

Letter from the Desk of David Challinor
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President Clinton recently announced a plan to use his executive authority to have 40 million acres of our National Forests remain roadless. The Forest Service is expected to promulgate the rule for public comment this spring and to issue its final implementing designation by the end of the year. Neither Reagan nor Bush ever used this executive authority; it had previously been used by Carter. As expected, environmentalists were pleased with this prospect, but loggers, ranchers and miners were not. Should the rule be eventually promulgated, the roadless designation will limit access to a considerable amount of old growth timber. In the long term, from a biological perspective, the proposed plan is neither “good” nor “bad”; however, there will doubtless be unexpected political and economic consequences. This letter will consider some of the pitfalls and problems that will have to be confronted in implementing the President’s directive.

An early economic consequence of the roadless designation might be the closing of small sawmills on the periphery of affected National Forests as access to potentially loggable stands will be blocked. Furthermore, forest fires would be harder to fight if access is limited only to planes and helicopters. However, the Forest Service’s forest fire policy is changing to allow more frequent burns to reduce fuel buildup. The swing in policy towards letting nature take its course was reflected in Interior Secretary Babbitt’s stated goal to mend the nation’s distressed ecosystems by returning the newly proclaimed roadless areas to a “presettlement equilibrium.”

Most foresters and ecologists do not believe such an equilibrium ever existed and thus consider this state unattainable. In fact the term “presettlement equilibrium” is vague. Does it mean the late Pleistocene era (15 to 30,000 years ago) when the first humans arrived on the western hemisphere? Scientists can only guess what the landscape looked like then. If the Secretary meant pre-European settlement, instead of “pre-settlement settlement,” we could conjure up a slightly clearer picture of conditions, but at that point conditions had been influenced by approximately a million local inhabitants who had been modifying the countryside for millennia. The classic image of Longfellow’s “forest primeval” existed then as it still does today in isolated patches of aged pines and hemlocks, usually surrounded by swamps that protect the stand from fire and from windthrow by encircling hills.

I imagine that Secretary Babbitt’s practical goal is to reduce the flagrant overexploitation of our National Forests so they can have the time and opportunity to regenerate after major natural perturbations. This is also a fuzzy concept, because the greatest threat to National Forests, other than fire, is probably from the indirect consequences of human activity such as accidentally introduced lethal organisms, i.e. Chestnut blight, Gypsy moths, oriental longhorn

beetles, as well as a host of exotic trees, plants, fish and microscopic pathogens. In other words, the composition of our native forests has been constantly changing along with the climate. For example, in another era, redwoods grew across the entire northern hemisphere -- in Canada, Iceland, Scandinavia and Russia. With a global climate change in the last few hundred thousand years, the redwood range has shrunk to our west coast and to a small patch of central China. The flexibility of plants and trees to adapt to changing conditions is well established, and we can be sure that their composition will continue to alter.

The New England forests provide a reasonably well documented example of how that landscape has changed since European settlement. Thomas Hooker traveled from the Massachusetts Bay Colony to Connecticut in the mid-seventeenth century, and his record of the landscape is one of the earliest we have for New England. He reported that it was relatively easy to ride through the open woods, free of the understory that was regularly cleared by local inhabitants who burned the forest floor in the fall to flush out game. The principal barriers to early colonial travelers were not impenetrable forests but wide rivers and swamps and bogs which were too wet to burn. Within the next century, the endless forest through which Hooker rode was felled and the cleared land intensively farmed. By 1850 even the hills had been cleared for sheep pasture to fill the demand for wool from the mills in the lower reaches of New England's rivers. And the coastal marshes were regularly mowed for salt hay as further evidence of the exploitation of almost every corner of the landscape.

At this peak of land utilization, intensive agriculture suddenly ceased expanding as owners abandoned their small farms and moved west via the proliferating canals, toll roads and rail roads to work the more fertile and less stony land of the Midwest. By 1950, New England's deserted farms had reverted to forest, and today this area has the highest percentage of tree cover in the country.

In the 1960's, citizen attitude towards our forests changed and began to influence forest policy. Perhaps nowhere was this change more evident than in the Pacific Northwest. Prior to World War II, old growth Douglas fir forests were often perceived as "decadent," prompting their exploitation while the trees were still salvageable. That attitude is vanishing quickly as foresters and ecologists recognize the value and complexity of these forests and the importance of maintaining them. The challenge facing us now is how to combine the retention of old growth stands with the nation's need for wood products.

Although a definitive solution is not likely to be reached soon, it will require many social, economic and political compromises. It is interesting to try to predict what might happen. Southern New England forests, for example, are mostly small, privately owned lots. This makes them expensive to log and thus produces only marginal profit for both the owner and the logger. However, in this area, timber production is often only a secondary reason for forest ownership, the primary ones being recreation and aesthetic appeal, such as fall foliage display. Yet living

trees keep growing and gaining in value. At some point the owners may be tempted to thin their forests to meet the strong demand for high grade hardwood used in flooring, furniture, etc. I thus predict an increasing incentive in New England to manage small forested lots for hardwood production. Additionally, there are local tax incentives to do so, and when combined with the development of increasingly sophisticated machinery to harvest logs from small tracts, I foresee a bright future both for maintaining the appealing landscape and for exploiting the forests which have been growing more wood each year than is harvested from them.

The large commercial plantations of Douglas fir in the west and of pine in the south should continue supplying dimension stock for home building well into this century. Eventually wood may have to compete more vigorously with non-wood building products, such as aluminum for studs and siding, and with increasing population pressure on tree plantation space used for housing, golf courses, etc. Despite the relatively slow growth of trees to marketable size, requiring long and expensive inventory time, I believe that the aesthetic appeal of beautiful wood products will support their continuing demand.

The great advantage of wood is that it is a renewable resource. It is easy to calculate how much you can harvest from a managed forest and still maintain a constant inventory from the accelerated growth of the uncut stock. Furthermore, as our understanding grows of how forest ecosystems work, scientists can concentrate on specific remedies for disasters that have plagued us in the past. For example, the American chestnut, which was the dominant hardwood in eastern forests at the turn of the last century, might be restored by some exciting techniques now used to breed a resistant strain of these once magnificent trees. Significant progress has been made in breeding American elms that can survive the Dutch elm disease.

Maintenance of our country's forest cover can only be achieved by constant vigilance in searching for potential threats to various trees and thwarting them as early as possible. Conditions arise beyond human control that can exacerbate what might have been a relatively small problem. Global warming, for example, has increased relative humidity on the east side of the continental divide and now White pine blister rust (a fungus introduced accidentally from Europe on imported current bushes) is attacking White bark pine (a susceptible 5-needle pine) that grows at the tree line in Yellowstone. The invading fungus cannot spread if the air is too dry. Because this tree does not grow very large and is not cut for timber, research on how to protect it from the invading fungus has a low priority. Forest ecologists, however, know that this tree produces bumper crops of pea-sized pine nuts at fairly regular intervals. Squirrels and nutcrackers (a jay-sized bird) cache the nuts in the fall. Grizzlies find these caches and eat the nuts to gain the necessary fat to hibernate. With no nuts at high elevations to eat, the grizzlies move to the lowlands to compete with humans for garbage, bee hives and other alternate food sources, thereby upsetting a feeding behavior that has evolved over millennia and putting the bears and humans at risk.

What should we do? There are two extreme approaches to saving our forests. We can do nothing and simply allow nature to take its course, allowing forests to recover from both natural and human assaults as best they can no matter how long it might take. Or we can use all available talent and funds to combat such attacks with the goal of gaining some kind of “presettlement” landscape. I support an intermediate approach because I do not think most of us are willing to sit idly by and watch a lethal, widespread assault on our forests. There is an intrinsic reward in gaining new insight into forest ecosystems, and the more we know, the better the chance of ensuring that our grandchildren and their progeny will enjoy our forests as we have.

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