



## Thinning project shows dramatic success

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By *MICHAEL JAMISON* of the *Missoulian*

"Controlled burning makes fire a servant, while fire exclusion renders it a master."

- George Hoxie, civil engineer, 1910

EUREKA - The sharp line in the aerial photograph is obvious, abrupt and dramatic: black forest on one side, green canopy on the other.

"It tells the whole story right there," said Ron Hvizdak. "When you look at that, there's no question that it works. People see it, and they know."

Hvizdak has known for years: A healthy forest can sometimes stop a crown fire.

As fire management officer on the Kootenai National Forest, he's been using fire to fight fire for decades, but never has he had such stark proof that his effort works.

Four years ago, he and others on the forest logged and thinned a bit more than 600 acres near Eureka. They took out some trees, cut back the Douglas fir, removed the "ladder fuels" that allow wildfires to climb up off the ground and into the crown. The plan, he said, was to return this patch of forest to its historic composition of fire-resistant ponderosa pine and larch.

Then, two years later, they returned to carefully burn out the ground beneath the big trees, torching out the fine debris and young fir seedlings.

He knew it would be good for forest health, and also knew it would help to "fireproof" the forest from a high-intensity burn.

What he didn't know was how dramatic the lesson would be.

When the Camp 32 wildfire blew up on adjacent national forest land this summer, it raged unchecked through the crown, killing pretty much all the trees in its path.

Then it hit that 600 acres - all that separated the fire from a neighborhood of rural homes just over the ridge. And it stopped.

Flame lengths that had reached hundreds of feet, running high through the crown, dropped down to 6 inches, maybe a foot. The fire smoldered along the forest floor, slowly, gently, giving crews a chance to stomp it out and mop it up.

It was, Hvizdak said, the sort of fire you might have expected to burn through northwestern Montana forests 100 years ago, before fire suppression allowed fuels to grow up and pile up and blow up.

On Monday, he led a tour of the site, stopping for lunch astride that thin line separating the black from the green.

Hvizdak's forest, the Kootenai, is "really unique," said Steve Arno, a retired research forester and author of several books on fire ecology and behavior. While other land managers were still snuffing every blaze, Arno said, officials on the Kootenai were introducing fire as a way to fight fire.

It was a radical change, as if Smokey Bear were suddenly wandering the woods with a drip torch.

"They got started here way back in the 1960s," Arno said, "with the big Libby Dam project."

The dam was inundating vast swaths of forest habitat; to mitigate for the loss, the Kootenai received federal money to restore wildlands elsewhere. Not a little of that cash was used for thinning and prescribed burning.

"They were the first," Arno said, "and they're still doing way, way more than anyone else in the region."

One result of that long track record, Arno said, is that foresters here are comfortable using fire as a tool. Another result is local people are comfortable, too.

"We used to get lots and lots of calls every spring, complaining about the smoke we were making," Hvizdak said. "Now, we get one call maybe every three or four years. People put up with it, because they know they'll have the smoke either way - on our terms or on nature's terms."

Personally, he'd prefer his terms, especially since fighting wildfire is wildly more expensive than planned thinning and burning.

On these 600 acres, the work cost was largely offset by selling some logs to the mill. On the adjacent land, the Camp 32 fire cost taxpayers \$1.8 million.

"We know it's effective and relatively cheap," Arno said. "Now we just need to get the message out there."

The key, he said, is to use the technique judiciously in carefully selected forest types.

It doesn't make much sense to thin a tight lodgepole stand, for instance, and then to try to slow-burn the forest floor, because lodgepole are evolved to grow thick, die en masse and then burn out in high-intensity fires.

And thinning and burning a wet cedar hemlock stand doesn't make much sense either, as that forest type didn't evolve with much fire.

Nor does it make much sense to cut down the big larches and ponderosas, he said, as those are the most fire-resistant trees in the woods, equipped with thick bark to withstand wildfire under their high canopy.

But when too much fuel builds up beneath, even those big boles blacken as fire climbs a woody fir ladder into the branches above.

That, Hvizdak said, is why chain saws must come before drip torches. Burn a forest without thinning it, he said, and you fail to gain much. If it's too wet, the ladder fuels won't burn. Too dry and the entire

place goes up.

But thin it first, he said, and what's good for the forest is good for the firefighter.

"This is absolutely a reasonable substitute for the natural role of fire," Arno said. "We can't be afraid of it."

Critics have argued the notion of thinning could too easily be co-opted by business interests wanting to log more big trees. They've argued the forest will sort itself out if left to its own devices.

But on this thin line in the woods, the proof is hard to dispute. The Camp 32 fire cooked bright and hot on lands not thinned and burned, then left a mosaic of scorched grass on Hvizdak's 600 acres, still dotted with about 70 big trees per acre.

Just beyond the thinned area, a piece of private land went up in smoke, when embers from the main blaze carried through the air, over the 600 acres and torched a homeowner's fir-riddled land.

This approach, then, cannot work on a small scale. To protect homes and communities, Hvizdak said, a broad band of forest must be thinned and burned along the urban interface, a swath wide enough that spot fires cannot jump the ring.

"Nobody's saying that if you do this you stop the fire," he said. "It's just not a crown fire, and it's not spotting out in front anymore. It's on the ground, where we can get to work on it."

Arno agreed: "Oh yeah, it will still burn. The question is, how will it burn?"

Ideally, he said, it will burn much in the way nature intended, before human intervention "got it all out of whack."

Over time, Hvizdak said, the chain saws can be silenced as the thinning is completed. But the use of fire to fight fire will have to continue, although the smoke at least will lessen with each subsequent burn.

In these forests, Arno figures fire naturally scoured out the forest floor every 10 or 20 years. And so foresters plan to return with their torches every couple of decades, so long as natural events don't beat them to it.

Currently, Hvizdak said, his office is limited only by dollars. With a thinning and burning budget of about \$250,000 a year, there's only so much work they can accomplish in a season.

It costs about \$500 an acre to do the work, and if there's no merchantable timber to offset the cost, it comes straight from the already tight Forest Service budget.

Arno has speculated that, from a historical standpoint, about 20 percent of Western forests were in a "stand-replacement regime," burning out entirely on a fairly regular cycle. About 40 percent were mixed, losing some tree species but not others as fire swept through.

The remaining 40 percent were like this 600 acres - places where low-intensity underburns swept through frequently, but did not kill the mature trees.

To date, Hvizdak has focused on that last 40 percent, especially near homes. Already, however, he's

branching out a bit, putting saw and torch to some mixed stands as well.

His district covers about 350,000 acres, of which perhaps a third are prime for underburns. Since the late 1960s, he figures land managers here have treated about 60,000 acres, making theirs one of the most comprehensive experiments into what elsewhere remains a relatively new strategy.

"It's not a one-size-fits-all fix," Arno said. It will not work in every forest type and around every community, and it surely will not work without public support.

And therein lies the rub: how to sell the idea and make people understand it's not just the latest political tool to log more trees?

"That's why a fire like this is so good," Hvizdak said from his patch of green across the line. "It shows people that what we're doing is working. It's the proof we need people to see if we're going to gain their trust and support.

"Look around. It works."

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