

HELPING MAP THE FUTURE



Forest Service researcher John Cissel maps historic fire patterns in the Augusta Creek area last summer, gathering data for forest management. The Register-Guard

Ecosystem has 'no cookbook'

"To keep every cog and wheel is the first precaution of intelligent tinkering."

— Aldo Leopold

By LANCE ROBERTSON
The Register-Guard

Forty-five years after the death of the famed ecological philosopher, public forest land managers are wrestling with the notion of "ecosystem management."

Although he didn't call it that, Leopold outlined many of its concepts early in this century, arguing that society's "land ethic" should be

based on keeping intact all of nature's interconnected pieces: the soils, animals, forests, air, water and man.

Today, ecosystem management has become the latest buzzword in the struggle over how best to manage the Northwest's federal forests.

The timber industry has embraced it. The U.S. Forest Service has made it the agency's guiding policy. The term "ecosystem management" was liberally sprinkled throughout testimony at President Clinton's April 2 forest summit. Environmentalists say it's how forests should have been managed all along.

But as the Clinton administration prepares a new forest plan for the region, disagreements abound over just what "ecosystem management" means. One thing it probably would mean is lower logging levels in the forests, but how much lower would depend on how the concept was put into practice.

And although they generally agree on its broad concepts, nearly all of the traditional antagonists in the decadelong battle over old growth forests are at odds over details of how to imple-

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ment ecosystem management.

The timber industry believes that limited, selective logging can be done in old growth forests while keeping ecosystems intact. Environmentalists counter that there are so few remaining older and native forests that they should be left alone.

"There's big differences in opinion about it," said Fred Swanson, a top Forest Service researcher in Corvallis who has studied forest ecosystems for the past 20 years.

Swanson and other scientists say that part of the problem is that there are few examples of ecosystem management.

"There is no cookbook," said Dave Perry, a forest ecology professor at Oregon State University. "How you go about doing it is in the head-scratching stage right now."

Ecosystem management embraces a number of broad concepts that the Clinton administration will rely on to help resolve the old growth battle. Scientists, including Swanson, are working feverishly in Portland to meet the president's 60-day deadline for crafting a plan.

Ecosystem management differs from the way federal forests have been managed in the past. Since World War II, the Forest Service and U.S. Bureau of Land Management have been turning old growth forests into managed tree farms.

Forests were converted using clear-cut logging and planting of seedlings. The driving force was logging a set amount of timber to feed mills.

But such logging has proved harmful to many wildlife species, which are indicators of overall forest health, scientists say. Research also has shown that tree plantations lack the biological diversity of native forests.

Moreover, federal land managers tended to focus only on each clear-cut area, rather than on much broader tracts, or "ecosystems." In doing so, these managers have torn apart the interconnected pieces of the forest — the pieces that Aldo Leopold warned shouldn't be fractured.

Ecosystem management is almost a reversal of their approach.

First, land managers look at a broad geographical area to determine how to run it.

The goal is to maintain or restore the kind of forest that existed historically over a broad landscape, with the proper mix of old growth, younger and midrange forests, Perry said.

Historically, most Northwest forests had 60 percent to 75 percent old

growth, Perry said. Today, because of logging, most forested areas are well below that.

Some watersheds have virtually no old growth or younger native forests. Regionally, only 10 percent to 20 percent of the original old growth is left, and much of it is in isolated parcels of only a few dozen acres, surrounded by clear-cuts or young trees.

Under ecosystem management, timber harvesting takes a back seat to restoring the forest structure.

"Instead of determining how many timber sales we need to have, we look at what activities are needed to restore areas," said Lynn Burditt, ranger of the Blue River Ranger District in the Eugene-based Willamette National Forest.

Swanson calls it "a matter of shifting focus. If we do a good job of attending to the ecosystem, commodities will come from that."

In many areas, that might mean banning logging in the remaining old growth, leaving those trees to serve as "anchors" for the rest of the ecosystem, Swanson said.

Today, he said, "it's unlikely you could justify logging in old growth to make it better old growth."

In other previously unlogged forests, limited, selective logging might be allowed only if the structure — a forest canopy of tall trees, younger trees of varied species underneath the canopy, dead standing trees (snags) and logs on the ground — is kept.

In areas already clear-cut, ecosystem management may mean trying to create biodiversity. Trees might be thinned to allow tree species to get established in the understory, for example.

One goal would be to rapidly create forest characteristics that would benefit northern spotted owls and other species that depend on older forests, Perry said.

But scientists warn that true old growth forests can't be quickly "created" through logging. Only time — hundreds of years — will do that, says old growth expert Jerry Franklin, a University of Washington professor and

former Forest Service ecologist.

Nor is the goal to end up with an entire forest of old growth, Perry said. Historically, wildfires, insect infestations and other natural calamities created a range of forest ages.

So the target is a mosaic of old, middle-aged and younger forests, with a heavy emphasis on older stands.

The best example of how Cascade Range forests looked historically is the Augusta Creek area near Blue River in the Willamette forest. There, agency researcher John Cissel has mapped historic fire patterns to get a clear idea of forest age classes, the intensity of wildfires and how the landscape changed over time.

The Forest Service now will base its management on restoring the 19,000-acre watershed — some of which has been logged in the past — to more closely resemble its historic age-distribution.

But 19,000 acres is too small an area for true ecosystem management, Perry said.

Because spotted owls, salmon, marbled murrelets and many other forest species range over millions of acres, Perry and other scientists believe that Western Oregon, Western Washington and Northern California should be considered one ecosystem.

Some fisheries advocates believe that the ecosystem stretches from the Pacific Ocean to the Continental Divide.

Management schemes then could be broken down into watersheds, based on how managers want the entire region's forests to look.

The heavy clear-cut logging on private lands in the Northwest will affect management of public lands, Swanson

and Perry said. More older forests probably will have to be preserved on public lands to offset the younger plantations on private lands, Perry said.

The Applegate Partnership in Southern Oregon is the biggest attempt yet at ecosystem management. There, environmentalists, timber companies and federal agencies are trying to manage a 500,000-acre watershed.

The Siuslaw National Forest's Alsea Ranger District has embarked on a similar project.

In the Willamette forest, the Cascade Center for Ecosystem Management is coordinating a number of long-term projects at the H.J. Andrews Experimental Forest, and some new ones are just getting under way.

One new project will try various thinning methods in 16 stands of young plantations to see how fast the characteristics of older forests can be created, said Burditt, the Blue River ranger.

Environmentalists and some scientists are wary of allowing logging in owl habitat or any previously uncut forests.

"It's not that they (scientists) are suspicious of the methods," Perry said. "They just don't trust the Forest Service and BLM. They're afraid of the camel getting its nose inside the tent. That suspicion is justified to a degree. They are wary of it happening again."

Scientists also warn against tinkering with a complex ecosystem that they don't fully understand.

Jack Ward Thomas, the Forest Service biologist who has headed a number of scientific teams studying Northwest forests, told Clinton at the April 2 conference: "Ecosystems not only are more complex than we think, they are more complex than we can think."

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