



By Helena Bryan

Out of the woods

As the forest industry moves toward slashing its historically high death and injury rate, a new study asks whether fallers can use training with 3-D images to spot hazards.

A Vancouver Island faller labours deep in the woods. Fallers are the subject of innovative new research and training initiatives to reduce the forestry death and injury toll.

“When it comes to making sure workers — particularly fallers — get home to their families at the end of the day, good isn’t good enough.”

—Tom Bailey, WorkSafeBC forestry manager for Industry and Labour Services

It’s an industry rife with risks. So workplace safety researchers are taking a few risks of their own, applying leading-edge thinking in B.C.’s forests in the hopes of preventing further deaths and injuries in the woods.

The research in question draws from the established field of science known as human factors, an area of study developed to optimize human performance in the workplace; in this case, to lessen the likelihood of human error in hazardous jobs such as falling.

While the industry has successfully renewed its commitment to combating faller fatalities through its forestry certification and training programs, a group of psychologists and forestry safety experts have teamed with forestry giant Western Forest Products to improve the way fallers assess day-to-day hazards — and thereby vastly improve their chances of survival.

“Think of the industry as a rocket,” says Tom Bailey, WorkSafeBC forestry manager for Industry and Labour Services. “There was the booster stage, when the industry recognized it had a problem and assessed the risks. Then it took flight with the new training program, safety standard, and quality control. Now, it’s in the third, more targeted stage: to do all it can to improve safety in the field.”

For now, the target is fallers, who, despite an increased focus on faller safety begun

in 2005, still have the highest overall injury rate and the highest serious injury rate of all occupational groups in B.C. And new hurdles such as an aging workforce and the continued fragmentation of the industry (see [Coming to a screen near you](#), page 13) are only adding to the risks fallers face.

An analysis in 2009 of injuries and fatalities among fallers showed that even certified fallers were dying or getting hurt on the job. “While none of the fallers in the analysis had gone through the new faller training program — they’d been certified as competent due to experience,” Bailey says. “What this said was that there are times and circumstances where people just don’t see the risks.”

Competent fallers hurt by what they can’t see

John Bulcock also saw that analysis. As corporate manager of health and safety for Vancouver-based Western Forest Products (WFP), Bulcock and his team of health and safety advisors provide support to company and contractor falling supervisors. These supervisors, in turn, are responsible for the well-being of 40 full-time fallers and up to 200 on contract during peak times. Through his efforts, the company is partnering with Kwantlen Polytechnic University to test whether human factors training first devised to help U.S. military personnel identify enemy targets — and currently used to protect miners — has applications

for fallers.

The training in question takes into account the effect of “visually degraded environments” found in places like war zones or mines, or in this case, forests, and teaches workers and supervisors to rely on certain visual cues to identify potential sources of danger.

As WorkSafeBC human factors specialist Jenny Colman explains, this technique will train fallers to optimize the human visual system to detect hazards. These hazards might include intertwined tree limbs, blown-down trees, rootwads, and many others. Each of these situations contain a myriad of hazards that are often hard to spot, and cannot even be seen until the tree is in motion. “Falling is a dynamic process involving multiple, simultaneous hazards that fallers are challenged to detect,” Colman says. “This technique will train fallers to spot hidden hazards, beyond those determined by previous or more formal risk assessments.” (For more information on human factors, please see www2.worksafebc.com/Topics/AccidentInvestigations/HumanFactors.asp. For information about an upcoming human factors conference, see the back of this month’s pullout poster.)

Bulcock says he could see the potential for this research after noticing the number of fallers who had been seriously injured or killed by being struck by something from above.

“It’s not that they’re not looking up,” Bulcock observes, “or that they don’t have the technique to remove the hazards safely when they see them. In fact, fallers are highly trained to focus on safety. And no faller would fall a tree if they knew something was in the canopy that could come down and strike them.

“Then we realized how difficult it is to see clearly in the forest canopy. Even on a bright, sunny day, you look up and it’s dark or full of shadows. Add fog or snow and it gets even harder.” What’s more, he points out, as workers age, their vision begins to diminish.

Hazard recognition study set to go ahead

An internet search led Bulcock toward a whole body of research on the benefits of hazard recognition training through the use of 3-D images in the U.S. mining industry. “The training is about teaching people to look at things differently,” he says. “And the research showed that people who had the training didn’t get hurt at the rate that people without it did.”

It was enough to convince Bulcock. And with funding from WorkSafeBC and help from Colman, a field study involving WFP fallers has been given the green light. Under the supervision of Kevin Hamilton, chair of Kwantlen’s Department of Psychology, researcher Niloufar Saffari will conduct the research this spring and summer, with preliminary findings expected soon.

As part of her research, Saffari will visit WFP cutting sites to do a task analysis and identify the visual hazards and degraded conditions typical of that environment. She’ll develop a series of 3-D images for use in the training; these

will recreate hazards in a variety of degraded visual conditions. And then she’ll test how well fallers who’ve been given this training can then go on to spot hazards in the field. If all goes well, the group will design and deliver a training module and then track its success over several years.

Falling safety has come a long way

Meanwhile, longtime foresters are buoyed by a glimpse into the future. Falling is still a hazardous profession, but a strong push for safer training and certification – along with the promising new degraded imagery research – is forging a new path in the industry.

Third-generation logger Steve Venus recalls the arguments that ensued when he told his Dad at age 18 he wanted to follow in his footsteps. “It was the only contentious time between us,” Venus says. “It took awhile for him to accept what I wanted to do.

“Logging has been good to my family for more than 70 years. But back then, a culture of risk-taking permeated the industry,” Venus says. “And the prevailing attitude was that if you worked in the woods, you were going to get hurt.”

Fifteen years later, Venus is now a qualified supervisor trainer and the owner of a successful Vancouver Island falling contracting company. He says he wouldn’t hesitate to recommend falling as a long-term job. “My friend’s son wants to be a faller just like I did,” he says. “Today, I can tell him it’s a good occupation – that with the proper training and the right attitude, he can expect to have a long, fulfilling – and safe – career.”

New safety standards revolutionize the industry

Today, Venus represents a new breed of company in an industry that has undergone a major overhaul since 2005. That was when 43 forestry workers lost their lives in one of the deadliest years ever. Reaction to the terrible toll created a groundswell of support for change – change that might put an end to the grim statistics that have plagued the industry for decades.

Fast forward six years and enter a whole new world. In the past two years, forest industry fatalities – largely associated with logging truck accidents, transportation of workers in boats, crummies, and aircraft, as well as roll-overs of skidders and other heavy logging vehicles – have dropped from an average of 22 per year to an average of 5.5. Furthermore, the BC Forest Safety Council provides an infrastructure for comprehensive safety programs. Thousands of fallers – the group heaviest hit by serious injuries – have been newly certified to the highest safety standards and are now under the supervision of specially qualified faller-supervisors. “Falling is therefore no longer the dominant job category where fatalities occur in B.C.’s forests,” Bailey says.

Then there’s the 80 percent of forestry companies in the province now certified through the SAFE Companies certification program, meaning their safety programs and policies have to meet certain standards, while translating into safe practices in the field.

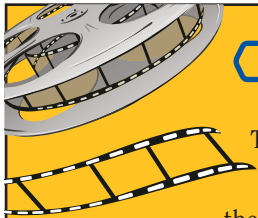
Most importantly, that culture of risk-taking Venus refers to has been replaced at every level – in the boardrooms, the mills, and out in the woods – by a safety-first approach.

As a result, Bailey says, a more favourable economic forecast for 2011 and beyond means forestry workers can expect to be busier, and safer, than a decade ago. “But this is no time for complacency,” he insists, quoting bestselling author Jim Collins, who coined the phrase, “the enemy of great is good.”

“Yes, the industry is getting to be good,” Bailey says. “But when it comes to making sure workers – particularly fallers – get home to their families at the end of the day, good isn’t good enough. We need

to do everything we can to get to great.”

Venus says communication is key to building a better safety culture. “If the licencees and logging contractors don’t talk with the falling supervisors, we’re all putting people at risk,” he says. Supervising requires teamwork between the falling supervisor, the fallers, the loggers, and the road crews. You can’t assume people know what’s going on; you have to take the time to talk about it.”



Coming to a screen near you


There’s nothing as powerful as a good story to get a point across. That’s the theory behind a new faller safety video released this spring. It depicts a day in the life of a faller in today’s fragmented industry.

“In the old days, the engineers, fallers, and logging truck drivers all belonged to one big company and they talked to each other,” says Tom Bailey, WorkSafeBC forestry manager for Industry and Labour Services. “Today, 88 percent of registered forestry companies have four or fewer employers. And each segment operates independently of the others – raising questions about who holds the responsibility for safety.”

At the same time, different phases of the logging process tend to overlap, so clear communication between each group becomes even more important, says Steve Venus, a

third-generation logger on Vancouver Island. “When I first started falling, we never had to work around heavy equipment. Now, we’re constantly working around roadbuilding, rigging, or logging crews. If I don’t talk to the licensee or the logging contractors, I put my guys at risk.”

Dave Lachance, WorkSafeBC forestry industry specialist, says the point of the video is to show the importance of personal responsibility. “People need to get beyond the idea that ‘this is my job and that’s all I need to do,’” Lachance says. “The video shows how planning and supervision can prevent a serious injury or save a life.”

The video is now available on WorkSafeBC.com and on YouTube, as well as in the WorkSafeBC Store in hard copy. It is also being translated into seven languages: simplified Chinese, traditional Chinese, Spanish, French, Punjabi, Vietnamese, and Korean. 

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