

# Fighting the Fuels

## State Efforts Target Fire Risk in the Black Hills

**J**EFF GIES IS IN A RACE AGAINST FIRE. And the clock is ticking.

Gies is a wildland/urban interface specialist with the South Dakota Wildland Fire Suppression Division, a state agency charged with wildland fire suppression, training, education and prevention.

It's his job to help minimize the impact and spread of fire in the state's wildland areas—ideally before they're stricken by fire.

Little by little, Gies is doing just that. His newest tool is a special fuels reduction program the state launched in 2002 to better protect at-risk homes and properties in the scenic, forested Black Hills.

The idea of the program is to reduce the fire danger on targeted properties by clearing the forest floor of downed branches and trees, and by removing some standing trees.

In doing so, the fire intensity and rate of spread in forested areas can be cut dramatically, Gies said. The overall health of the forest can be improved. Lives and property can be saved.

### Dealing with danger

The job of protecting the state's Black Hills is not his alone. At least 80 percent of the

area—which spans more than 1.5 million acres of land in western South Dakota—makes up the Black Hills National Forest.

U.S. Forest Service officials there have been on the offensive for some time to minimize or eliminate high-risk fire areas through a variety of projects.

But there are places outside of the forest boundaries that badly needed attention as well. And people are living in them.

That's what makes Gies uneasy. He is responsible for those areas, many of which are at an increased risk because forest conditions are ripe to feed a fire.

"In the last few years, we were starting to see the indicators of an increased wildfire problem," Gies said. "We were having above-average temperatures and below-average moisture. In many places, the tree health is poor and the fuel buildup is high."

And there have been fires. From 2000 to 2002 alone, wildfires in the Black Hills burned more than 130,000 acres of both private woodlands and federal forest.

State wildland fire officials knew they had a problem. They just didn't have a way to fix it.

### Forming a battle plan

In early 2002, that began to change.

South Dakota Wildland Fire Suppression Division Coordinator Joe Lowe learned that grants were available through the National Fire Plan to do fuels reduction in wildland areas at no cost to landowners. That money, Lowe figured, could augment a similar state effort begun in 2001 to reduce the fuel load on private property.

The National Fire Plan is funded by the U.S. Forest Service to manage the impact of wildfires on communities and the environment.

So Lowe and Gies met with federal forest service officials to form a plan.

"We looked at areas that are at high risk for wildfire in coordination with the forest service," said Gies. "One of the parameters of this program is that the areas we treat have

Jeff Gies, South Dakota Wildland Fire Suppression Division



to be adjacent to a planned or ongoing U.S. Forest Service fuels treatment project. That qualifier helped us narrow down the projects we would try to do.”

Lowe and Gies developed three project areas throughout the Black Hills—all on private property and all at high risk because the trees had suffered severe storm damage and/or bug kill, primarily from mountain pine beetles.

The state submitted grant requests for each project and by May 2002 all three requests, totaling \$420,000, were approved.

### Finding the help

With the funding in place, state wildland fire officials began to look at various labor options to actually get the work done. Tree thinning and debris clearing are labor intensive, Gies said, and the agency didn’t have the manpower or the time to do it themselves.

But Lowe had an idea. Some months earlier, a man who wanted to reorganize the Black Hats—an American Indian wildland firefighting team that was prominent from the mid-1960s to the late-1980s—had visited him. The team disbanded in 1988.

Lowe had long thought there was a need for another “hand crew” in the Black Hills but didn’t have the money to make it happen. Hand crews fight fire literally by hand, using a variety of tools to both extinguish flames and to create breaks in the landscape that will stop the spread of fire.

At this point, only one permanent hand crew was available for the entire Black Hills—a U.S. Forest Service Hot Shot crew based near Custer in the southern Hills. Although additional crews can be quickly assembled from federal and state agencies if needed, Lowe wanted another permanent, full-time team.

So he decided to create a new Black Hats crew—one that would work primarily to remove dead and downed trees in the target areas, but also would be available to fight the early stages of wildfires.

Within 45 days, a 20-person crew had been hired and trained.

Gies launched them immediately. Fire season was already under way and three-year drought conditions were raising the fire danger.

### Attacking the problem

He focused the crew on the biggest project first—a recreational area known as Gordon Gulch, just east of Hill City and in the heart of the Black Hills National Forest.

The 140-acre area—privately owned by one family—is dotted with 40 vacation cabins available for lease. The national forest borders three sides of it. And it was littered with downed trees after severe ice and snowstorms pounded the area in April 2000.

“We were worried about this area because of the risk to all these properties,” Gies said. “Also, it was a good project for the crew to get some experience on before they got into smaller, individual properties.”

From June to mid-October 2002, the crew moved and piled tons of downed tree debris and thinned out some standing trees to improve the area’s chances of surviving a wildfire. And in between all that, they fought wildfires.

The result is just what Gies was looking for.

“This property now will have a very good chance of withstanding a severe wildfire,” Gies said. “Before this project, it would not have. There was so much fuel there and a fire would have burned with such intensity, that it would have destroyed the trees and potentially many of the cabins. The heat load in there would have been tremendous.”

Cabin tenants reportedly were happy with the work as well.

“We were pleasantly surprised by the reaction of all the people who have cabins up there,” Gies added. “A lot of them went on and on about how happy they were that we were cleaning up the area. It’s been a huge

*“The areas that we have treated are going to have a good chance of surviving now. It will pay off in a big way...”*

— Jeff Gies



Trees infected by mountain pine beetles

concern for them. Some of them even went out and put ribbons on trees [to be removed] close to their cabins because they were afraid of the fire threat.”

### **Catastrophe awaits**

Gordon Gulch wasn't the only area where a fire could be catastrophic, Gies said. There's another big risk, high in the northern Black Hills, just west of the town of Sturgis. It's known as Beaver Park.

In this area, mountain pine beetles had attacked an estimated 6,000 to 7,000 acres of pine trees, leaving the majority of them brown, dry and dead. The infestation was still spreading.

“If a wildfire ever got into Beaver Park and we still had acres and acres of dead trees, we could get a real firestorm in there,” Gies said.

Until the Black Hills Fire Prevention Agreement was signed into federal law in August 2002, legal challenges had prevented the U.S. Forest Service from thinning dead trees in Beaver Park. The agreement represents the combined efforts of key environmentalists, land-use groups and government officials, and paved the way for work to begin in late 2002.

Gies' problem was that approximately 150 homes were scattered throughout the woods adjacent to the area that includes the dead tree stand. That puts people and property at high risk in the event of a fire.

So he conducted a risk assessment on every property in the area looking for the worst-case scenarios. At the same time, he created a detailed map showing the locations of the homes for firefighters to use if the area were to start burning.

Lowe and Gies targeted 10 properties for the fuels reduction program. Gies contacted homeowners to determine their willingness to participate. All agreed to the voluntary program. More properties will be treated if money is available.

### **Making a difference**

Dan Nelson's 16-acre property high in the Hills was one of those targeted for treatment.

Nelson had an abundance of downed tree limbs from past storms and dense woods of thin trees that were growing too close together.

The fire load was huge and Nelson knew it. He'd seen wildfires in the Hills over the years, including two major ones in the summer of 2002, each within about five miles of his property. Combined, the fires burned about 15,000 acres. One nearly burned the town of Deadwood.

“They asked if I was interested in having this thinned and I couldn't believe it,” Nelson said. “I didn't even have to think about whether to say ‘yes.’”

Twice before, Nelson had done his own work to clean up the woods around his house, once thinning approximately 4 acres of land by himself. It took one person a full day to cut and pile 10 to 12 trees, he says.

“As soon as we bought the property, we removed what we thought was needed,” Nelson said. “Then after the fires last summer, I started clearing more. But it's physically impossible for one person to do it.”

Within one week, a 10-person crew had removed the downed timber and several small trees to create better spacing so that a fire wouldn't be able to burn as hot or spread as fast. The debris was gathered into more than 150 piles that will later be hauled away or burned, conditions permitting.

Nelson is thrilled with the results.

“I am so impressed with the way it looks,” Nelson said. “This crew is very good. I'm not as worried about fire now as before, not only because of this but because of what the forest service has done also.”

Gies' third project began in early 2003 just south of the city of Spearfish.

Known as the Griggs Project, the treatment area encompasses a subdivision of more than 200 homes, bordered on two sides by the national forest. Steep slopes, dense overgrowth and downed timber put the subdivision at risk, Gies says.

Federal forest service efforts to reduce the fire load already are under way. The state's project will complement those efforts, Gies added.

"Our goal is to create a fuel break by treating as much of the perimeter of this subdivision as we can," he said.

That work augments other local efforts underway as well, including fire risk assessment, creating residential defensible space and organizing into a "Firewise" community. Firewise is a national program that encourages individuals and communities in the wildland/urban interface to embrace fire-safe practices.

### Protecting the future

When completed, Gies said, the state's fuels reduction projects are going to make a difference the next time fire strikes. Already, the program has exceeded his initial expectations.

"I am not only amazed, but I am really pleased at how all this came together in a short period of time and what we've been able to accomplish with these high-hazard areas," Gies said. "The areas that we have treated are going to have a good chance of surviving now. It will pay off in a big way, not only for their homes and structures but for their timber too."

To Gies, the use of government funds to help individual homeowners represents a public-private partnership with far-reaching benefits.

"This is a severe problem," he says. "It's landowners with storm damage and bug damage. There is no way they could handle this by themselves on their properties unless they hired it out and most don't have the resources for that."

"I think we [government] have a responsibility to a degree to identify the threat, as we have, and come up with plans for emergencies, both in treatment and mitigation," Gies adds. "If we have the ability to reduce the threat to them and to our emergency



personnel who ultimately have to deal with it, I feel we are doing the right thing."

It's been estimated that it could take as long as 100 years to do the fuel-reduction work needed in the expansive Black Hills. Still, that doesn't discourage Gies.

"This fuel situation in the Black Hills and the rest of the country is a project that will take a long time to get even close to catching up with," Gies said. "It's like mowing the grass on your lawn. The timber is going to continue to come back. The undergrowth will come back. The issues with storm damage don't ever go away."

"If, through these projects, we can get some of the worst problem areas cleaned up and at the same time, get the public educated about the problem, it will show the successes of these types of projects. Hopefully, it will help." ■

Black Hills resident  
Dan Nelson

The Nelson property

