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Chilling Revelations About Declining Forests

by Mike Hudak, author of
Western Turf Wars: The Politics of Public Lands Ranching

Following upon my travels to the ancient forests of the Pacific Northwest last summer and my involvement with the recent logging controversy in our Aqua-Terra Park I have sought to learn more about trees and the ecology of forests. My readings have led me to a disturbing book, *The Dying of the Trees* by Charles E. Little (New York: Viking/Penguin, 1995). Unlike many books of the gloom and doom genre, Little's dwells not on horrific predictions of what will happen fifty years hence unless we curb human population growth, or fail to recycle more soft drink containers, but instead tells what has already occurred in America's forests. And he tells us why most people haven't heard about it.

According to Little there is a pandemic in forests not only in the US, but around the world. Some of its causes are well-known, such as the logging of tropical rainforests and their conversion to cattle pasture. But most of the causes in this country are not so prominently publicized, primarily because the perpetrators, namely the timber industry, the electric power industry and automobile manufacturers, have the political clout to influence the methodology and conclusions of forestry research conducted or funded by the US government. Little, who had worked for thirty years in the environmental field, traveled throughout the US, from Maine to North Carolina; from Colorado to California, interviewing researchers and environmentalists willing to speak forthrightly about what has been happening to our forests. Herewith a few of his more chilling revelations.

Air pollution, containing compounds of sulfur and nitrogen, has precipitated a forest decline from Quebec to North Carolina. These airborne substances, or their chemical precursors, injected into the atmosphere by Midwestern industries and electric power plants, return to earth in the form of acid rain. The results: excessive nitrogen deposition which inhibits materials the trees produce to resist disease and insects. Furthermore, acidified soil not only releases toxic aluminum into tree roots which kills them, but it promotes the leaching away of soil nutrients. Fungi and soil invertebrates, essential for returning nutrients to the soil, also have substantially declined from this pollution. Trees are thus poisoned and starved.

And what have been some documented effects on trees?

On Vermont's Camels Hump there has been a 48% decline in the number of red spruce from 1965 to 1979 and an additional 50% decline by 1990.

For the sugar maple throughout Vermont and Quebec, decline episodes have increased in frequency and severity since the mid 1970s. In 1986 Vermont was hit with a 36% decline in maple syrup production. In 1988 researchers found that the number of maple trees showing symptoms of decline had reached 91.3% in Quebec's Appalachian mountain region. Weakened by toxic pollution, the trees are easy prey for insects such as pear thrips which have moved increasingly northward during the past decade.

Smothered by tropospheric ozone (a by-product of automobile exhaust) rising from California's San Joaquin Valley, the number of trees in the Sierra and Sequoia National Forests afflicted with chlorotic mottle increased from about 20% in 1977 to 55% nine years later. This disease, affecting ponderosa and Jeffrey pines, develops as a faint yellowing of the oldest needles which subsequently fall off. Thus weakened, the tree typically dies from an opportunistic infestation of beetles or fungus.

Little's prescription for reversing these trends relies primarily on reducing various types of air pollution. But given the grip polluting industries currently have on many politicians that will be a difficult task.