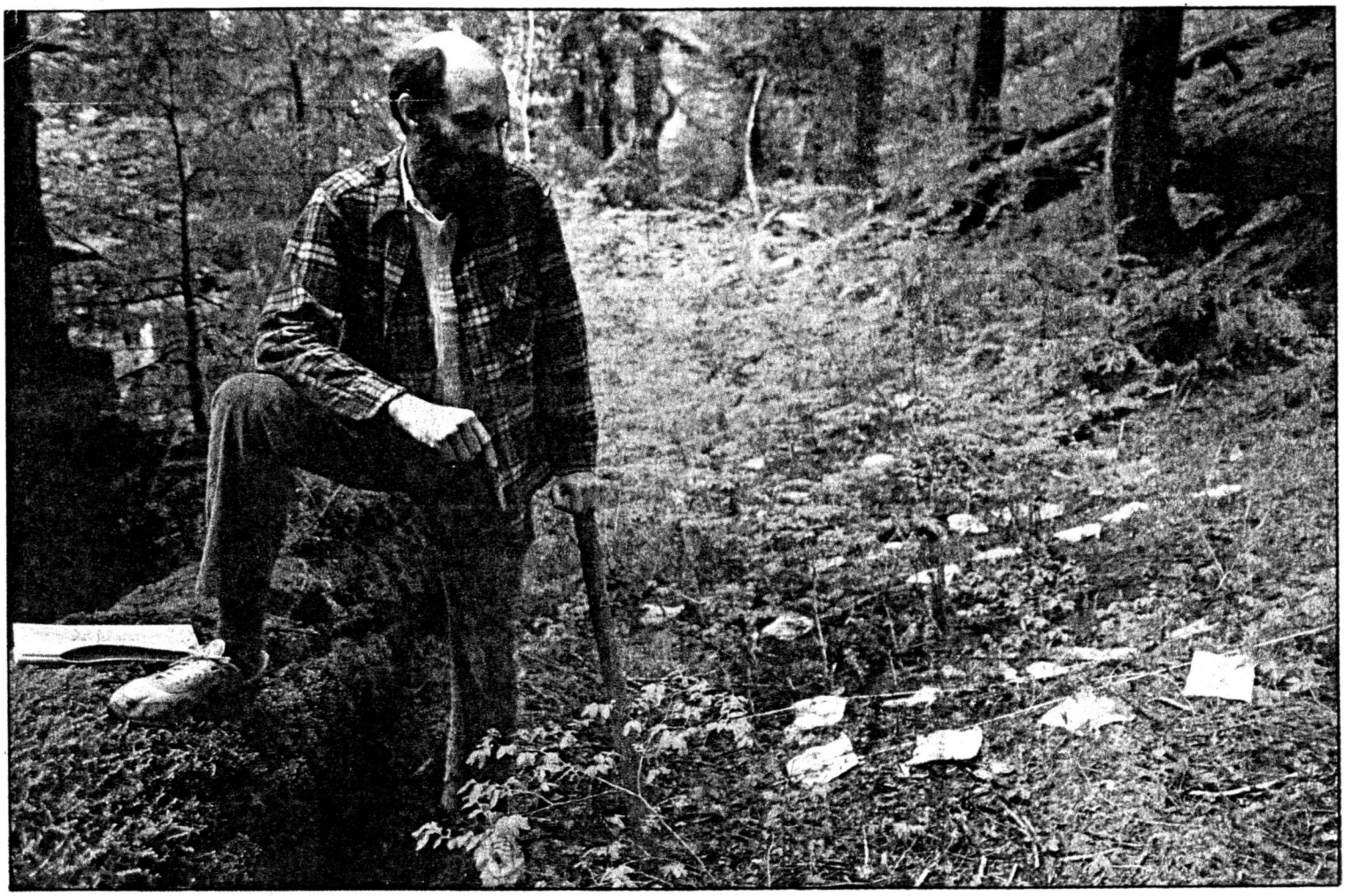
'From knowledge came concern'



staff photo by Martha Rial

**Fred Swanson, chief researcher at H.J. Andrews Experimental Forest, examines litter that is part of a continuing study at the research station.**

# *Research center saved old growth*

**By LANCE ROBERTSON**
**The Register-Guard**

BLUE RIVER — Fallen tree No. 155 hasn't budged in about 10 years. There was a time, though, when No. 155 came tumbling down Mack Creek during a storm and lodged against a big old growth tree that had toppled across the creek.

Since 1975, Fred Swanson has been keeping an eye on No. 155 and the 1,000 or so fallen trees along the forested creek northeast of Blue River. Every one is tagged. A camera takes their picture every 30 minutes. Once a year, each log is plotted on a map.

This mapping, tagging and shutter clicking is no idle exercise in data-gathering. Rather, the experiment is designed to track how the creek and forest are gradually changing. Along with dozens of other painstaking projects at the H.J. Andrews Experimental Forest, it is dramatically changing government management of public forests.

Since the early 1970s, pioneering research at the experimental forest by Swanson and many other top foresters, ecologists and biologists has helped fuel the debate over whether to save the Northwest's dwindling old growth forests.

Many of these experts have argued for years that old growth forests are special, fragile places that may not survive current forest management practices.

In addition to influencing U.S. Forest Service forestry, the research is being used by environmental groups to bolster lawsuits aimed at curbing old growth logging. And it is being used to bolster proposed congressional legislation aimed at preserving old growth.

"Understanding the complexity of old growth has played a pivotal role in framing some of the issues today," says Swanson, who is chief researcher at Andrews and is based at the Forest Service's Pacific Northwest Research Station in Corvallis. "I often wonder how the old growth issue would be framed today if there had not been . . . the research that began in the

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has recognized Andrews as one of a

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1970s."

The Forest Service started the 15,800-acre research station — named after a regional forester and rising star in the Forest Service who died in a car wreck — to study how best to plant and regenerate trees after logging.

Founded in 1948, the station at first focused on industry-oriented topics such as tree genetics, road design and slash burning.

In the 1960s, the focus shifted to the effects of logging and road building on watersheds. Long-term studies at Andrews showed that these activities could contribute to erosion and stream sedimentation. That led the Forest Service to change its rules for logging-road construction and other forest work.

But in the 1970s, Jerry Franklin, now a University of Washington professor and chief ecologist for the Forest Service, pushed hard to focus Andrews research on old growth. That proved a turning point, Swanson said.

Studies at Andrews have resulted in "a fundamental and irrevocable shift in the way we view old growth forests," said Dave Wilcove, a biologist for The Wilderness Society in Washington, D.C.

"One role of the Andrews experimental forests is to teach people about old growth forests," said Wilcove. "From that knowledge came the concern. And from that concern came the real watershed we're at now in terms of public policy."

The timber industry is "very supportive" of the work at Andrews, said Chris West, a forester and executive vice president of the Northwest Forestry Association, a Portland-based industry group. "There's been mounds and mounds of good research there."

But West also warned that scientists or special interest groups should not use inconclusive research in seeking to change public policy.

A number of scientists who have worked at Andrews — among them Franklin, Swanson, Chris Maser, Tom Spies, Jim Sedell, Tim Schowalter and Stan Gregory — have emerged as national experts in old growth ecosystems.

In 1977, the National Science Foundation picked Andrews as one of its 17 long-term ecological research sites. The facility is the National Science Foundation's only coniferous forest research site. Also, the United Nations has recognized Andrews as one of a handful of key ecological study sites.

Along with this recognition has come more money, mainly from the National Science Foundation. The NSF has just awarded Andrews a $3.3 million, six-year grant to continue old growth research.

Andrews has about 85 ongoing studies supported by more than $2 million a year from the National Science Foundation, Oregon State University, the Forest Service and other organizations.

Interest in old growth also has loosened the purse strings for improving facilities at Andrews. An $800,000 appropriation, pushed through Congress by Rep. Les AuCoin, D-Ore., is paying for new dormitories. Swanson said additional expected funding will replace many of the dilapidated mobile homes and other portable buildings that serve as laboratories and offices.

Andrews scientists, meanwhile, draw on long-term projects — such as the watershed studies that began in the 1960s — in their research.

The Mack Creek study, for example, has helped scientists understand how old growth forests — and the logs that frequently end up in forest streams — keep the streams cool and provide fish habitat and food for streamside animals.

Franklin and others also have begun experimenting with so-called new forestry, which seeks to allow logging while retaining many of a forest's old growth characteristics. The Forest Service is starting to practice some of these techniques, requiring, for example, that loggers leave some large standing trees, downed logs and snags in clear-cuts.

The National Science Foundation is providing more than $200,000 a year to fund a "tree gap" study at Andrews and in Washington state by Franklin, Spies and Christina Vogt. They've cut down trees to create gaps anywhere from several yards to a quarter acre wide so they can study how trees regenerate and whether old growth characteristics can be maintained.

Other research at Andrews has suggested that continually cutting up the forest into small patches can harm wildlife and break down the forest ecosystem, even in the uncut slivers of old growth that remain.

The Blue River Ranger District is now experimenting with so-called minimum fragmentation, in which clear-cuts are clustered, not spaced across a forest as is the current practice.

Swanson said that as the debate over old growth has intensified, researchers have wrestled with the notion that their work is playing an increasingly important role in changing public policy.

Franklin, for instance, has been criticized by the timber industry for stepping beyond scientific research in his advocating of new forestry and the need to protect old growth.

"Instead of sticking within the realm of what the research is telling him, he's becoming an advocate," said West of the Northwest Forestry Association.

"There's a lot of introspection occurring among scientists right now," said Swanson. "Scientists are asking one another, 'Hey, are you going too far in terms of recommending or arguing for a particular public policy decision?'

"Strictly as a scientist, our role is to understand how the natural systems function," Swanson said. "But every scientist also is a citizen and a human."

## Research at H.J. Andrews Experimental Forest

**Some of 85 current or past projects**

| Subject | Funding | Source |
|---|---|---|
| Long-term ecological research (1980-present) | $2,778,000 | NSF |
| Relationship between red alder and Douglas fir (1984-present) | $ 335,000 | USDA |
| Ecological approach to managing wildlife in forests (1989-92) | $ 497,000 | NASA |
| Satellite estimations of evaporation, photosynthesis (1989-present) | $ 519,000 | NSF |
| Log decomposition in forests (1986-88) | $ 425,000 | NSF |
| Response of forest ecosystems to tree-fall gaps (1990-93) | $ 800,000 | NSF |

KEY: NSF — National Science Foundation; NASA — National Aeronautics and Space Administration; USDA — U.S. Department of Agriculture.

**SOURCE:** H.J. Andrews Experimental Forest
**GRAPHIC:** The Register-Guard