Prairie Fires Fuel Community Health Concerns

Controlled fires maintain and renew the tallgrass prairie, but the resulting smoke is making life hard for some residents hundreds of miles away.

By Katelyn Newman | May 30, 2019

A controlled fire burns in a Flint Hills pasture near Council Grove, Kan., Saturday, March 22, 2014. (ORLIN WAGNER/AP)

Across eastern Kansas and northeastern Oklahoma lie millions of acres of recently scorched earth, purposely burned by ranchers to make room for the new growth of native grasses that sustain cattle in the area. But the smoke from these fires inevitably travels away from the area, triggering health issues for people in communities large and small, even those hundreds of miles away.

"I don't think it's fair that some people's livestock takes precedence over other people's lives," says Lin Quenzer, a Lincoln, Nebraska, resident whose asthma is triggered by the smoke. "People are dying from asthma because of this. We have small children who are very asthmatic, and they don't understand why they can't go outside and play like everyone else, or why they can't go to church or school. This is wrong."

The rolling, rocky Flint Hills – 82,000 square miles of unplowed, tallgrass prairie – are strategically burned each year. The controlled fires renew the land, making room for new grass growth and keeping woody plants and trees out of the area. "Tallgrass

prairie is a fire ecosystem," says Doug Watson, a meteorologist and chief of the Kansas Department of Health and Environment's Air Monitoring & Planning section.

"Before man was even here, that prairie remained a prairie because either lightning strikes started wildfires, or when the Native Americans came into the area, they also began lighting those fires to bring ... bison and other grazing animals to the area," Watson says. "The main reason why it's still a prairie when we got here is because it couldn't be plowed, and the ranching community saw that they could raise cattle there."

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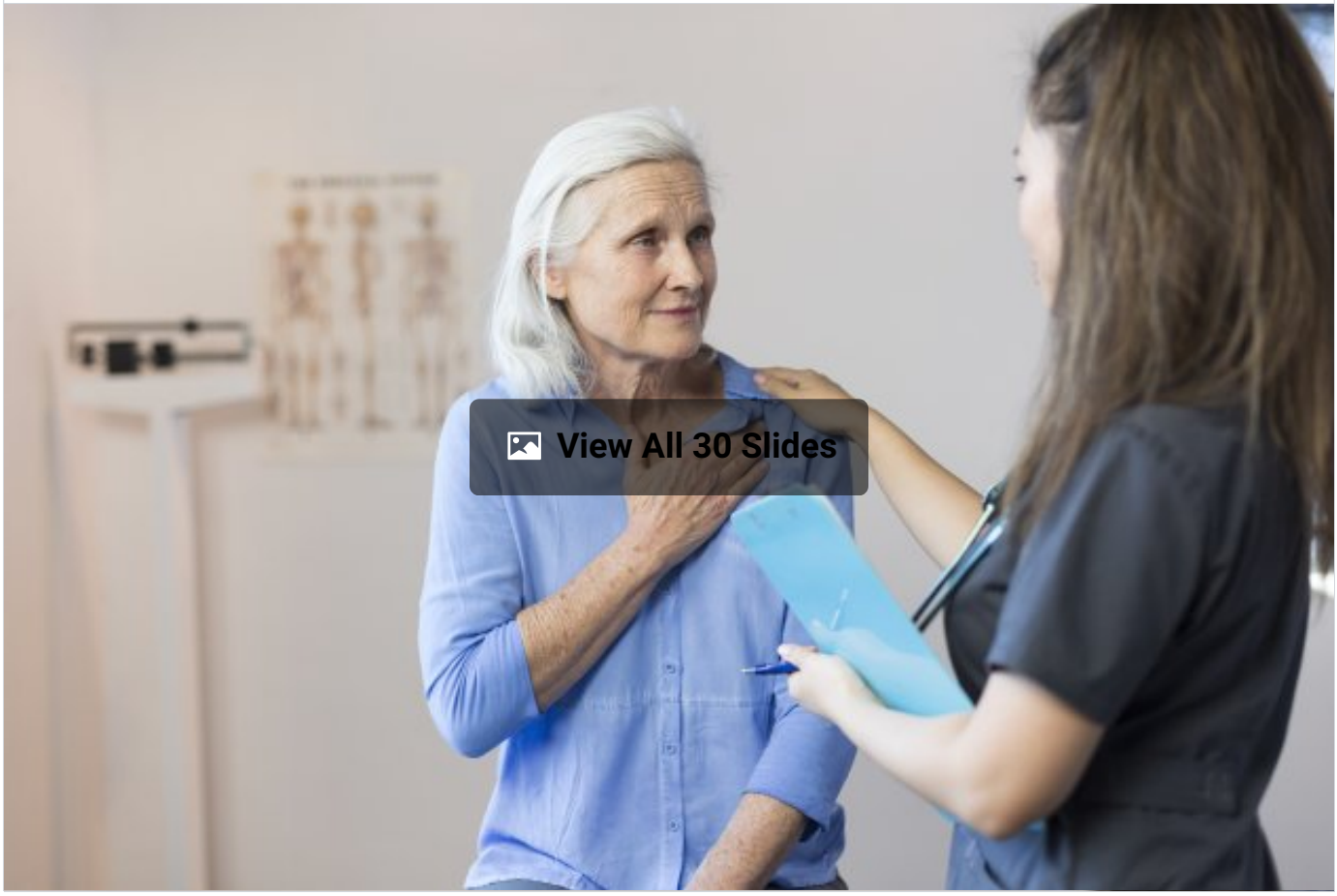

In the 1970s, studies by Kansas State University suggested the best time to conduct prescribed burns was in late spring, particularly during a two-week period in April, so the cattle could eat the new grass growth and bulk up, leading to bigger profits for ranchers in the area, Watson says.

But more-recent research from The Nature Conservancy, a nonprofit environmental organization, and Kansas State University suggests spreading the burns out from mid-March to May, as well as conducting burns in the fall or winter, could help minimize the impact of the smoke on other communities.

Brian Obermeyer, landscape programs manager for The Nature Conservancy's Kansas chapter, says overall, there's more controlled burning in the Flint Hills now than 30 years ago, calling it an "ecological necessity." As of May 5, more than 2.6 million acres of land were set ablaze across the Flint HIlls in 2019 – the second-highest number of acres burned in a single year since 2011.

"Some folks are burning more frequently than they would have otherwise needed to because woody plants have gotten such a strong hold in places," Obermeyer says. "Now that fire culture has expanded, it's been more accepted that fire is necessary to keep the trees out."

Kansas' Department of Health and Environment issued a voluntary smoke management plan in 2010, which included tools to help private landowners and ranchers assess the impact burning on a particular day will have on people who live downwind.

"I think everybody wants to be a good neighbor," Obermeyer says. "It is a bit of an abstract thought to think about how what I'm doing today is affecting somebody 300 miles away … but I think people are trying."

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Tom Moxley, 72, a life-long cowboy who manages more than 12,000 acres in Morris County, Kansas, says cutting back or eliminating their burn cycles is not a solution.

"We try to spread out our burns, we try to not have them so they hit (highly) populated areas where they're going to hit a million people versus 30,000," but preserving the prairie without generating smoke is impossible, Moxley says. He points out that fires are part of the lifecycle of a prairie; without controlled burns, people would still have to contend with smoke from naturally occurring wildfires.

"Just because we don't light a fire doesn't mean a fire doesn't happen," he says.

Smoke from fires in Flint Hills travels to nearby counties and cities like Wichita and as far away as Lincoln, Nebraska, Joplin, Missouri, and Union, Oklahoma, making allergies, asthma or other respiratory issues for residents worse.

"In general, I would agree – doing controlled burns is a good way to burn off thistles and bad things that you don't want on your grazing land," says Quenzer, who has lived in Lincoln since 1983 and works as the city's ombudsman. A pastor at the Sacred Winds Native Mission United Methodist Church, she says her asthma is seasonally triggered by the prairie fires in the Flint Hills, more than 300 miles away, and the effect lingers long after the smoke dissipates.

"Every time I step outside, I have to put a filtration mask … just so I can breathe outdoors because I could (collapse) between my house and car," she says. After a controlled burn, "I'm left with that aftermath for weeks sometimes, if I don't wind up in the hospital. Once that exacerbation starts, it doesn't stop the minute the smoke stops. That triggers a cascade of effects to my health."

An estimated 13.8% of people in the Midwest region of the United States had asthma in 2017, according to the Centers for Disease Control and Prevention, and Nebraska and Kansas had the 11th- and 12th-highest chronic lower respiratory disease mortality rates that year, respectively.

The fact that burns take place in the spring during allergy season can compound health issues. "(Someone may be) much more likely to have a worse reaction if you have two triggers that you're breathing in versus one," says Dr. Purvi Parikh, an allergist and immunologist with the Global Allergy and Asthma Patient Platform.

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"If someone's already susceptible to those allergens like tree pollen, which is in the air now, or grass pollen, it'll throw -- no pun intended -- fuel to the fire, to add smoke into the mix," Parikh says.

In addition to smoke from controlled burns, smoke from local brush fires, large-scale wildfires, industrial sources and vehicle transit emissions all affect a community's overall air pollution mix, says Dr. David Hill, a pulmonary critical care physician in Waterbury, Connecticut.

"When we're looking at health effects of environmental problems, there's always the economic effects of addressing them that have to be balanced," says Hill, who is also a spokesperson for the American Lung Association. "But I think it's important that we recognize that there are victims when we pollute the air."

Critics say the focus of Kansas' smoke management plan – diverting smoke away from big cities – ignores the health impacts on people living in smaller, rural communities.

"It has done a good job in reducing exceedances in Kansas City, Missouri, and Kansas City, Kansas, but all that means is less-populated areas will be hit harder," says Craig Volland, chair of both the air quality committee and agriculture committee for Sierra Club's Kansas chapter. "That's not the answer. The answer is to just spread this out, burn less, and burn in late-August, early September."

The Environmental Protection Agency has been working to increase awareness about the necessity of controlled burns while also addressing the concerns of communities that are affected by the smoke.

"This is a necessary part of ensuring that the landscape remain productive, and that it isn't overtaken with fuel loads that then can endanger public health," says Mike Jay, a life scientist with the air and radiation division of the Environment Protection Agency's Region 7.

"We're trying to strike that balance with public safety and also trying to ensure that these fires can do what they need to do."

Still, Karen Fillman, 59, of York, Nebraska, says there are "days when it looks like L.A. here" with a brown smog filling the streets. She monitors social media to get a sense of what the air quality might be like on any given day, but the smoke makes it difficult for her to be outside during the spring and impacts her ability to do gardening and yard work.

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"You can't issue enough alerts to actually cover the reality of the situation. It's daily for months, no matter what anyone says," says Fillman, who has asthma. "There's still

enough smoke that people who have respiratory illnesses, heart conditions, elderly, young people – that's a lot of population groups that can't go outside."

She's frustrated enough to consider moving her family back to Colorado after at least 20 years in Nebraska.

"I don't want to deal with this anymore," she says. "Here, people tend to accept burning and fires more than I'm used to, and I just know it's not safe."

Ranchers are sympathetic to citizens' health concerns, but point out that they're also running a business. Debbie Lyons-Blythe, who runs Blythe Family Farm with her husband and children in Morris County, Kansas, tries to schedule the controlled burns of her pastures outside the two-week period in April, but she has to consider costs and her cattle's needs, too.

"Frankly, there's probably days where you just say, 'Oh man, I probably just really shouldn't burn today.' Now, if you've got a crew together and you've got things happening, you may have to go ahead and do it anyway," she says. "But we truly are doing our best to make sure we're watching where our smoke is going to go."

Tags: Kansas, Nebraska, Oklahoma, environment, farming, public health, asthma, allergies, respiratory problems, pulmonology

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