

Research Takes

Helicopters go high tech for Precision Forestry

Notable notes in forest research at Oregon State University College of Forestry

Video gamers who are fans of flight simulators know the thrill of swooping through the virtual air in craft equipped with the latest and coolest gadgets. Too bad real life can't be that interesting, right? Wrong! Jennie Cornell, who earned her masters degree in Forest Engineering Operations at the College of Forestry (OSU), found a way to combine her love of helicopters with her interest in high-tech equipment and her life-long appreciation for the outdoors.

Helicopters have been used in forest management for decades, especially in fire fighting. They can carefully remove timber from environmentally sensitive areas and even place large logs in streams to help restore salmon habitat. The use of high-tech equipment—lasers, digital compasses, computer modeling, and GPS (global positioning satellite systems)—is also common in “precision forestry.”

But, as Professor Loren Kellogg (Forest Engineering) notes, these high-tech tools are more often used to gather information and plan projects in the office. Now scientists want to learn how to use them most effectively in the field. “Our job is to help people identify where and when to use each technology,” says Kellogg, “whether it's very simple or more high-tech. For example, it sometimes may be best to use both horses and helicopters in the same forest management project.”

If the appropriate technology is helicopters, though, Cornell is on board. For her research in the Oregon Coast Range, Cornell studied the use of a differential global positioning satellite system (DGPS) to collect and verify production and flight data and to evaluate, plan, and carry out aerial forest operations. To complete the project, a helicopter was used to apply experimental minerals to stands of Douglas-fir trees.

Cornell found it is possible to use precision technology to plan and conduct aerial operations at a larger scale.

As for working with helicopter operations, she says, “You will never get tired or bored with the

rush and excitement of working in a fast-paced and intense setting—where people depend on each other to make things work smoothly. Of course, video games can't compare with the exhilaration of flying for real.” Next step for Cornell? “My pilot's license!”

