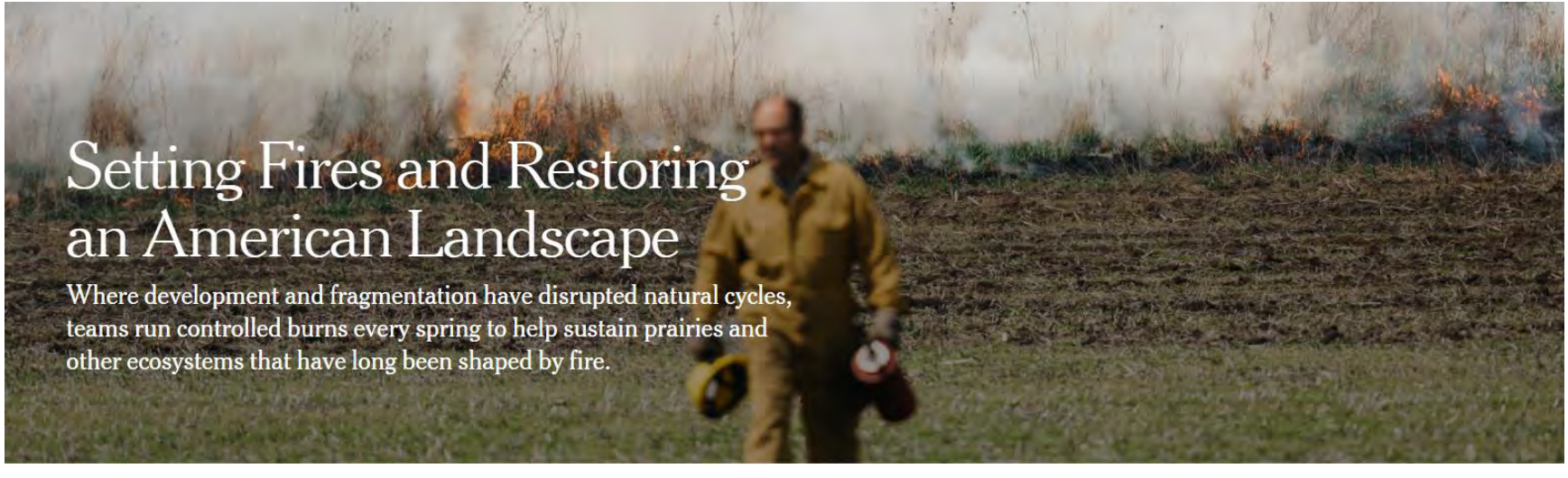
Setting Fires and Restoring an American Landscape



The New York Times

Setting Fires and Restoring an American Landscape

Where development and fragmentation have disrupted natural cycles, teams run controlled burns every spring to help sustain prairies and other ecosystems that have long been shaped by fire.

Text by Steph Yin **Photographs by Lyndon French**

April 23, 2018

North America was once a loose, sprawling conversation between landscapes. Soft boundaries linked prairie, savanna, shrubland, forest and marsh. During a dry spell, lightning might spark a fire that burned for miles and days on end, relenting only when it hit a lake or river.

Remove fire, and this dialogue gets interrupted. Weedy scrub accumulates, stifling the earth.

“Ruderal junk — that’s what happens without fire,” said Bill Kleiman, project director at Nachusa Grasslands, a 3,600-acre preserve in Franklin Grove, Ill., operated by the Nature Conservancy.

Today, development and fragmentation have disrupted natural cycles of restoration in these landscapes. That’s why Mr. Kleiman’s team and many others across North America run controlled burns every spring and fall, helping sustain ecosystems that have been shaped by fire for millenniums. Here’s a glimpse into one such burn in April 2017 and the life that sprung up a few weeks later.

A burn day starts early, said Leslie Berns, manager of landscape ecology for the Lake County Forest Preserve District, one of 16 municipal districts designed to protect natural areas in Illinois. By 6 a.m., she’s looking at weather conditions and nailing down where to torch.

Prairies, oak woods, savannas and wetlands all evolved with fire; it’s part of their makeup. Consider how an oak leaf’s edges curl when it falls. “When a fire comes through, the leaf is dry on the underside, and it burns quite rapidly,” said Brad Semel, a natural heritage biologist with the Illinois Department of Natural Resources.

Many factors influence site selection: wind, humidity, atmospheric conditions, soil type, the presence of nearby neighborhoods and the assemblage of plants and animals.

“That’s one of the reasons I like it; it’s kind of an intellectual exercise,” Ms. Berns said.

By 10 a.m., the morning humidity has usually dropped enough to start a fire.

The basic principles behind a prescribed fire are: Secure a perimeter, and burn into the wind.

The perimeter consists of fire breaks: streams, roads, mowed areas and other surfaces that won't burn.

"For most of February and March, all I'm doing is putting in fire breaks — mowing, cutting dead trees," Mr. Semel said.

Like a conductor wields her baton, you wield your drip torch against the wind. As you go, you're spraying water on rogue flames. It's an intimate interplay of elements.

The farther upwind you go, the louder the fire roars. But that's O.K.: Grasses, brush and other fuels downwind have already been consumed by the rest of the burn. From the finish line, flames rage briefly, then disappear into the black space you've created.

For thousands of years, indigenous Americans ignited the landscape. Fire, they knew, brought bison and deer to hunt, and berries and tubers to harvest.

European colonizers took these strategies and practiced them for centuries — but things changed in the early 20th century.

A few catastrophic wildfires, including the Peshtigo Fire in 1871, which killed more than 1,500 people in Wisconsin, and the Great Fire of 1910, which burned three million acres in the Northwest, helped convince land managers that fire should be vanquished. The United States Forest Service started the Smokey Bear campaign, which portrayed all fire as destructive.

But ecologists suspected fire suppression was disrupting natural life cycles. Giant sequoias, they noticed, were no longer regenerating in California. In the 1960s, scientists encouraged policymakers to allow for natural processes like fire.

After a series of wildfires blazed through more than a third of Yellowstone National Park in 1988, the ecosystem quickly recovered. Prescribed fire programs grew in popularity.

When Ms. Berns got involved nearly 30 years ago, she was going to sites "with a pair of blue jeans, a flare and a garden rake," she said. She has since seen prescribed fire develop into a more standardized science, one that continues to evolve.

The goal is to mitigate the damage humans have already done. Prairie once covered 170 million acres of North America. Today, less than four percent remains. Oak savanna is now one of the rarest ecosystems on our planet.

Without management, these ecosystems “could disappear in the span of a human generation,” said Ken Klick, a restoration ecologist for the Lake County Forest Preserve District.

Late April means rebirth. Like the fast blush of a first kiss, green erupts across the landscape. Carpets of wildflowers unfurl. Turtles, snakes and voles stretch sunward after months of subterranean winter. Hibernating insects shiver awake, chorus frogs rehearse tunes and birds begin to dream of nests.

Just a week earlier, the ground might have been covered in soot from a prescribed fire. Absorbing more heat, and fertilized by ash, blackened patches of earth come alive before neighboring areas. The resulting mosaic supports a wide array of species.

There’s prairie smoke, with crimson buds that expel puffs of wispy seed tendrils. Or wild lupine, stacked with fragrant purple flowers, which can thrive in oak savanna and is required eating for the endangered Karner blue butterfly.

In 2014, wild bison were reintroduced to Nachusa. It was the first time the beasts roamed free on Illinois prairie since the 1830s.

Today 105 of the fuzzy mammals roam Nachusa. Supreme loungers, they revel in lazy spring afternoons.

“They’re looking a little shaggy this time of year, before they shed their winter coats and take on a different gleam,” Mr. Kleiman said.

Much of the work of burning, fighting weeds and cutting brush throughout the year is done by dedicated volunteers. A few dozen help out at Nachusa Grasslands, with business owners, retired teachers and engineers among their ranks.

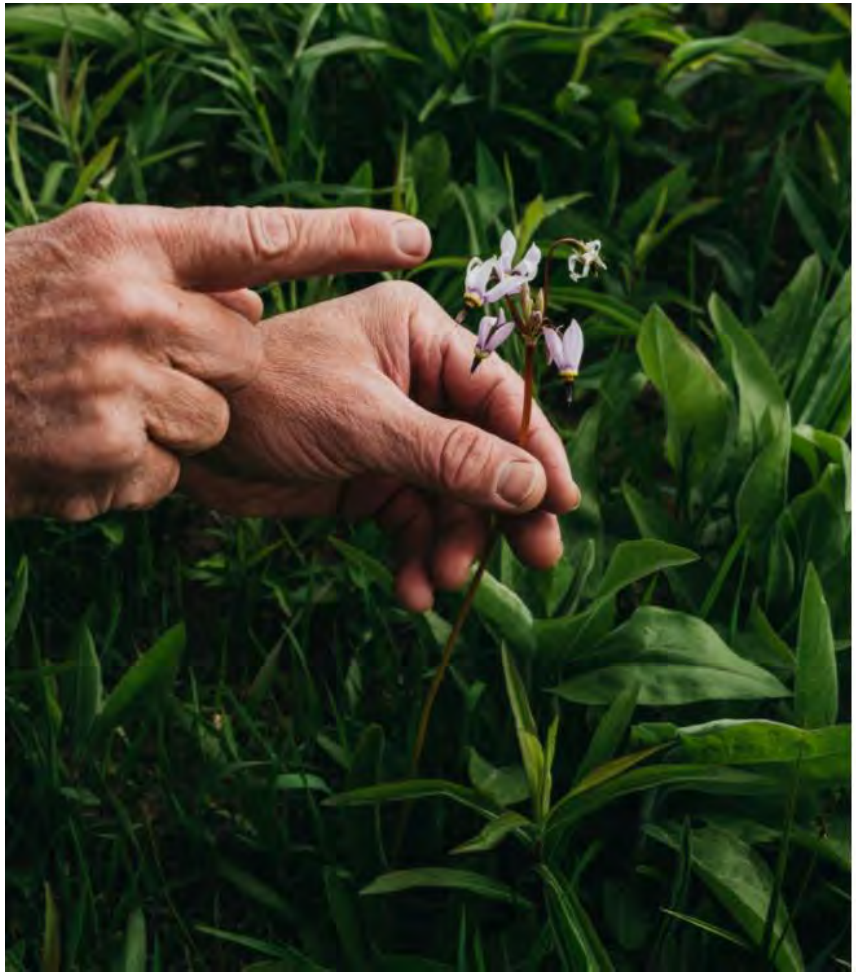
Through spring and summer, teams collect seeds from as many plant species as possible, running a friendly competition to see who can harvest more. These seeds go into site-specific mixes.

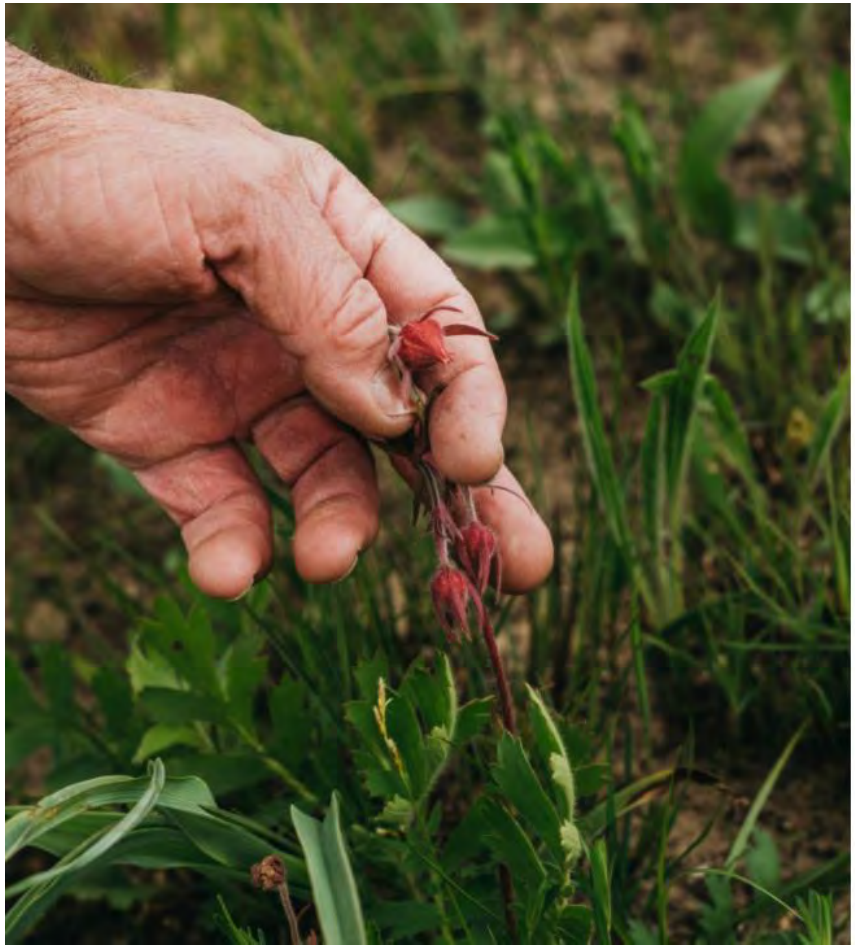
To understand which species go together, Mr. Kleiman consults “Plants of the Chicago Region,” which catalogs some 3,000 plants.

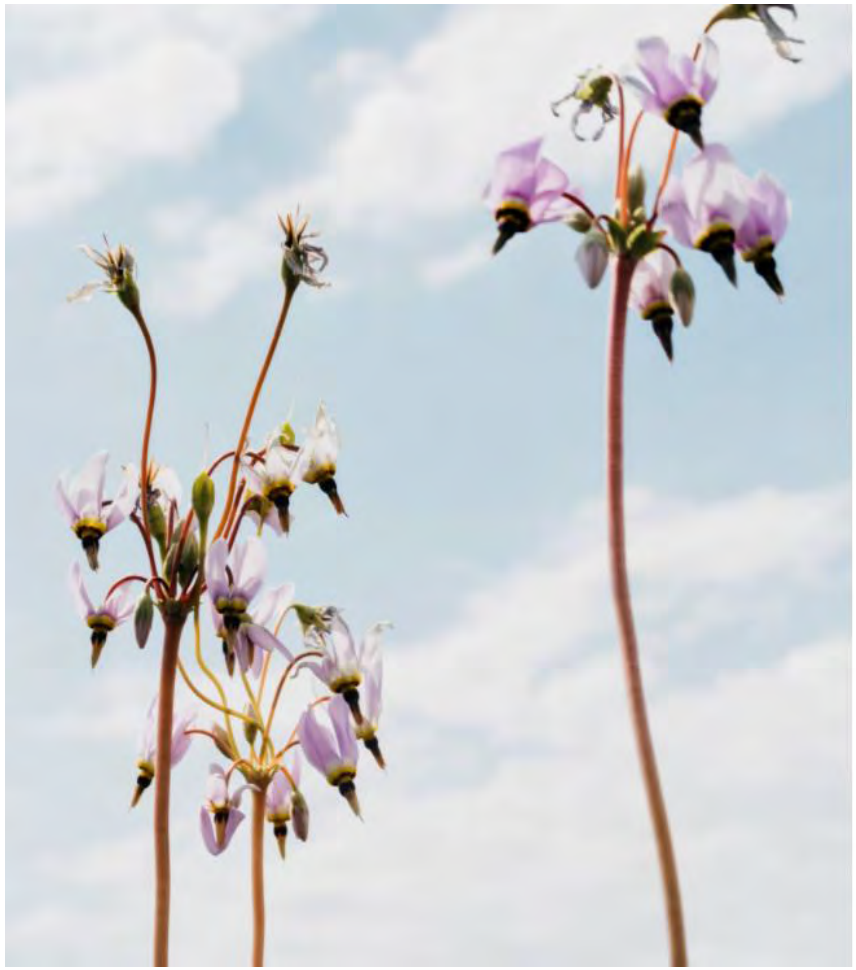
It’s a bible, he said, for “people like me trying to reconstruct Humpty Dumpty here, taking ruined habitat and making it whole again.”

Come autumn, Mr. Kleiman and his colleagues will disperse their seed mixes, embedding their hopes for the future into the soil.

Lifetimes from now, perhaps, people will still walk these lands. They may marvel at ephemeral spring wildflowers, take glee in warblers’ songs and feel the weight of the oaks, surviving and whispering old stories to one another.





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39 Records
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GREAT LOBELIA
New Jersey Tea
Michigan Lilly