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Forest Ranger John Cissel examines rings on a stump to learn how fire in different locations and intensity have shaped the Willamette National Forest east of Eugene. The fire history may help

the U.S. Forest Service devise a logging plan similar to the paths the old fires took.

Forest history may help future

By Lance Robertson

The Register-Guard

EUGENE (AP) — The fire roared up the South Fork of the McKenzie River, branching off to burn thousands of acres along the steep, forested slopes west of Augusta Creek.

Only there were no huge air tankers dropping red retardant or teams of crack firefighters to douse the flames.

That's because it was 1499, seven years after Christopher Columbus planted his feet on the shores of the Americas.

That 15th century fire was followed over the next 493 years by 22 other major blazes that researchers have identified and mapped as part of a unique forestry project under way in the Willamette National Forest east of Eugene.

By identifying how wildfires have shaped the forest through

It has harmed wildlife, including the threatened northern spotted owl, and has sparked a long war over logging in the Northwest's old-growth forests. But in the past six or seven years, there has been a shift toward "ecosystem management."

Forest Service Chief F. Dale Robertson has embraced the concept, recently promising to significantly reduce clear-cutting and start managing forests in a way that maintains near natural conditions over large geographic areas.

The "ecosystem management" could result in cutting less timber. But critics have blasted Robertson's pledge as a hollow vow designed to polish President Bush's image at the Earth Summit in Brazil last June.

The historic wildfire pattern, not the projected timber volume, is the driving force in Cissel's project. Any logging will be a sideshow to the broader goal of

maintaining the forest's natural evolution pattern.

Last summer, researchers surveyed 300 plots in the Augusta Creek drainage to get an idea of where, when and how fires burned.

The examined stumps in clear-cuts, determining the age of fire scars in the tree rings, and used data from existing old-growth stands to draw maps showing where and when major fires occurred and how intensely they burned.

From that, Cissel was given an idea of how the forest changed over time. Higher elevation, north-facing slopes, for example, rarely burned in catastrophic fires, while southwest-facing, lower elevation slopes tended to burn more frequently.

In the next year, Cissel will develop plans for the area that call for some timber harvesting. Generally, he said logging rotations

would be much longer and clear-cutting might not be used.

Cissel warns, however, that he's "not trying to mimic nature" through logging.

For years, the traditional notion of clear cutting was that it, too, "mimicked" natural wildfires. Stumps and slash commonly were torched.

But Cissel says clear-cutting, which opens up large areas of the forest, "nowhere mimics the complexity of the historical fire patterns." Clear-cut logging resembles only those blazes that are very hot and devastate everything.

In most wildfires, very little of a forest is destroyed, Cissel said. These slower burning fires, taking place over hundreds of years, create a variety of tree ages and species and leave large logs, snags and other components of old-growth forest, he said.

the centuries, researchers hope to develop a management plan for the 19,000-acre Augusta Creek drainage that departs from the traditional way that logging and other activities have been planned in public forests.

Under this new plan, the U.S. Forest Service might seek to do some logging that approximates the destruction caused in the past by fires.

The project could eventually serve as a model for all federal forest agencies, which are under intense pressure to protect old-growth forests and the wildlife in them by reducing logging levels and eliminating clear-cutting.

"We're coming at it from a different angle altogether. We're looking at how the ecosystem and its species have evolved according to the natural disturbances over time," said John Cissel, a U.S. Forest Service researcher in charge of the project.

The project is run by the Cascade Center for Ecosystem Management in Blue River.

Although the project is only about a year old, it already is starting to provide data that may help foresters use fire history to determine where and when to cut some timber.

The project also is challenging the notion that current clear-cut logging mimics naturally occurring wildfires.

"Traditionally, we've viewed forest planning as timber volume," Cissel said.

The computer model that the Forest Service uses in its traditional planning is "a vehicle for determining how much timber we can harvest," Cissel said.

The main goal has always been to maximize logging on those parts of the public forests that have not been set aside for wilderness, research or other non-commodity uses. That has yielded the crazy-quilt pattern of clear-cuts visible today as the natural forests were converted to managed, second-growth tree stands.

Traditional forest planning, with its evenly spaced clear-cuts on 80- to 100-year harvest rotations, has failed to perpetuate or approximate natural forest conditions, Cissel notes.

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