

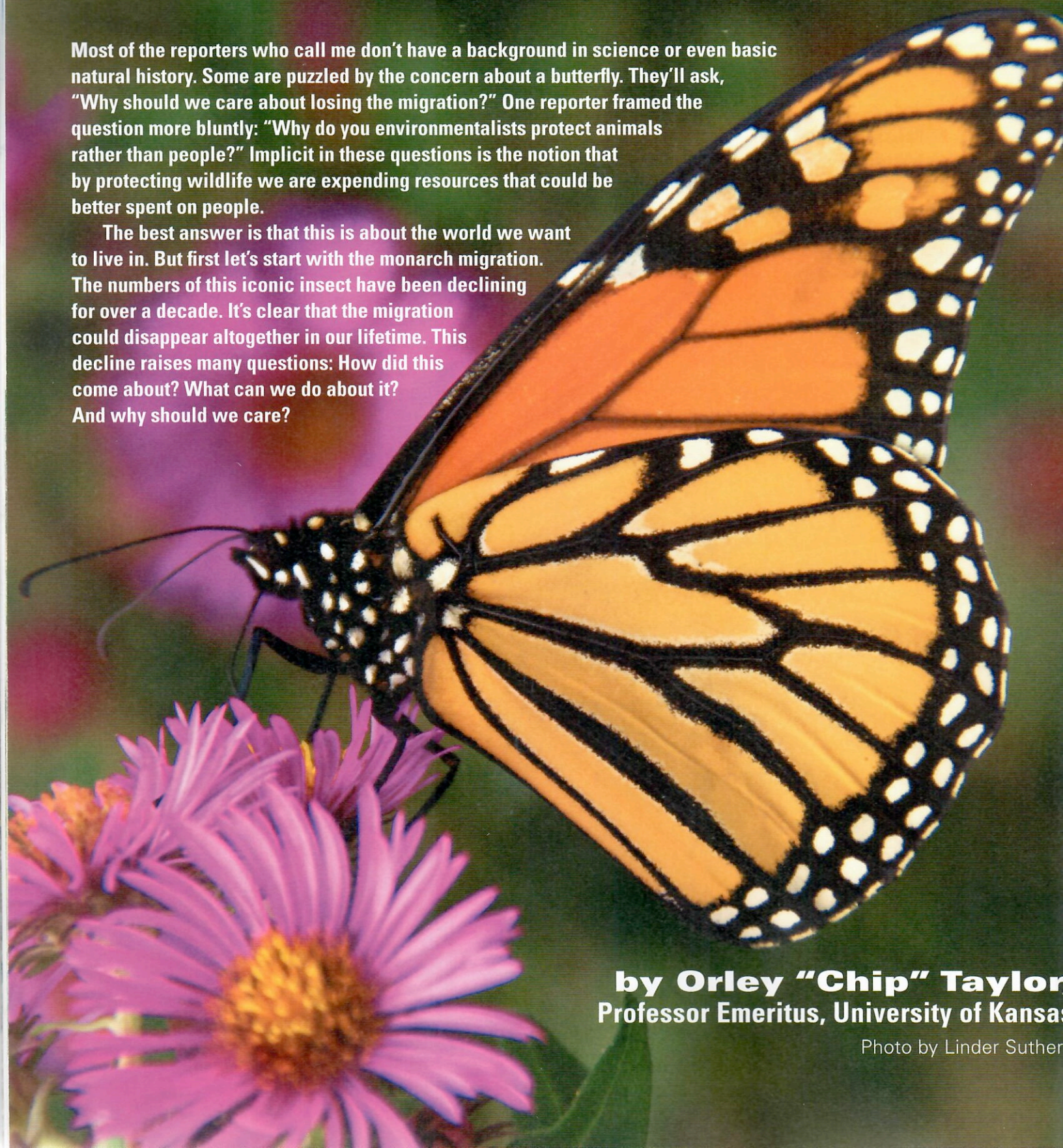
# The Monarch Migration, the Prairie, and Milkweed

Most of the reporters who call me don't have a background in science or even basic natural history. Some are puzzled by the concern about a butterfly. They'll ask, "Why should we care about losing the migration?" One reporter framed the question more bluntly: "Why do you environmentalists protect animals rather than people?" Implicit in these questions is the notion that by protecting wildlife we are expending resources that could be better spent on people.

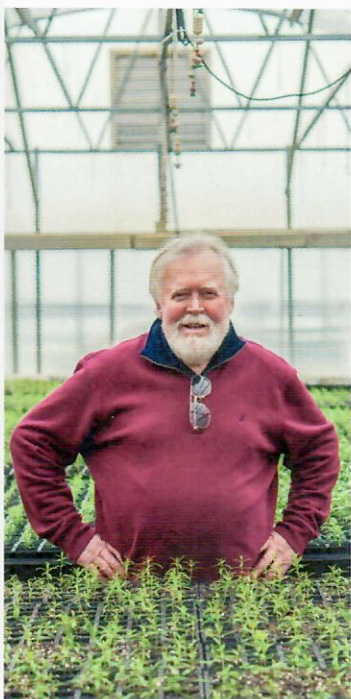
The best answer is that this is about the world we want to live in. But first let's start with the monarch migration. The numbers of this iconic insect have been declining for over a decade. It's clear that the migration could disappear altogether in our lifetime. This decline raises many questions: How did this come about? What can we do about it? And why should we care?

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Photo by Linder Sutherland







Chip Taylor among milkweed plugs.  
Photo courtesy of Chip Taylor

## Monarch Numbers and Resources.

The number of monarchs counted in Mexico each winter is largely determined by three factors: the number and reproductive success of monarchs reaching Texas and Oklahoma the previous spring; the number and timing for the first-generation monarchs reaching their northern breeding areas; and summer temperatures. The milkweed and nectar plant habitat supporting the major portion of this population is a funnel-shaped area that widens from Texas to the Canadian border in the Upper Midwest. The vast prairies and grasslands that were once the home for monarchs (and many other migratory species) have been replaced by farms, rangeland, and cities. While there are abundant resources for monarchs in some areas, there are also very large gaps, or empty fragments, with no resources—and these gap areas are expanding.

## Habitat Loss.

Population declines of most species are associated with a loss of habitat. Land use across the monarchs' breeding range, especially in the Upper Midwest and the grasslands that were originally home to this species, has changed dramatically over the last two decades. The adoption of herbicide-tolerant (HT) soybeans and corn, which allowed the crops to be sprayed by glyphosate to eliminate weeds rather than using tillage, all but eliminated milkweed from row crops by 2005. This loss of milkweed was significant since a substantial proportion of the adult monarch population each summer originated from larvae that had fed on milkweed in these fields. The renewable fuel standard (RFS), which was signed into law in 2007 with the idea of producing ethanol from corn to reduce our dependency on foreign oil, had the effect of placing a premium on lands used to grow grains that could be used to grow corn. The unintended consequence of this policy was to drive grain production into grassland areas while also converting marginal lands to crops. Nearly 24 million acres were altered from 2008–11. Much of this habitat contained milkweed and nectar sources needed to sustain monarchs and pollinators. In addition land development increases the annual rate of habitat loss for monarchs by 1–1.5 million acres a year. Thus, for every year we don't offset the loss of at least a million acres of habitat, we can expect the monarch population to decline further. Other factors that have contributed to the loss of habitat include excessive mowing, the use of herbicides along our roadsides, and the widespread use of insecticides/pesticides.

## What can we do to restore and sustain the monarch migration?

Number-crunching experts tell us that we need to restore milkweed and pollinator habitat by at least 20 million acres. This means that we have to use nearly all of the "available acreage," which brings to mind the phrase "all hands on deck." Available acreage is envisioned as marginal lands, rights of way, old fields, parks, and urban and suburban landscapes including gardens as well as business and corporate properties. In short those of us who have some role in the management of landscapes need to be involved. But can we really do it? The answer is yes. Fortunately common milkweed (*Asclepias syriaca*), the major host for monarch caterpillars, is easy to establish from seeds and plugs, and the species produces clones. The most beneficial locations for restoration are likely to be those that fill the gaps in milkweed distribution and are able to produce monarchs that reach the overwintering sites at the end of the fall migration.

## Why should we care?

The bottom line is that it is in our self-interest to save the monarch migration and all the life forms that share the same habitats. It's not just about the monarchs. *It's about us.* It is about our world and the world we want to leave for future generations. And if you think about all that is implied by such actions, it means that we have to address the even larger issues—the increasing emissions of greenhouse gasses, acidic oceans, rising sea levels, and other threats to life as we know it. It's all connected. There are no separate parts. As monarchs go, so go many, many other things. There are 7.6 billion of us (with a population that is likely to reach 9.7 billion by 2050), and we are having massive impacts on a relatively small planet. The pace of change is exceeding expectations. The monarch decline—among many other signals—is telling us we need to slow down and put the brakes on the processes that are leading to degradation of the systems that support life. Saving wildlife is all about saving ourselves from ourselves. It's about the future. Plant milkweed!



One of the many Monarch Waystations in the grasslands of Nebraska. Photo by Peter Berthelsen, courtesy of Conservation Blueprint LLC