back up.

## RARER THAN A PANDA

Vast oceans of grasses and wildflowers once stretched across the Midwest, and Laura Ingalls Wilder probably saw Dakota skippers and Poweshiek skipperlings near her Walnut Grove, Minnesota prairie sod home. Sadly, so little native prairie now remains (1%) that many of our prairie butterflies are disappearing (10 of the 15 butterflies on Minnesota's Endangered, Threatened and Special Concern list are prairie natives). Two of these, the Dakota skipper and the Poweshiek skipperling, have just been proposed for listing on the U.S. Endangered Species List.

Dakota skippers are gone from half of their range, and may be hanging on in only one Minnesota location. Poweshiek skipperlings are even more imperiled, having disappeared from more than 90 percent of their historic range. The Poweshiek skipperling, sometimes referred to as the "most Minnesotan butterfly"

because half of its historic range was here, was once one of the most abundant butterflies on Minnesota's prairies. But it hasn't been seen in Minnesota since 2007 and may also be extinct in North and South Dakota and Iowa. Intensive 2013 surveys across the remaining isolated populations in Michigan, Wisconsin, and Manitoba indicate that fewer than 500 Poweshiek skipperlings may remain globally. That means there could be at least three times as many wild giant pandas as Poweshiek skipperlings!



Be it a panda or a Poweshiek skipperling, Zoo-based endangered species conservation programs require partnerships. This is certainly true for the Minnesota Zoo's Prairie Butterfly Conservation Program, established in 2012 following discussions with the U.S. Fish and Wildlife Service, Minnesota Department of Natural Resources (DNR) and others. Our breeding program seeks to prevent the extinction of the Poweshiek skipperling, Dakota skipper and other endangered prairie butterflies, but it is also an international effort involving over a dozen agencies and organizations.

### A FLASH OF ORANGE AND SHE WAS GONE

Dakota skippers are best sighted as orange triangles atop coneflowers, but as I discovered this summer on Sisseton Wahpeton Oyate tribal lands in South Dakota, they can vanish on the slightest prairie breeze. Their darting flight is startlingly fast, and many more swings of my butterfly net came up empty than I had expected. These well-managed hay prairies may hold the largest remaining populations of Dakota skippers, and the hibernating caterpillars in my refrigerator are the offspring of wild females from these prairies. Establishing safeguards with the tribal government to ensure that our efforts



would not reduce population integrity, we eventually caught 16 females of the hundreds of adults that we saw to form the basis of the world's first conservation breeding populations at the Zoo. After the females laid eggs in my hotel room, I released each back into the wild. Female after female zipped away upon release.

I brought the eggs back to the Minnesota Zoo and fed the resulting caterpillars prairie grasses as they grew from pinpoints to the size of pennies by autumn. Like most of Minnesota's butterflies, Dakota skippers spend their entire lives here, grinding out cold Midwestern winters as caterpillars buried in snow. Protecting them from predators, diseases, and extreme weather at the Zoo, many more individuals will survive in our care than in the wild. We have done the same careful planning with Poweshiek skipperlings at the Nature Conservancy of Canada's Tall Grass Prairie Preserve in Manitoba, as well as with the Michigan DNR, Wisconsin DNR, Milwaukee Public Museum, and The Nature Conservancy. The caterpillars will come out of my fridge in spring to continue growing into adulthood, and will hopefully breed next summer.

## PRAIRIE CANARIES

Why should we care about these butterflies? Insects perform critical ecosystem jobs like pollination and nutrient recycling. Butterflies are useful indicators because their complex lifecycles are very sensitive to changes in their environment. Steep declines in prairie butterflies observed by the DNR and others indicate that something is wrong on our prairies, and research is needed. We coordinate surveys on prairie preserves managed by The Nature Conservancy, DNR and others, and are collaborating with the University of Michigan-Dearborn on genetics studies that will inform conservation management. It takes a village to save species from extinction, and our network of partners is working hard to secure a brighter future for these prairie canaries in a coal mine.

Now, we need your partnership. Pollinators are declining, yet their services provide one-third of our food. Avoid pesticides. Plant native wildflowers and caterpillar hostplants. Explore a prairie, and support the Minnesota Prairie Conservation Plan. Can we count on you?

