

✓ The Forest Records Shepherd 1975

FOR
Kathy, Kristen, and Caleb,
who love the woods
and mountains,
and all living things

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Acknowledgments

All investigative reporting, whatever the subject, owes its facts and substance to a wide spectrum of people; only some of whom can be mentioned. So it is here.

I am particularly indebted to Gordon Robinson of the Sierra Club, who greeted me when I entered his San Francisco office, with the bellow: "I should be writing that book!" Indeed he should, and perhaps he will. There is much left unraked. Nonetheless, Gordon Robinson opened his files to me, and gave me basic and honest direction.

Doug Scott was attacking exploiters across a broad front when I encountered him at the Wilderness Society in Washington, D.C. He has since moved on to work for the Sierra Club in the Pacific Northwest. But during my work on this book Doug was in Washington, battling the Trans-Alaska Pipeline while offering me patient and detailed information and sources. It is no mere symbol that the Wilderness Society's Washington headquarters is shaped like a broken, but sharp, spearhead, the tip of which points directly at the White House.

Angus MacBeth, a brilliant lawyer at the Natural Resources Defense Council, and a jolly companion, led me gently through the maze of ecological law. Whatever law is comprehended here comes from his teaching; whatever errors are mine alone. It is lawyers like MacBeth, bless them all, who make the shout "Sue the Bastards!" raise fur on the necks of polluters.

I should like to thank Ludwik A. Teclaff, Professor of Law at Fordham University Law School, who let me audit his environmental law course while I was working on this book. It was a valuable dialogue.

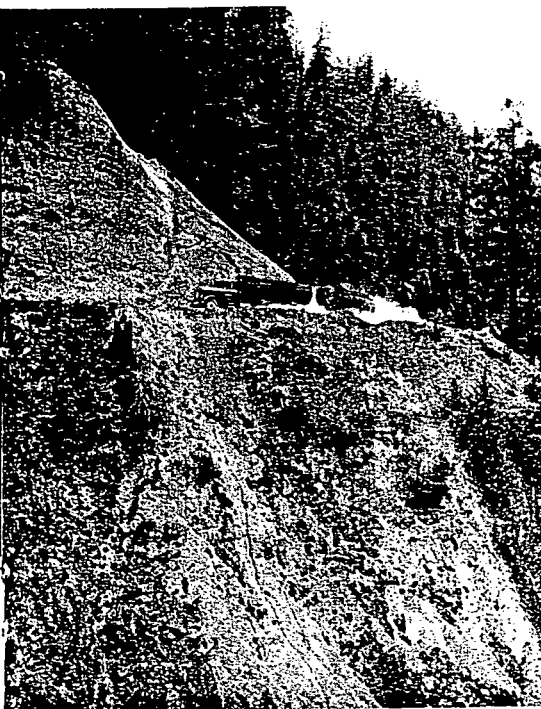
I am also indebted to George Alderson of Friends of the Earth, Laura Kopelson of the General Accounting Office, Dick Gentry in the late Representative John Saylor's office, Andrea Paleologos at the Environmental Protection Agency in Washington, Mark Howser with Representative Lloyd Meeds and Ed Kemp with Senator Robert Packwood. All gave help and opened avenues of investigation.

Even the Forest Service let me in, made people available, answered my telephone calls promptly, and helped in every way. I appreciate this too, and hope they will read this book and return to their old conservationist ways.

I also want to mention, without naming, friends who talked, Xeroxed,



Timber barons got rich by cutting and running. They still do. Clearcut forests, where everything is sawed down, cover the land from West Virginia to Montana to California and Alaska. Here, a landscape reminiscent of saturation bombing replaces what was once a redwood forest. The cut, zigzagged by bulldozed logging roads, reaches to the very edge of Redwood National Park, at the bottom. Reforestation on such land will be very slow. (Dave Van de Mark)



Logging trucks hustle the timber over precarious dirt roads, where erosion and soil slides threaten uncut trees below and silt streams. The washoff from such roads and clearcutting carries away the topsoil, making reforestation a slow process, if it happens at all. (Top: Philip Hyde; Bottom: Dave Van de Mark)

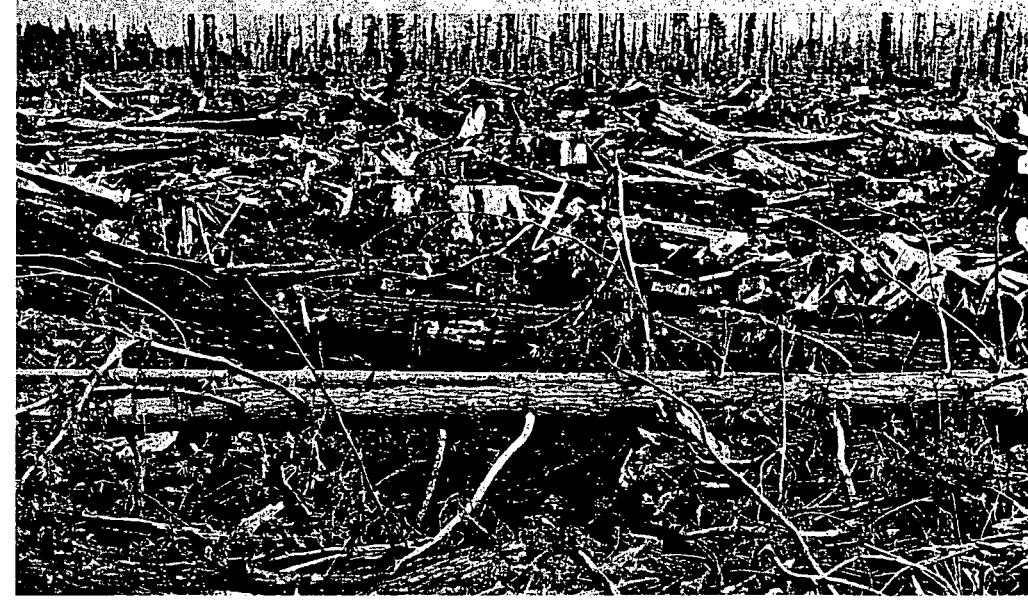
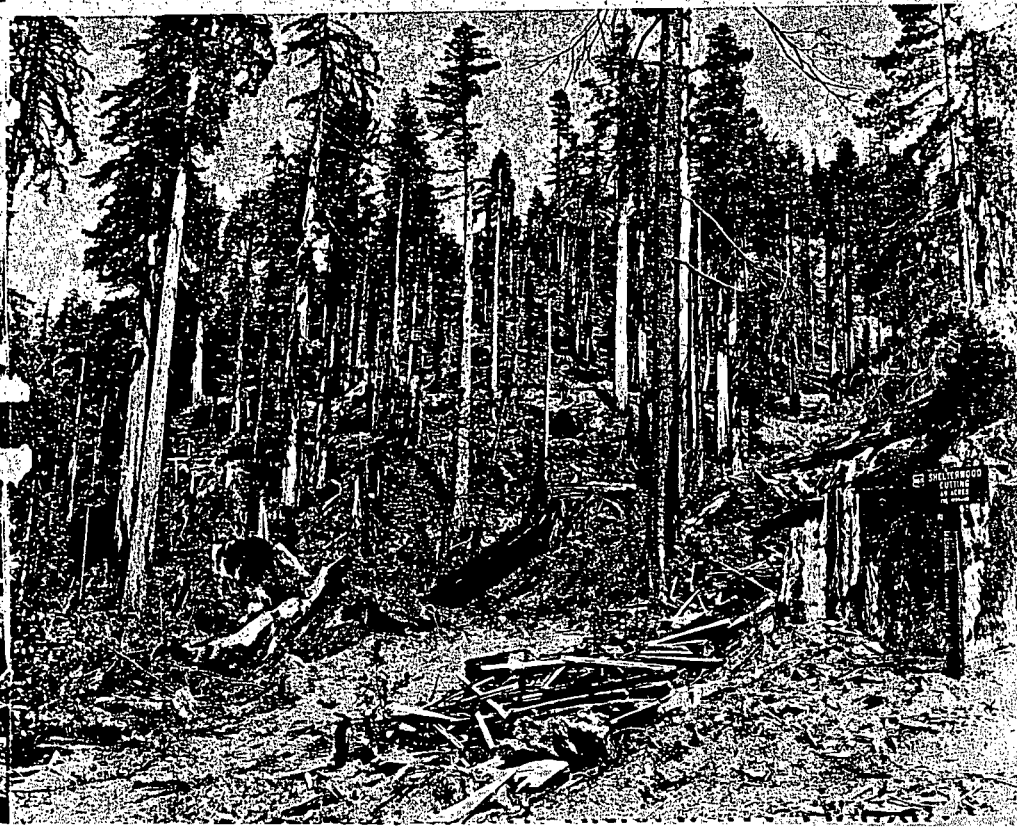
roads cut everywhere, even along steep slopes where the danger of erosion is high. One way to get out the trees is called cable logging: the loggers haul the wood trunks up the slope by cables. The result is more devastation, with the soil churned by the tractors and cables. Both landslides and erosions have begun along these recent dirt roads near Redwood Creek (top) and cable drag cuts mar the slope (bottom) on Weaverville Ridge beside the Klamath River, California. (Top: Philip Hyde; Bottom: Philip Hyde)

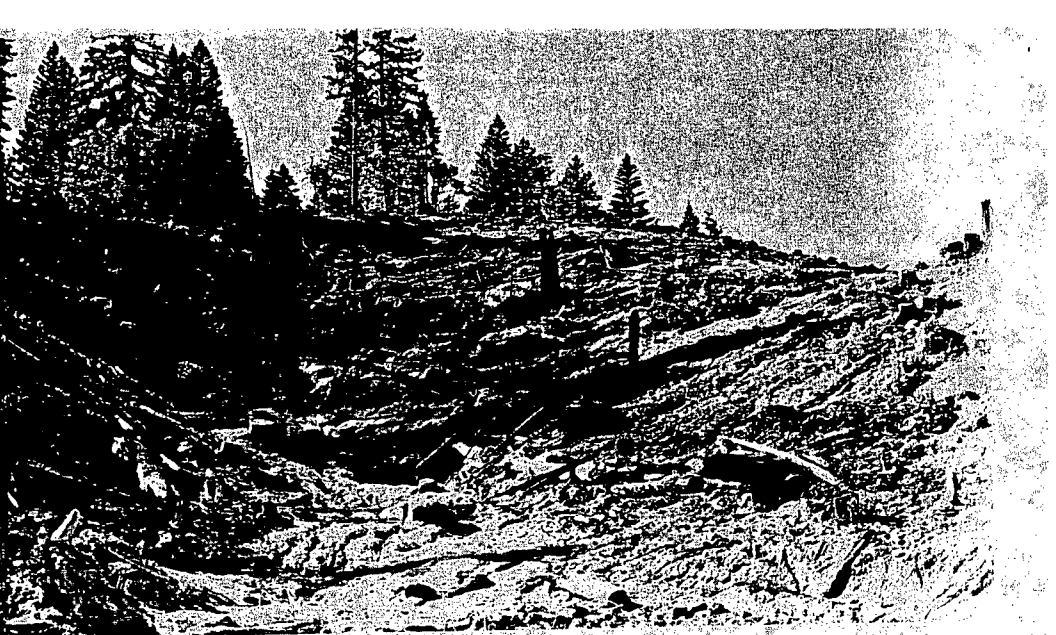




There are many ways to cut a forest. An Arcata Redwood Company clearcut stretches in a curve toward its smoking mill near Prairie Creek, California (*top*). Three years after "shelterwood" cutting, little reforestation has taken place, and much wood remains on the ground in a northern California redwood cut (*bottom*). (Philip Hyde)

actor clearcutting in the early stages of a Louisiana-Pacific project (*top*) and a near Crescent City, California (*bottom*), show how much timber is left on the ground by lumbermen. Studies from the General Accounting Office, in 1973, and Sierra Club, reported that 60 percent of all logging residue was large enough to be used for lumber, and 70 percent of the volume of timber cuts was being left behind by the timber companies. (*Top: Dave Van de Mark; Bottom: Philip Hyde*)

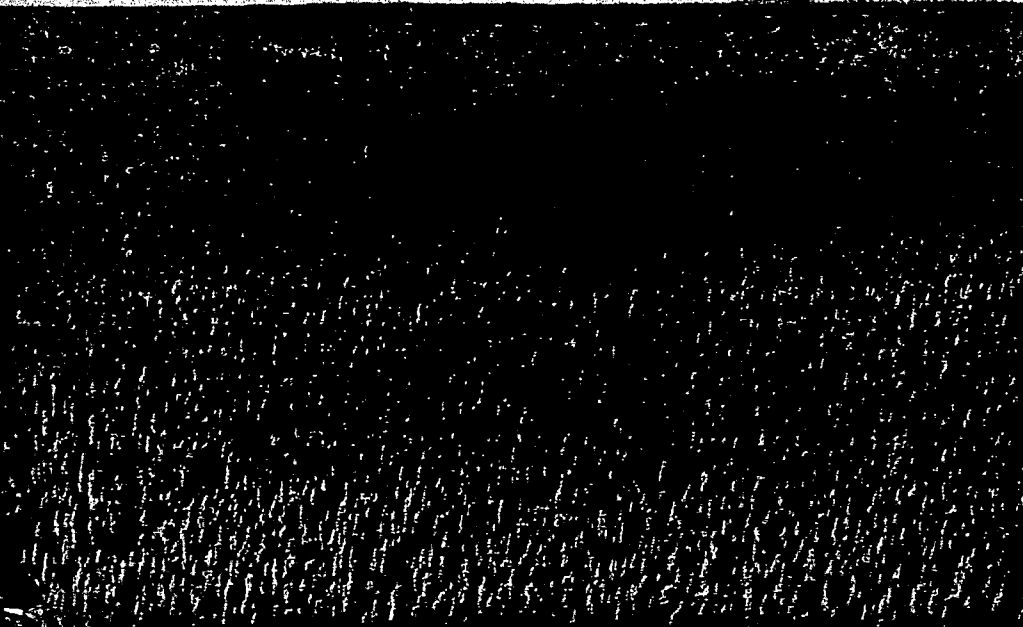




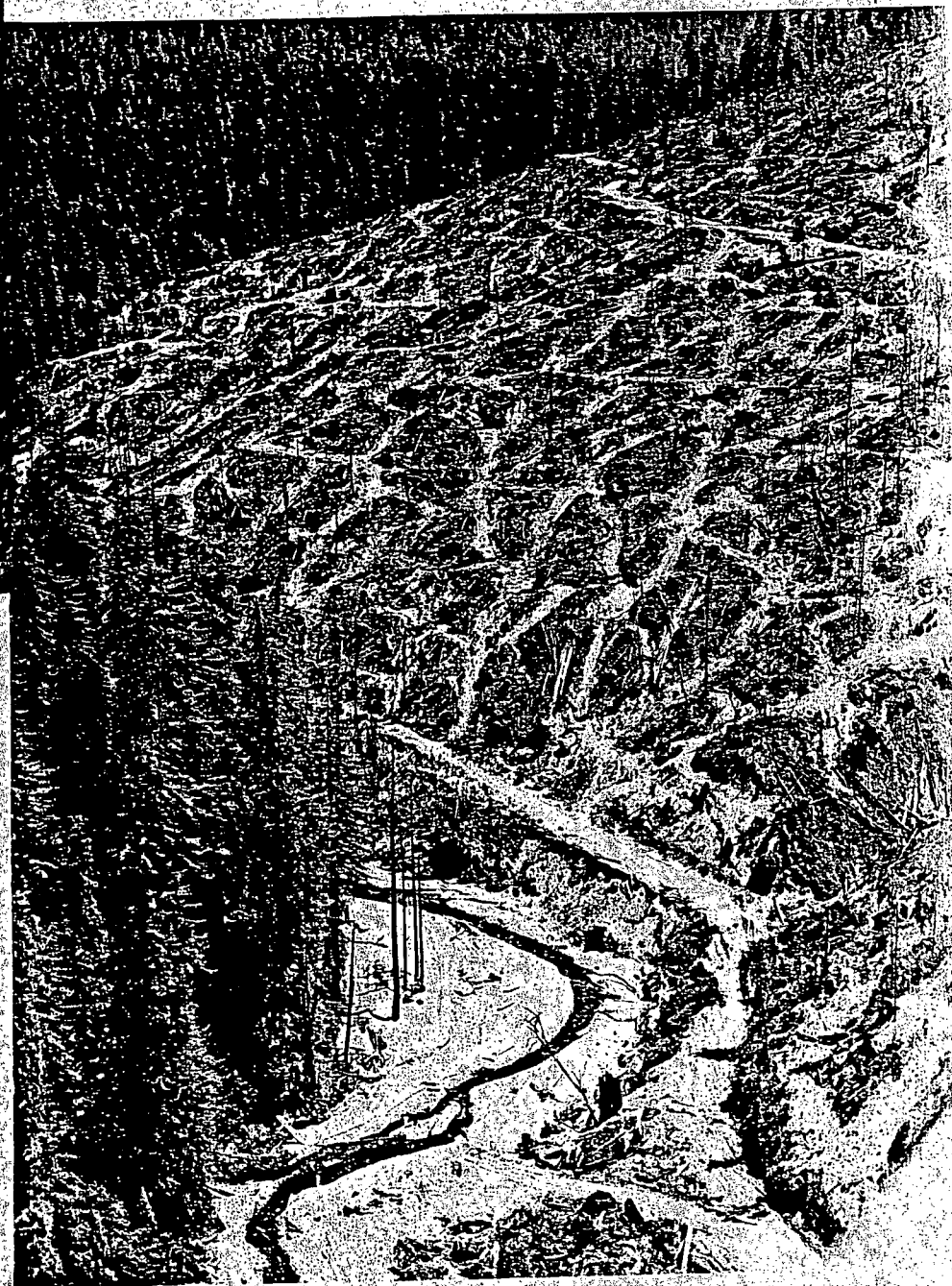
One battlefield between conservationists and timber barons is the wilderness area where timbering is forbidden. To show their disdain, some loggers cut right to the very edges of any public forestland, as here, where the trees mark the beginning of the pristine wilderness area inside the Marble Mountains of California. (Dave de Mark)

Seeding is often futile. The damage done to the soil by clearcutting makes a mockery of man's efforts to regenerate the devastated forest. The land (top) was clearcut in 1957, recut and planted in 1960; the photograph was made in 1964. Seeding is a slow way to rejuvenate any cutover land (bottom). (Philip Hyde)

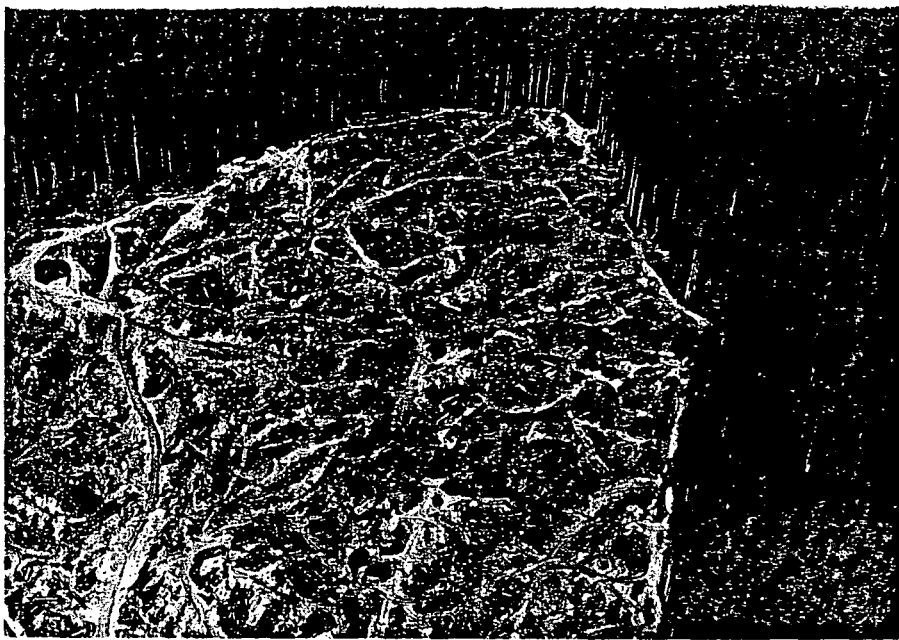




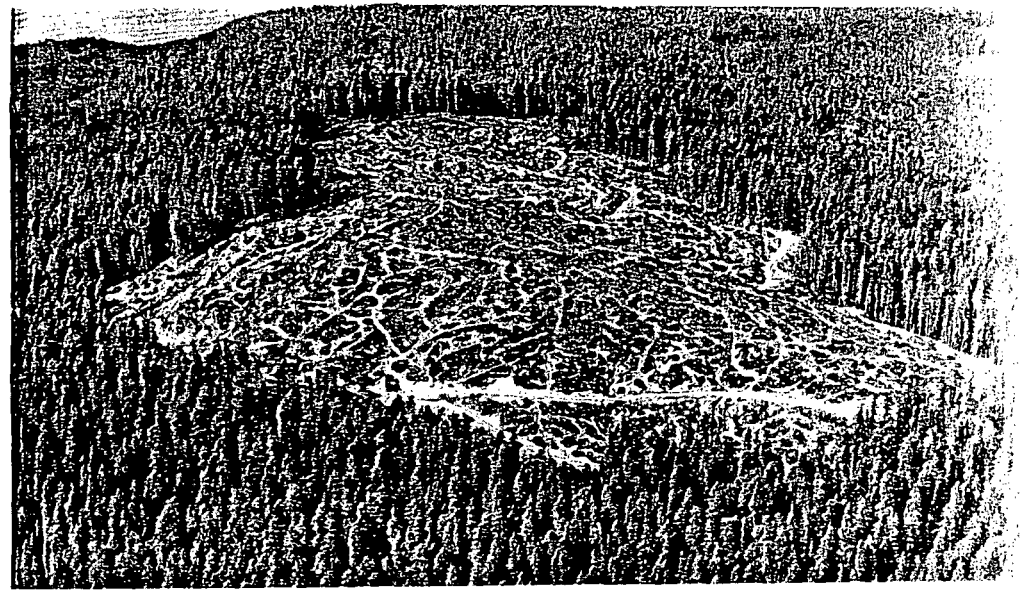
Nowhere has the battle between logger and conservationist been more bitter than during the Redwood National Park controversy. The valley of Redwood Creek (*top*) passes along the west side of Bald Hills Ridge in a 1969 photograph. Extensive logging was going on elsewhere, but this uninterrupted stretch was the largest redwood forest anywhere at that time. Much of it has been logged off now. So too, the redwood forest (*bottom*) along the west side of Bald Hills Ridge adjacent to the Redwood National Park, which fell to loggers in 1971. (*Martin Litton*)



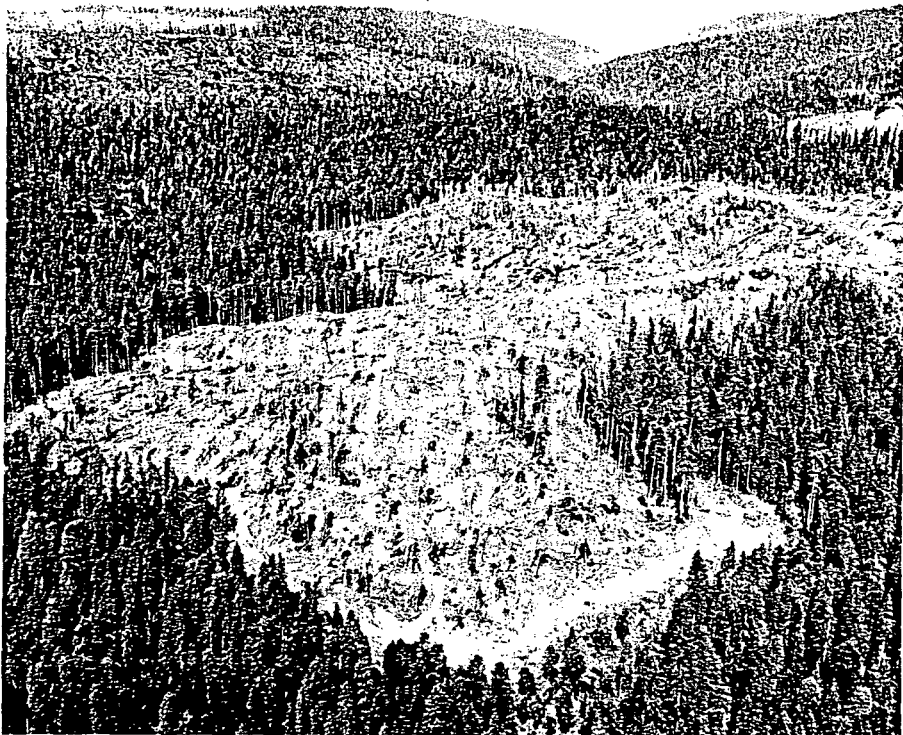
Louisiana-Pacific and other logging companies cut redwoods right to the edge of the proposed Redwood National Park. Here, clearcutting on Bridge Creek exposed the park's tall redwoods to erosion and filled much of the creek with silt. One of the greatest defeats in conservation history was the failure to protect and include complete watersheds—the higher, tree-covered forestland—in Redwood Park. (*Van de Mark*)



Conservationists accused the Arcata Redwood Company of “park preventative” logging when the company clearcut these redwoods (*top*) before they could be included in the Redwood National Park. Georgia-Pacific clearcut the last redwood skyline at Bridge Creek-Redwood Creek divide (*bottom*), and Bridge Creek filled with slash, logs and silt. (*Martin Litton*)

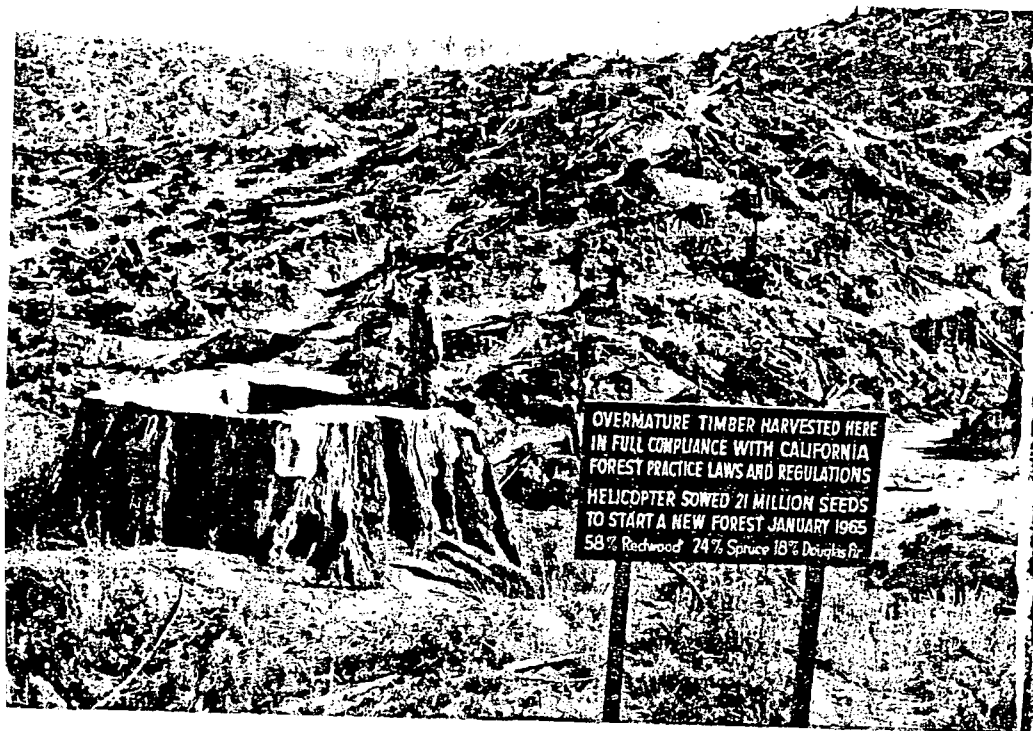


The Skunk Cabbage Creek redwoods (*top*) were still forest reaching to the Pacific Ocean when the Redwood National Park was established. Skunk Cabbage Creek, omitted because of the cost of acquisition, was surrounded by the park. In 1973 the Arcata Redwood Company began devouring this hole in the Redwood National Park doughnut. Redwood Creek (*bottom*) curves around Tall Trees Grove, an embattled woods containing the tallest redwoods known to be standing, inside the National Park. Right behind, and uphill from this grove, the Simpson Timber Company began clearcutting in 1973. (*Martin Litton*)





Where the logger wins, man loses. An Arcata Redwood Company truck hauls out the redwoods from the company's land (top), now a chewed and barren landscape. A forestry euphemism ("overmature timber harvested . . .") on a redwood sign (bottom) attempts to cover the disaster any small boy can comprehend. The photograph was taken in 1969. (Martin Litton)



OVERMATURE TIMBER HARVESTED HERE
IN FULL COMPLIANCE WITH CALIFORNIA
FOREST PRACTICE LAWS AND REGULATIONS
HELICOPTER SOWED 21 MILLION SEEDS
TO START A NEW FOREST JANUARY 1965
58% Redwood 24% Spruce 18% Douglas Fir

After clearcutting the sunlight is no longer filtered and thus strikes the forest soil directly. The Forest Service's timber-management report on the Wyoming national forests reported that "perhaps the most drastic environmental change caused by the cutting is the increase in solar light intensity at the soil-air interface. One study in 1970 showed that light intensities, typical at upper elevations, contribute to the high-mortality of open-grown seedlings. High temperatures associated with high-light intensity heat the soil surface, and increase transpiration and evaporation."

Dr. Curry continued his testimony by describing other hazards: "Certain cutting practices, particularly those that expose formerly shaded litter-bearing soils to sunlight, as clearcutting and much selective cutting does, greatly increase biologic activity among the soil bacteria, resulting in sterilization of the soil by leaching it of its stored chemical nutrients, with or without erosion when this happens."

Dr. Curry's testimony was quickly challenged by the timber industry. For one thing, he had relied not on his research alone, but also on a controversial Forest Service study on the agency's Hubbard Brook Experimental Forest in New Hampshire's White Mountains. There a team of scientists, led by Dr. G. E. Likens of Cornell and Dr. F. H. Bormann of Yale, clearcut all woody vegetation on a thirty-nine-year-old beech-maple-birch watershed during the winter of 1965-66. The scientists built no roads and made no attempts to remove felled trees or dead vegetation. For the next three summers the thirty-nine-acre area was sprayed with herbicides so that no vegetation could appear. Then the scientists observed the effects on the forest soil and water, using an undisturbed watershed nearby as a control.

In the fall of the second year, 1967, nitrate concentration in the stream flow peaked at 18 ppm (parts per million)—higher than desirable levels. Nitrates in stream flow were above 6.8 ppm in the spring and summer of 1968, which meant that the forest soil was being depleted. Herbicide treatments were stopped in 1968 and by the fall of 1970, after two seasons of vegetative regrowth, nitrate levels dropped to 2.8 ppm, similar to those recorded at other clearcut areas in the White Mountains.

In the February 23, 1968, issue of *Science*, Bormann, Likens, *et al.* wrote that "clearcutting tends to deplete the nutrients of a forest ecosystem." Two years later, in the Winter 1970 issue of *Ecological Monographs*, the team published an article supporting their earlier conclusions: "The total net export of dissolved inorganic substances from the deforested ecosystem was 14-15 times greater than from the undisturbed ecosystems." Their findings tended to support Dr. Curry's allegations that clearcutting could lead to sterilization of the soil and limited regrowth.

The woodcutting industry and its friends attacked the Bormann-Likens study at Hubbard Brook. John R. McGuire, then Deputy Chief and now Chief of the Forest Service, reassured the regional foresters and other