Even-Flow Sustained Yield Is Antisocial

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By E.M. Gould, Jr.

About the turn of the century, foresters in this country started telling anyone who would listen about the virtues of even-flow sustained-yield management. Keeping each acre fully stocked and equating cut to growth was a policy that seemed ideally designed to give a steady, unfailing supply of products. This was in sharp contrast to the episodic exploitation of the cut-and-get-out policies so common in that era. Sustained-yield forestry soon became firmly ensconced, along with mother, home, and country, in the pantheon of social virtues—and eventually even in federal law.

Unfortunately, at the time there was no sustained-yield property in the United States to clearly display the policy's social advantages. But in 1908, Harvard University was given a forest in Petersham, Massachusetts, to set up just such a convincing demonstration. The foresters in charge immediately estimated growth and stand conditions. After saving some growth to build up the forest to its most productive point, the managers devised an annual harvest program that matched biological productivity.

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As a stream of research reports reveals, the demonstration hasn't worked as planned. However, the policy implications of the experiment have not been so widely perceived.

Undertaken as an exercise in social responsibility, the plan to gear cut to biological production put the forest managers in an ambiguous position. When, during the war years, market prices tripled as a clear signal that more timber was needed, the foresters refused to cut more, thus contributing to the shortage. When, in the depression years, less wood was needed and the bottom dropped out of the market, the foresters obstinately continued to cut all the growth and thus exacerbated the glut.

In Harvard's experience, price fluctuations have been more the rule than the exception. Increases or decreases of more than 10 percent occurred in 36 out of the first 50 years. Six times prices doubled or better in successive years, and four times they fell by one-half or more. Yet the foresters kept harvest as constant as possible. Adopted for the most altruistic of reasons, the policy of even-flow sustained yield almost always led the foresters to act counter to society's market signals about how much to harvest.

In 1955 a Harvard Forest study of the woodland management of 50 private landowners in New Hampshire showed a very different response to the reality of fluctuating prices. The owners seemed to have an idea of what timber "ought to be worth," and at these prices made what they felt to be a "normal" harvest. If prices fell below some threshold, they cut little or nothing. At the other extreme, if prices rose well above what they felt to be the fair price, they cut considerably more than normal. Thus in the off years they lay back and let the wood accumulate, while in the good years their cut was more than growth. However, because they had a long-run interest they prudently held something back in case prices went even higher in the future. The net effect was that, even without any formal guidelines, none of the owners cut more than the total growth of the period.

The canny Yankee landowners evidently had a much firmer grasp of reality than the academics when they hit upon their commonsense policy. The fact is that a price-responsive harvest policy, by synchronizing cut to the varying needs of society, not only helps dampen price swings but also considerably increases income to the owner. Even-flow sustained yield, on the other hand, accentuates price changes. Of course, under a price-responsive policy sale arrangements have to be suited to short-term fluctuations in the market. Owners have to exercise restraint in keeping accumulated cut within long-term growth possibilities and maintain the contingency reserve needed as a kind of biological mad money. But so far, a flexible harvest policy, subject to the varying needs and opinions of thousands of landowners, has worked out rather well in New England.

The Yankee approach, if adapted for the national forests, might spare us the spectacle of the USDA Forest Service having to bail out the speculative buyers of federal stumpage while at the same time trying to increase timber sales in the face of a severe depression. Judging from actual experience, harvest flexibility—loosely constrained within reasonable standards of growth—could be the solid kernel of a forest policy designed to respond realistically to the needs of society. ■