

Kansas Flint Hills Smoke Management Plan: Impact of dry conditions on prescribed burning

The Kansas Flint Hills Smoke Management Plan is entering its second year in 2012. This comprehensive plan is designed to minimize the movement of concentrated smoke plumes into large metropolitan areas through voluntary participation. All Flint Hills landowners and managers who conduct prescribed burns should know what is in this plan.

To help educate all those affected, a series of radio interviews is being broadcast weekly each Monday on K-State's *Agriculture Today* talk show. These programs will explain the many aspects of the new plan. *Agriculture Today* is part of the K-State Radio Network. The broadcast interviews are podcast online at www.ksre.ksu.edu/news/DesktopDefault.aspx?tabid=66.

The following is a slightly edited transcript of the fifth in the 2012 series of *Agriculture Today* radio broadcasts on the Kansas Flint Hills Smoke Management Plan. This is an interview with Bill Waln of the U.S. Fish and Wildlife Service office at the Quivira National Wildlife Refuge in Stafford County, conducted by Eric Atkinson of the K-State Radio Network.

Q: You're also involved in the Mid-Plains Interagency Fire Management District. What is your role in the district?

A: I'm the fire management officer for the Mid-Plains District. That comprises four wildlife refuge areas in Kansas, as well as all the National Park Service lands. My job is to assist all those refuges and park lands with their wild land fire management responsibilities – which includes wild land fire suppression as well as all the prescribed burns done on those lands in Kansas.

Q: Is that a substantial amount of prescribed burning?

A: In any given year, we'll do about 70 to 75 prescribed burns involving about 20,000 acres.

Q: There are still areas this spring on your lands and elsewhere in which conditions are dry, correct?

A: That's right. Actually, we're still seeing a substantial moisture lag throughout the entire state, even though many areas have received good precipitation the last couple months. That impacts how we will burn from now through the rest of the spring.

Q: With respect to prescribed burning, what lessons did we learn from last year under the extreme drought conditions?

A: First of all, it's important for people to realize we are still under drought conditions and that burning conditions will not be normal. For example, when we go out and put in a control line, they will have to be wider than normal. We're currently looking at 20 times the fuel height. So if you have a grass stand that's 5 feet tall, the control line is 20 times that. This is a contingency because the fires are going to burn hotter. It's going to take more resources to hold that fire. I'd rather do a little overkill in that regard than find ourselves in a situation where we're just barely able to keep the fire under control and have to fight pretty hard to do so. If you have a control line of the minimum width, if you get a wind shift or the relative humidity drops more than you expected, the line may not be able to hold the fire and you'd be in a bad situation. Our main objective is always the safety of our fire team on the ground, and the public safety as well. When we're in this drought condition, we

have to be aware of it and we have to plan for the contingencies. We want extra wide fire control lines, more people out there working the fire, more equipment, more water, just more of everything in order to get the job done and meet our number one objective, which is safety.

Q: And you also say the grazing management post-burn can also be impacted by the dry conditions.

A: I don't have a lot of specifics on this. But we are a little bit concerned here that we did some grazing on the land that was burned last spring with the hope that we'd get some rain over the summer. It didn't happen. Now we're concerned that if we come back and burn again, we could be setting those grasses back a bit. When the rains come, we're wondering if the grasses will be slower to come back where we've done burning/graze/burning.

Q: Are you thinking there may be occasions where you might want to skip burning?

A: That always has to be an option. Even in good years, you always have to keep in mind your main objective – which in our case is safety. There are so many inherent risks to burning that we always have to be willing to say no. That's one of the lessons learned from last season. We more readily accept that “no” is a viable option for the land manager. We've looked at skipping a year. We've decided not to burn some of the areas that we had hoped to burn this year simply because we're concerned about the ability of those lands to recover in a timely fashion. If you're willing to set back your time horizon, if you're willing to wait 2 or 3 years for that land to recover, then you can go ahead and burn this year and see what happens. But if you're looking to make sure you'll get a quicker turnaround once the moisture returns, then it might be best not to burn it again so soon.

Q: Do you have any recommendations on practices to control smoke production and movement under these dry conditions?

A: Generally speaking, under dry conditions we have to realize that we'll be putting more smoke into the atmosphere than we do under normal moisture conditions. For example, a lot of times in the springtime you might put some fire into a shelterbelt. Shelterbelts are usually holding a lot of moisture in the leaf litter, and you won't get a complete burn. In a dry year, however, all that litter that has accumulated and all the dead downed fuel in that shelterbelt is now dry and available to burn. The heavier fuel, the downed logs and downed trees will burn longer when it's dry. So you'll have more residual smoke. Another issue when it's drier is that more of the surface fuels are available to burn. If you have a really heavy stand of grass, the burn normally doesn't go all the way down to the soil line because of all the previous several years of growth matted down near the ground. That mat of old vegetation is usually holding some moisture, so it won't burn all the way to the ground. In a dry year, what we saw last year is that we were burning all the way down to the soil on some of our lands. The more thoroughly the vegetation layer is burned, the more smoke it's going to produce. So in a dry year, you'll usually be putting more smoke into the air. That's something to consider.

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