

<https://www.npsa.org/articles/2394-long-live-the-king>

An article in the National Parks magazine about Monarchs- but also includes a great insert (“Double Whammy”) about the ESA, its success, and the suits to protect it.

With the survival of monarchs at stake, rangers and volunteers at national parks around the country are stepping in to help.

Emily Spencer, natural resource specialist at Dinosaur National Monument, wasn't sure how many people would show up for a monarch butterfly tagging event one Saturday morning this summer. The event was early (8 a.m.), it was held in a remote part of the park at the end of an unpaved road, and ordinarily, the main draw for Dinosaur's visitors is, well, dinosaurs.

As it turns out, people in this corner of Utah care a great deal about monarchs. About 50 people came out and helped tag 26 monarchs — including a mating pair that stayed attached through the ordeal — with identifying stickers. “It was one of our best-attended events” of the year, Spencer said.

Spencer herself became a convert to the monarch cause only in the last couple of years, but since then, she's been deeply involved. Along with other staff members, she has been documenting monarch habitat, recording observations on monarch butterflies and caterpillars, and fostering a growing appreciation among locals for the insects. This summer, Dinosaur hired an intern focused on monarch research who helped tag more than 151 monarchs.

Dinosaur is far from alone in its newfound passion for the monarch. As the butterfly's numbers are declining and the species faces an uncertain future, park staff across the country are mobilizing to provide crucial information about monarchs' migration paths, restore the habitat they depend on and turn park visitors into monarch advocates. “What we're doing in parks is hugely important,” said Dave Treviño, who coordinates the National Park Service's monarch work.

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A monarch caterpillar on milkweed.

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Monarchs' size and arresting looks have something to do with their growing appeal: Among North America's largest butterflies, they have a wingspan of up to 4 inches and an intricate black, white and orange pattern that is easy to spot. Yosemite National Park ranger naturalist Erik Westerlund calls them “stained glass windows.” Another reason for the fascination with monarchs stems from their unique life history. Every spring, millions of monarchs head north from their wintering grounds in Mexico and California (and to a lesser extent, Florida). Then in late summer and fall, those monarchs' descendants head back south. The journey takes the butterflies over virtually every corner of the Lower 48, from coasts to mountain ranges to deserts.

DOUBLE WHAMMY

The Endangered Species Act has worked extraordinarily well since it was passed in 1973 to protect plants and animals at risk of extinction. Fewer than 1% of species listed as threatened or endangered over the past 46 years have died out. All the others have staved off extinction, and many have fully recovered.

The law also has benefited national parks in numerous ways. According to a recent report by NPSA and Defenders of Wildlife, national park sites provide habitat for more than 600 threatened and endangered species, and the law supplies essential funding to the Park Service and its partners to protect and restore critical ecosystems. Also, research into listed species can help park managers better care for the animals' and plants' natural environments. And charismatic listed species such as Yellowstone National Park's grizzlies and

Glacier Bay National Park and Preserve's humpback whales draw visitors to national parks and boost local economies.

Healthier national park ecosystems can have health benefits for humans, too. Consider the listed species of mussels that live in Big South Fork National River and Recreation Area in Kentucky and Tennessee.

"Protecting these mussels, you could argue, also protects the downstream water quality for a massive urban area in and around Nashville," said Bart Melton, NPCA's wildlife program director.

Despite its success, the law itself has come under grave threat. Lawmakers filed dozens of bills intended to weaken the act during the last Congress, but the most serious attack has come from the current administration, which in August made changes to the regulations guiding the implementation of the law that critics contend seriously undermine it. Under the new rules, for example, regulators deciding whether a species should be listed can consider economic factors, such as revenue lost because of restrictions on oil drilling.

Weakening this bedrock environmental law at a time when climate change puts even more species at risk is "really an irresponsible decision," Melton said. NPCA and other environmental groups sued the administration in August, and so have 19 state attorneys general so far. "There is a really strong coalition," Melton said. "We're hopeful that we will be successful in court challenging these unlawful new regulations."

To see NPCA's full ESA report go to nps.org/win-win.

While monarchs can still appear in any suitable backyard or meadow, the likelihood of spotting one is not what it used to be. Populations fluctuate from year to year, but overall numbers have been on a steady downward trend over the last couple of decades. The decline has been particularly pronounced among monarchs that overwinter on the California coast; their numbers have dropped more than 99% since the 1980s, according to a recent study. Westerlund typically sees monarch butterflies every day during the summer in Yosemite's meadows, where the milkweed that adults and caterpillars feed on abounds. This year, he was able to count the monarchs he saw on one hand. Among Yosemite naturalists, the dearth of the butterflies was the "talk of the summer," Westerlund said.

In 2014, the Center for Biological Diversity, along with the Center for Food Safety, the Xerces Society and late monarch specialist Lincoln Brower, filed a petition to list the monarch as a threatened species under the Endangered Species Act. The U.S. Fish and Wildlife Service has put off making a decision on the petition until late 2020. The petitioners agreed to the delay so that the latest data could be taken into account, but Tara Cornelisse, a senior scientist at the Center for Biological Diversity, said the trend is clear enough. "They're on the road to extinction at this time," she said.

Orley "Chip" Taylor, whose group Monarch Watch has been monitoring monarchs and promoting the conservation of their habitat since 1992, explained that warming temperatures have added to the woes of the butterflies, which have at times migrated north before the emergence of the milkweed, the only host plants for monarch caterpillars. Moreover, while monarchs have always been sensitive to weather fluctuations, extreme events such as unseasonal cold snaps are becoming more frequent and can have devastating effects. Since 2002, winter storms have decimated the population of monarchs overwintering in the mountains of central Mexico on four separate occasions, said Taylor, a professor emeritus at the University of Kansas. "It seems that we are moving into an era when these massive kills are going to be more common," he said.

Habitat loss to development and agriculture is also contributing to declines in the monarch population. That problem, which isn't new, has been compounded by the planting of genetically modified corn and soybean crops, which have been engineered to resist glyphosate herbicides. These herbicides kill pretty much everything else, including milkweed. In addition, a federal mandate to boost the production of plant-based fuels has led to the destruction of millions of acres of grasslands. "We are continuing to lose ground in terms of monarch habitat," Taylor said.

To mitigate habitat loss, Monarch Watch has distributed free milkweed plants to help large-scale restoration projects and promoted the concept of "Monarch Waystations," little islands of milkweed and other wildflowers in private gardens, schools, nature centers and other public places, where migrating monarchs can find host plants and refuge. Protected areas such as national park sites have long acted as natural rest stops for monarchs, but in recent years, park staff have actively managed their meadows with the butterflies in mind and handle milkweed with particular care.

"If you are a national park, there are no weeds," said Mara Meisel, a ranger at Shenandoah National Park in Virginia. For more than a decade, park staff there have pushed back mowing schedules to the fall and winter to benefit the meadows' animals and plants. The change has also given the monarchs time to emerge from their chrysalises. The effort has paid off. One day in 2018, volunteers counted 212 monarchs in the park's central area — the highest such number since 1997, Meisel said.

Sometimes, the benefit to monarchs is a surprise outcome of larger restoration efforts. When Park Service fire ecologist Dan Drees started conducting prescribed burns in the Ozarks decades ago to remove invasive plants and increase native wildflowers, monarchs weren't on his radar. But after the wildflowers came back, he noticed a big jump in the numbers of monarchs. "It's very gratifying," he said.

To expand the reach of restoration efforts, Treviño at the Park Service has been working with national heritage areas, which are managed by other entities, to create pollinator habitat. So far, the staff at more than a dozen heritage areas have shown their commitment by signing a "pollinator pledge," and an additional 30 have expressed interest, Treviño said. "They definitely cover that gap where we're kind of slim in terms of parks," he said.

Whenever possible, park staff also enlist volunteers to help with habitat restoration. At Friendship Hill National Historic Site in Pennsylvania, a conversation between ranger Renee Benson and a visitor sparked the creation of the “Monarch Mafia,” a group of friends who have planted a pollinator garden and survey monarchs and caterpillars at the park every week. On his ranger walks through Yosemite’s meadows, Westerlund always mentions opportunities for visitors to help plant milkweed in the park. Some people who see the biodiversity supported by Yosemite’s meadows seek to re-create that environment at home, said Mía Monroe, a ranger at Golden Gate National Recreation Area in San Francisco who keeps tabs on monarch-related work in Western parks.

As monarch numbers continue to fall and the Fish and Wildlife Service determines whether monarchs are entitled to protection under the Endangered Species Act, data collection is more important than ever. Park staff across the country are organizing tagging events and butterfly counts — sometimes more than once a year. Volunteers also are tracking the migrating monarchs’ arrival and the impact of storms on the butterflies, sharing their notes with scientists.

Monroe grew up in the San Francisco area a few decades ago, before California’s monarch population shrunk from millions to thousands. She would look for caterpillars in the milkweed by the train tracks near her house and raise monarch butterflies at home. The monarch’s decline pains her, but the unlikely recovery of other species from the peregrine falcon to the California condor gives her hope, and she is also heartened to see that people in the monarch’s corner are not waiting around to help.

“I am so reassured by this huge groundswell of interest that translates into action,” she said. “This is something we can all do something about.”