

once prevailed throughout the timber industry had so offended conservationists that during the 1930's there was an effort, with the National Forest Service leading the way, to have Congress pass a law for the regulation of private forestry practices. However, the forest industries managed to forestall such legislation, partly by arguing that wherever public regulation was needed the states could do the job. State forestry practice acts, where they exist, generally date back to that era.

These state laws were concerned mostly with providing for either the natural or artificial regeneration of logged-over lands, and sometimes with reducing fire hazards. The requirement for leaving seed trees or replanting lay lightly upon the loggers, however. Commenting on Washington State's law pertaining to restocking, Glenn Jorgenson, the Forest Service's assistant regional forester in the Northwest, has observed: "You have to make the effort [at regeneration], you don't have to succeed."

Nevertheless, as part of its campaign to defeat proposed national forestry practice legislation, the forest industries successfully promoted the idea of "tree farms." By now, two generations of school boys have grown up with the mistaken belief that every time a logger cuts a tree he plants another one. The "high-yield forest" that the major forest products companies now talk about is a relatively recent innovation. Generally, tree farming has been a passive, low-intensity operation, seldom going much beyond trying to protect the area from fire.

But Weyerhaeuser and other major forest products companies are no longer waiting passively on nature to restock their timberlands. They are pushing her for all they are worth, and this may lead to some new problems. Cutover land is being carefully prepared for replanting, and seedlings of superior stock from company nurseries are planted, either by hand or by machine. The hope is that through research in genetics fast-growing varieties of Douglas fir and other species will be developed. As a Weyerhaeuser geneticist explained to me, "Trees have evolved in such a way as to enhance their chances for survival in the wild. But the mortality hazards can be eliminated or reduced by intensive management. We hope to make the plant concentrate more on cellulose production rather than on survival."

The Forest Service, which has

carried on a productive research program for many years, accepts much of the industry's high-yield forest doctrine, but not all of it. Some of the doctrine in dispute has significant implications from the standpoint of environmental values. In growing Douglas fir, the principal commercial species in the Northwest, the timber companies hope to shorten the "rotation"—the period during which the tree is allowed to grow—from the customary 95 to 100 years to no more than 70 years. But, in a study published in 1969, the Forest Service said that, while the 70-year rotation would produce more saw timber in the short run, production would decline in volume and quality after old-growth stands had been harvested and converted to young stands. Moreover, according to the Forest Service, the increased road building and logging—going from a 100-year to a 70-year rotation means a 30-percent increase in clear-cutting—associated with the short rotation would make timberlands less valuable for recreation and would increase stream siltation.

The spraying of nitrogen fertilizer on growing timber is another feature of high-yield forestry which the Forest Service has not yet embraced. "It looks as if use of fertilizer is promising, but how to do this efficiently and safely [from an environmental standpoint] is just being worked out," Philip A. Briegleb, director of the Forest Service's Pacific Northwest experiment station, has remarked.

Whatever the fate of Senator Jackson's proposal for national land-use policy, and however such a policy might be applied to forestry practices, at least a few states may be moving on their own toward comprehensive forestry practice regulation. For example, the Board of Forestry of the State of Oregon, which includes some nonindustry members, is developing a forestry management bill that could be far-reaching. This measure is expected to require applicants for logging permits to have effective plans for reforestation and for the protection of all the important environmental values except esthetics. Inasmuch as the timber industry itself is playing a major part in preparing the bill, its chances of approval next year by the Oregon legislature are excellent, although the conservation groups will no doubt try to make the measure stronger.

It's a sign of the times when a state such as Oregon moves toward comprehensive regulation of its dominant

industry. The industry itself is well aware that it must manage its vast timberlands in a way acceptable to a public to whom ecology is now a household word. The industry is, moreover, motivated by a genuine desire to avoid abusing those lands and to make them fully productive. But, whereas in the past the forest products industry was able to keep a jump ahead of the public by creating the appearance of self-regulation, it could no longer do this even if it tried. In the future, state and federal agencies, possibly acting under the aegis of a national land-use policy, are likely to be the industry's conscience.—LUTHER J. CARTER

RECENT DEATHS

Abram I. Alikhanov, 66; director, Institute of Theoretical and Experimental Physics, Moscow; 9 December.

Konrad J. K. Buettner, 67; professor of atmospheric sciences, University of Washington; 14 November.

John P. Colmore, 49; interim executive vice president for Medical Center affairs, University of Oklahoma; 26 November.

Fred S. Griffin, 84; former chairman, mechanical engineering department, University of Akron; 14 November.

Willard R. Line, 82; professor emeritus of chemistry, University of Rochester; 19 November.

Clarence W. Mendell, 87; former dean, Yale College; 14 December.

Thomas J. Murray, 80; former president, Loyola College; 16 November.

Abraham E. Neumann, 81; former president, Dropsie College, Philadelphia; 20 November.

Lee H. Person, 66; former professor of plant pathology, North Carolina State University; 17 November.

Elbert L. Persons, 66; former professor of medicine, Duke University; 24 November.

Henry Slonimsky, 86; dean emeritus, Hebrew Union College; 12 November.

Grace A. Stewart, 78; professor emeritus of geology, Ohio State University; 15 October.

George W. Stratton, 84; professor emeritus of chemistry, University of Kansas; 21 November.

Theos J. Thompson, 52; former professor of nuclear engineering, M.I.T.; 25 November.

Paul S. Williams, 75; professor emeritus of dairy science, Pennsylvania State University; 14 November.