

# Study: Wildland firefighters' reaction times slow as fire season progresses

■ Study found firefighters' health declines, and they become more prone to accidents

By Keith Ridler  
Associated Press

BOISE — Randy Brooks' son had a request three years ago: What could his dad do to make wildland firefighting safer?

To Brooks, a professor at the University of Idaho's College of Natural Resources who deals with wildland firefighting, it was more of a command.

His son, Bo Brooks, is a wildland firefighter who a few days earlier during that 2015 fire season fled a wall of flames that killed three of his fellow firefighters in Eastern Washington.

The result of the conversation was an online survey that drew some 400 firefighters who mostly identified mental and physical fatigue as the primary cause of injuries to firefighters who are often confronted with a changing, dangerous environment.

But a self-selecting online survey is not necessarily representative of what's happening in the field. So Randy Brooks decided to apply some science.

That led to an ongoing health-monitoring study involving wrist-worn motion monitors and body composition measurements that last year found health declines and deteriorating reaction times among firefighters as the season progressed.

"A lot of them face peer pressure to perform all the time," Brooks said. "Others feel pressured to protect natural resources and structures at all costs."

About 19,000 firefighters

are currently in the field fighting nearly 40 large wildfires. Fourteen firefighters have died this year as wildfires have scorched about 3,500 square miles and destroyed about 3,000 homes.

The study last year found firefighters lost muscle mass but gained fat based on body-composition testing before and after the season.

The firefighters also wore a wrist device called a Readiband from a company called Fatigue Science. The device keeps track of how many hours of sleep a person gets. Formulas developed by the U.S. military then calculate fatigue, based on a lack of sleep. That's used to predict alertness and reaction times, which get worse as fatigue levels rise.

Firefighters in the field can get as little as six hours of sleep or less each night. The devices found that not only did reaction times falter as firefighters remained longer on a fire before getting a mandatory break, Brooks said, but firefighters also tended to take longer to recover as the season progressed. Sometimes, fatigue levels reached a level that suggested reaction times slowed down so much it took firefighters twice as long to react.

Brooks said his initial thoughts are that wildland firefighters might need better nutrition to stay fit and mentally sharp. But last year's study had only nine firefighters. Brooks this year has expanded the study to 18 firefighters, 16 men and two women. They're smokejump-

ers, meaning they parachute from airplanes to fight fires.

Brooks said that next year he hopes to have about 100 firefighters and include hotshot crews, ground-based wildland firefighters that can, like smokejumpers, be deployed on a national basis.

Smokejumpers in the study often eat pre-made meals. Brooks wants to find out if maybe those meals are behind some of the puzzling results from last year's study, such as a loss in muscle mass.

Hotshots, meanwhile, can return to a central spot where they get prepared food supplied by the U.S. Forest Service. That agency has done extensive research on what it takes to keep wildland firefighters fueled, and contractors who supply the meals must meet Forest Service nutritional guidelines.

Forest Service health experts have even followed firefighting crews to take blood samples to check glucose levels, which can indicate alertness.

Joe Domitrovich, an exercise physiologist with the Forest Service's National Technology and Development Program in Missoula, Montana, said that experiment led the agency to change gears and recommend firefighters snack during their shifts to keep glucose levels up.

"It's critical for cognitive function as well as physical movement," he said.

The agency declined to comment on the University of Idaho study.

Brooks said at this point

in his study there are more questions than answers. For example, one question is why so many firefighter deaths are due to falling branches or trees. The deaths of three of the 14 firefighters who died last year were due to what are called hazard trees. At least one firefighter was killed by a falling tree this year, and several more have been injured.

"What I'm trying to figure out is what is causing these accidents," Brooks said.

A fair number of wildland firefighters also die of heart attacks during the season. Brooks said he wants to know if there's something about the demanding seasonal job that puts wildland firefighters at greater risk of heart attacks.

Brooks wonders about the smoke firefighters inhale while doing physically demanding work. Many cities in the Pacific Northwest this year issued health alerts due to smoky air.

Ultimately, firefighters themselves might be part of the problem when it comes to calculating risks while protecting natural resources and property.

"There's a little bit of a hero culture," said John Freemuth, a Boise State University environmental policy professor and public lands expert. "There is a bonding with everybody. It can create a culture of where you kind of collectively ignore things you shouldn't ignore."

## FOOTBALL

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Pete Caldwell, football commissioner for Northeastern Oregon, said last week that he has 23 referees this year, compared with 33 last year.

Caldwell expected that this Friday's slate of 12 games

was likely to be an issue, even though some schools agreed to move their games to Thursday or Saturday.

Due to the conflict with students assisting Cycle Oregon, moving the game to Saturday wasn't an option for Baker High School. Football players and wrestlers will

help move bags for Cycle Oregon, a fundraiser for the sports programs.

Moving the game to 1 p.m. Friday means it will kick off while students are in class.

BHS Principal Greg Mitchell said the school will have shorter classes on Friday, and following a pep assembly,

which was already scheduled, seventh-period teachers will lead students to the stadium with a goal of arriving at halftime.

"That way students will be about the support the team for at least part of the game," Mitchell said.

## REPORT

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Nelsen, who was a student pilot according to the NTSB report, was a retired neurologist who had practiced at St. Alphonsus Medical Centers in Nampa and Fruitland, Idaho.

The crash happened about 10:17 a.m. when the Mooney M20K low-wing plane that Watts was piloting crashed into a hay field while on a landing approach to the Baker City Airport, according to the report.

The couple had taken off about 9:45 a.m. PDT from the Caldwell, Idaho, Industrial Airport. Weather conditions at the airport were clear with a northwest wind at about 7 mph.

According to the report, a pilot who was in his hangar about 1,300 feet southwest of the midpoint of the airport's main runway said that at about 10:15 a.m. he watched a low-wing plane flying directly overhead, heading south.

"It caught his attention because it was flying lower than the pattern altitude at between 600 and 700 feet above ground level, and it was inside the normal left downwind traffic pattern."

The witness said he heard the plane reduce engine power, as would be typical before landing.

The witness said he did not see the plane "emitting any smoke or vapors."

He then rode on his motorcycle along Frontage Road, west of the airport, expecting

to watch the plane land. "He stated that in retrospect this was unusual, as the airplane should have landed about that time."

An employee at the airport told investigators that she heard Watts make a radio call that he was on final approach for the airport's main runway. She did not hear any other radio calls from the plane.

According to the NTSB report, multiple people saw a low-wing plane flying in a direction that planes typically use when landing on the main runway.

"Two witnesses observed the airplane then begin a left turn and out of view beyond trees, followed by the sound of a thump. One witness observed the airplane turn, and then immediately transi-

tion to a rapid nose-down descent."

The plane crashed in a field about 1¼ miles south-southeast of the runway threshold.

"Both wings exhibited leading-edge crush damage perpendicular to the wing chord, and the smell of aviation fuel was present at the site," the NTSB report reads. "The propeller and hub had separated from the engine

and were buried about 12 inches into the turf just forward of the main wreckage at what appeared to be the first impact point. The turf surrounding the propeller had been sliced open, and an 18-inch square scallop of sod was ejected about 5 ft to the south. Both blades appeared to have cut through the turf, resulting in the propeller effectively becoming screwed into the ground."

## LOCAL BRIEFING

### Rep. Findley plans coffee hour in Baker

State Rep. Lynn Findley, the Vale Republican whose district includes Baker County, has scheduled a public "coffee hour" event to meet constituents in Baker City on Friday, Sept. 14.

The event is set for 9 a.m. at Mad Matilda's Coffee House, 1931 Court Ave.

Findley was chosen by county commissioners in House District 60 in January 2018 to replace Cliff Bentz, who replaced Ted Ferrioli as state senator for this region.

Findley is a member of the House Committee on Revenue and the House Committee on Energy and Environment. He can be reached by phone at 503-986-1460 or online at [www.oregonlegislature.gov/findley](http://www.oregonlegislature.gov/findley). His email address is [Rep.LynnFindley@oregonlegislature.gov](mailto:Rep.LynnFindley@oregonlegislature.gov)

### Talon Colton graduates from DPSST

Deputy Talon Colton of the Baker County Sheriff's Office is a member of a group graduating from Basic Corrections at the Oregon Department of Public Safety Standards and Training on Friday, Sept. 14, at 11 a.m. at the Oregon Public Safety Academy, 4190 Aumsville Highway S.E. in Salem.

### DEATHS

**Loren William (Bill) White:** 78, of La Grande, died Aug. 25, 2018. A Celebration and Praise will take place Saturday, Sept. 8 at 1:30 p.m. at the Union Methodist Church followed by gathering at the EOLS Clubhouse. Loveland Funeral Chapel & Crematory is handling the arrangements.

## GROCERY

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Miller's goal is to hire 29 total employees, including six managers, to run the store, which has a grand opening set for Oct. 11. Miller plans to begin hiring employees by the end of this week.

So far, he has received around 100 applications. Although Miller didn't grow up in Baker City, he often visited the area as a child, and his family has owned land in the area for about 100 years. He has worked as a store manager for Safeway for more than 12 years, including a stint at the Baker City store.

"Ever since I worked at the Safeway out here in 2012 I just fell in love with the place," Miller said.

Although he has grocery experience, this will be his first time owning a business.

"The biggest challenge is learning how to be a business owner, running a grocery store is the part that comes natural to me," he said.

To prepare him for operating a Grocery Outlet, Miller trained at a store in Madras under Lambert Bourgo, who worked as his district manager when Miller worked at Safeway in Baker City.

"The Madras Grocery Outlet is hands down one of the best looking Grocery Outlets I have ever seen and I couldn't have asked for a better trainer and that's the type of store that I'm looking to run here as well," Miller said.

Originally, Grocery Outlet wanted Miller to operate a store in San Diego but he declined because he is more of a small town guy.

The Baker City store's grand opening will include a ribbon-cutting ceremony as well as a Grocery Outlet gift card giveaway for the first 200 customers. The gift cards will range from \$5 to \$200.

The store will also donate all the money that customers "save" from shopping at Grocery Outlet to the Baker School District.

Grocery Outlet spokesmen Kyle Noble said the company's prices typically are 40 percent to 70 percent lower than other stores.

The opening will create some competition in the grocery market in Baker City, as both the Albertsons and Safeway stores are owned by the same company.

Stocking for the store will start on Sept. 24. The store, at 295 Campbell St. just east of Interstate 84, will be open 7 a.m. to 9 p.m. seven days a week. On Oct. 11, the grand opening day, the store will open at 9 a.m.

"It has been a challenge, but I have had a lot of good support from the company," Miller said.



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**Best Poem without a block 1st \$100, 2nd \$75**

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