

# Reforming the Forest Service

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The Nantahala and Pisgah national forests, located in western North Carolina, report that they collected \$1.8 million in timber sale receipts in 1985. Not all of these collections were cash, however: over \$1 million were in-kind payments in the form of road construction. Nearly \$400,000 more were retained by the Forest Service for forest management. The United States Treasury received only \$380,000, just twenty-one percent of total receipts.<sup>1</sup>

But the Treasury is required to pay twenty-five percent of receipts, or \$462,000, to local counties in lieu of taxes. The return to the Treasury net of county payments, then, was minus \$78,000. The bad news is just beginning, however, because the Nantahala and Pisgah forests spent \$1.7 million on timber sales in 1985. Another 1.4 million tax dollars were spent on reforestation and other management activities, while over \$5 million were spent building roads.<sup>2</sup> Despite these phenomenal losses, the recently-issued forest plan for the Nantahala-Pisgah forests proposes to maintain timber sales at historic rates.<sup>3</sup>

The Nantahala-Pisgah forests are not in any sense a special case. National forests throughout the Appalachian Mountains, Midwest, Rocky Mountains, Intermountain region, and Alaska lose money on timber management every year. One out of three national forests returned negative receipts to the Treasury net of county payments in 1985, while more than two out of three lost money net of sale preparation costs and county payments.<sup>4</sup>

These losses are irrational from a conservation as well as an economic viewpoint. The six national forests surrounding Yellowstone Park—the Beaverhead, Gallatin, Custer, Shoshone, Bridger-Teton and Targhee—produce \$20 of recreation benefits

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1. USDA FOREST SERVICE, 1985 COLLECTION STATEMENT FOR REGION 8 NATIONAL FORESTS 1 (1986).

2. USDA FOREST SERVICE, ADVENT GENERAL REPORTING SYSTEM—1985 FINAL ALLOCATION FOR REGION 8 NATIONAL FORESTS 1 (1986).

3. USDA FOREST SERVICE, NANTAHALA—PISGAH FOREST PLAN FINAL ENVIRONMENTAL IMPACT STATEMENT II-28 (1987).

4. R. O'TOOLE, REFORMING THE FOREST SERVICE 127 (1988).

for each dollar of timber benefits.<sup>5</sup> These forests also provide eight recreation jobs for every timber job.<sup>6</sup> Yet the Forest Service wants to spend more than \$3 on timber for every dollar spent on recreation—expenditures so high that taxpayers will lose \$22 million per year from timber management on the Yellowstone forests.<sup>7</sup>

Why does the Forest Service lose so much money on so much timber? One clue may be found in records for timber sold by Georgia's Chattahoochee National Forest. Forest Service appraisers estimate the value of the timber in a sale to purchasers. At the same time, reforestation specialists estimate the cost of reforesting the land after harvest. Sales are sold at oral auctions with minimum bid prices equal to the greater of the appraised value or the reforestation cost plus \$0.50 per thousand board feet.

Under the Knutson-Vandenberg Act of 1930, the Forest Service may retain estimated reforestation costs out of timber receipts.<sup>8</sup> Amendments to the law passed in 1976 also allow it to retain funds for precommercial thinning, wildlife habitat improvement and other activities.<sup>9</sup> Under Forest Service policy, however, only the reforestation costs are considered when establishing a minimum bid price. Other activities are funded only if the high bid is greater than reforestation costs plus \$0.50 per thousand board feet.<sup>10</sup>

This process appears to be somewhat distorted by the Chattahoochee Forest. Appraisers estimated the value of the Adline Branch sale, for example, to be \$136,700.<sup>11</sup> The purchaser is required to build a road costing \$49,200, leaving a net value of \$87,500. Deducting \$0.50 per thousand board feet leaves \$86,000, and reforestation costs were calculated to be just \$42 less than this amount.<sup>12</sup> Wildlife habitat improvement costs were estimated to be \$12,000, which theoretically would be funded

5. CASCADE HOLISTIC ECONOMIC CONSULTANTS, ECONOMIC DATABASE FOR THE GREATER YELLOWSTONE FORESTS 21 (1987).

6. *Id.* at 26.

7. *Id.* at 22.

8. Knutson-Vandenberg Act of 1930, 16 U.S.C. § 576 (1982).

9. National Forest Management Act of 1976, § 18, 16 U.S.C. § 576b (1982).

10. USDA FOREST SERVICE, FOREST SERVICE MANUAL 2421.6 (1977).

11. USDA FOREST SERVICE, TIMBER SALE REPORT FOR ADLINE BRANCH SALE 1 (1986).

12. USDA FOREST SERVICE, K-V COLLECTION PLAN (ORIGINAL) FOR ADLINE BRANCH SALE 2 (1986).

only if the purchaser bid more than the high bid price. But when the sale sold, in 1986, for \$178,000, the timber staff simply added \$41,000 to the reforestation costs.<sup>13</sup> The result was that virtually no money was left over for wildlife habitat improvement—or, for that matter, the U.S. Treasury.

The Adline Branch sale is a particularly stark example of *budget maximizing behavior*—in this case, the timber staff maximized their budget at the expense of both the wildlife division and the taxpayers. A close examination of the Forest Service reveals that below-cost timber sales, road construction, grazing and other controversial practices all serve to maximize the agency's budget.

### INCENTIVES FOR BELOW-COST SALES

Paradoxically, the Forest Service has a strong incentive to sell timber at a loss because of congressional acts designed to make the Forest Service partially self-funding. Premier among these is the Knutson-Vandenberg (K-V) Act of 1930.<sup>14</sup>

The Forest Service calculates K-V costs in dollars per thousand board feet. K-V deposits retained by the agency are usually between \$5 and \$30 per thousand. This represents a substantial portion of the value of timber sold by many forests. Not surprisingly, the Forest Service considers the K-V reforestation deposit, plus a nominal \$0.50 per thousand board feet, to be the absolute minimum bid price it will accept for timber. While the agency does not hesitate to sell sales at a loss, it will not jeopardize its own budget in the process.

Most forests have some timber which will not sell for even the minimum amount required to cover reforestation deposits plus \$0.50 per thousand board feet. Many of these forests also have valuable timber which could be profitably sold. A profit maximizing agency would sell the valuable timber and reserve the worthless timber for non-timber uses. But a budget maximizing agency working under the Knutson-Vandenberg Act<sup>15</sup> would behave very differently.

For example, suppose a ranger has two stands of timber, each with a million board feet (see table one). Forest appraisers esti-

13. USDA FOREST SERVICE, K-V COLLECTION SALE (REVISED) FOR ADLINE BRANCH SALE I (1986).

14. 16 U.S.C. § 576 (1982).

15. *Id.*

mate that one stand is worth \$100 per thousand board feet, while the other is worth only minus \$80 per thousand. Reforestation experts estimate that it will cost \$9,500—or \$9.5 per thousand board feet—to reforest the timber in each stand.

A profit maximizer would sell the valuable timber and collect \$100,000. Of this, \$9,500 would be used for reforestation and the rest counted as profits. The less valuable stand would not be sold because it could not be sold at a profit. A budget maximizer, however, would combine both stands in one sale. The timber would be sold for an average of \$10 per thousand board feet, for a total income of \$20,000. Of this, \$19,000 would be used for reforestation, leaving just \$1,000 to be counted as profit.

	Unit 1	Unit 2	Both Units
Volume	1,000,000	1,000,000	2,000,000
Value/mbf	100.00	-80.00	10.00
K-V deposit/mbf	9.50	9.50	9.50
Base rates/mbf	10.00	10.00	10.00
Total price	100,000	0	20,000
Total K-V deposit	9,500	0	18,000
Returns to county	25,000	0	5,000
Net return to U.S.	65,500	0	-3,000

Two hypothetical units of timber: one is worth \$100 per thousand board feet, the other a minus \$80 per thousand. If unit one is sold, total receipts are \$100,000 of which the Forest Service keeps \$9,500 for reforestation. Unit two cannot be sold by itself due to its low value, but if both units are sold together the Forest Service collects \$20,000 of which it keeps \$19,000 for reforestation. The U.S. loses \$68,500 on unit two.

Such *cross-subsidies* are extremely common. For example, the Dun timber sale was sold by Oregon's Malheur National Forest in December 1982. Two million board feet of ponderosa pine in this sale was estimated to be worth about \$53 per thousand board feet to a purchaser of average efficiency (table two). Other species in the sale, including Douglas-fir, white fir, larch and lodgepole pine, totalled to 2.3 million board feet, but their value was estimated to be minus \$30 to minus \$63 per thousand board feet.<sup>16</sup> Base rates for the species—meaning reforestation costs plus \$0.50 per thousand board feet—ranged from \$1 for lodgepole pine to \$10 for ponderosa pine. Appraisers adjusted the lodgepole and other negatively-valued species prices to base

16. USDA FOREST SERVICE, TIMBER SALE REPORT FOR THE DUN SALE 1 (1983).

rates, and to compensate purchasers, adjusted the ponderosa pine value down to \$10.<sup>17</sup>

	Ponderosa Pine	Douglas- Fir	Western Larch	White Fir	Lodgepole Pine
Volume (mbf)	1960	1050	820	370	30
Value to mills	415	319	325	329	206
Logging and hauling costs	362	366	355	371	269
Indicated advertised rates	53	-47	-30	-42	-63
Base rates	10	6	6	1	1
Adjustments to base rates	-43	53	36	43	64
Advertised rates	10	6	6	1	1
High bid price	41	53	36	43	64

The Dun timber sale is a typical example of cross-subsidization. Ponderosa pine which could have been sold for \$53 per thousand board feet was offered for only \$10 and sold to the highest bidder for \$41. Despite the increase in price through bidding, the sale returned almost \$12,000 less than if the negatively-valued timber had not been included in the sale.<sup>18</sup>

Three companies bid on the sale, sending the price of ponderosa pine to \$41 per thousand board feet. The remaining species were sold for base rates. The total sale price was \$92,000. If, however, the ponderosa pine alone had been sold for the "indicated advertised rate" of \$53 per thousand, the total sale price would have been nearly \$104,000—close to \$12,000 more than the actual sale price.<sup>19</sup>

The cross-subsidization in the Dun sale is not rare. Table three shows that forty percent of the timber sold in fiscal year 1983, when the Dun sale was sold, was cross-subsidized by other timber.<sup>20</sup> If negatively-valued timber had not been included in sales, the Forest Service could have received bids of well over \$100 million more than it did receive (table four).<sup>21</sup>

Table three also indicates that the largest volumes of cross-subsidized timber were in Oregon, Washington, California, Montana and northern Idaho, indicating that much of the timber in these states is negatively-valued. Almost no timber was cross-subsidized in Colorado, Alaska or other states identified as having sales-below-cost—simply because there is no timber valuable

17. *Id.* at 2.

18. *Id.* at 2.

19. O'Toole, *Revelations of a Timber Sale Report*, 4 FOREST PLANNING, No. 6, 10 (1983).

20. O'Toole, *Cross-Subsidization: The Hidden Subsidy*, 5 FOREST PLANNING, No. 2, 17 (1984).

21. *Id.*

enough in those states to compensate for negatively-valued timber.

Region	Total	Volume	Percent
	Volume (mmbf)	Losing (mmbf)	Volume Losing
1	929	690	74
2	268	108	40
3	356	60	17
4	218	122	56
5	1711	908	53
6	4643	1416	30
10	85	53	62
Total	8210	3357	41

Over 40 percent of the timber sold in 1983 was appraised at negative rates. Some of this timber may have been underappraised, but a large portion of it—particularly in Regions 1, 3, 5, and 6, where some timber is fairly valuable—was cross-subsidized by more valuable timber.<sup>22</sup>

Cross-subsidies also take place between stands on gentle and steep slopes. Steep slopes require more costly logging techniques, so purchasers are reluctant to buy sales of steeply sloped timber. In Arizona and New Mexico, the Forest Service has overcome or is trying to overcome such reluctance by promising to include gently-sloped timber in every sale with steeply-sloped timber.

Thirteen such sales had been sold from New Mexico national forests by the end of 1985: the steep slopes lost money on all but two. Logging costs on the steep slopes averaged about \$75 per thousand board feet, while on the gentle slopes they averaged only about \$30 per thousand. Bid prices averaged only \$10 per thousand.

“The money-losing, steeply-sloped portions of these timber sales cost about \$350,000 to arrange and administer. Because these units were included in the sales, purchasers bid an estimated \$568,000 less for the sales. The total cost to taxpayers, then, was well over \$900,000, but the Forest Service gained almost \$100,000 in K-V deposits.”<sup>23</sup>

Forest managers are often encouraged to cross-subsidize timber sales to make sales attractive to industry. For example, in an August 1984 memo, the Chief of the Forest Service encouraged

22. *Id.*

23. R. O'TOOLE, *supra* note 4, at 130.

regional foresters to improve the economic viability of timber sales.<sup>24</sup> The Region 4 Director of Timber Management responded by directing forests in Utah, southern Idaho, Nevada and western Wyoming to "include high value species into sales with a significant volume of low value species."<sup>25</sup>

A more recent memo from Region 4 admits that Forest Service officials are aware of cross-subsidization. Negatively valued timber, the memo states, cannot be sold in isolation. "It can be sold, however, in combination with positively valued timber as long as the total value of the sale offering is positive. Repackaging of timber sales to produce more economically viable offerings is a common practice."<sup>26</sup> One of the authors of this memo, the Region 4 Regional Economist, notes elsewhere that the "timber industry often refers to [negatively valued units as] 'punishment units.'"<sup>27</sup>

Region	Lost	Negative
	Receipts	Appraisal
(thousands of dollars)		
1	11,787	54,569
2	32	1,734
3	64	2,562
4	719	7,635
5	9,898	35,431
6	17,210	40,055
10	2,622	4,304
Total	42,332	146,290

"Lost receipts" includes the value of highly-valued species in cross-subsidized sales assuming that any overbid is divided among all species in the sale according to volume and represents the minimum revenue loss due to cross-subsidies. "Negative appraisal" assumes that the entire overbid is for the valuable species only and represents the maximum possible revenue loss due to the cross-subsidies. Thus, 1983 cross-subsidies were between \$42 and \$146 million.<sup>28</sup>

Money in the K-V fund and three similar funds—for brush disposal (BD), road maintenance and timber salvage sales (TSS)—is particularly important to Forest Service officials because it pro-

24. M. Peterson, Need to Improve the Economic Viability of Timber Sales 1 (1984) (Memo to regional foresters dated 10 August 1984).

25. G. Roether, Economic Viability of Timber Sales 3 (1984) (Memo to Region 4 supervisors dated 14 September 1984).

26. P. Arndt, Negative Stumpage Values 2 (1986) (Memo to the record by Region 1 and Region 4 economists dated 10 June 1986).

27. D. Iverson, Sales Below Cost 2 (1985) (Memo on file in Region 4 Regional Office dated 14 January 1985).

28. R. O'Toole, *supra* note 20.

vides a steady flow of highly discretionary funds. Although supposedly dedicated to reforestation and these other activities, in fact up to fifty percent of these funds, depending on the forest, is spent on "general administration" (GA) and "indirect costs." This discretionary money can be spent only when the actual reforestation or other activities are accomplished. These three funds totalled to \$200 million in 1986, about \$50 million of which was spent on overhead.<sup>29</sup>

The recent downturn in the timber industry led to reduced national forest timber cutting, and thus less need to reforest—but not less need for bureaucratic overhead. Forest Service budgets are programmed several years in advance and presume that the overhead will be available each year. Each level of the Forest Service—the Washington office, the regional offices and the supervisors' offices—collects a predetermined share of the "take," but only when district personnel actually spend any money in the field.

In California, district silviculturists surveyed by a Forest Service employee said that they often were pressured to use K-V funds for reforestation, thinning, herbicide spraying and other activities even when, in their judgment, those actions were not needed. The surveyor estimated, for example, that fifteen percent of the herbicide spraying in the past five years was not needed, but done only to meet targets set by higher level officials.<sup>30</sup>

One can imagine how agency officials up and down the line feel about these funds. If too few seedlings are planted in California, a bureaucrat in Washington will lose a secretary. If plantations in the Klamath National Forest are not sprayed with herbicides, the regional office in San Francisco will have less money to spend on computer paper. No wonder silviculturists were under pressure to meet targets!

Describing the Forest Service as a budget maximizer does not imply that agency officials are unscrupulous. Instead, bureaucracies tend to evolve over time into budget maximizing agencies. People who do things which maximize the budget, even if they do them for other reasons, tend to get promoted. Policies which maximize the budget, even if adopted for other reasons, tend to

29. R. O'TOOLE, *supra* note 4, at 132.

30. C. DuLaney, *The Effects of Annual Targets and Budgets on the Quality of Silvicultural Projects in Region 5* (1985) (Report on file at Region 5 headquarters, San Francisco, California).



remain in force. Thus, the Forest Service is run by people who believe—in the face of mountains of contrary evidence—that timber cutting is good for recreation, water, wildlife, community stability, decreasing the national debt and improving the balance of trade—not to mention the very survival of western civilization.

### THE FAILURE OF FOREST PLANNING

To resolve national forest controversies, Congress directed the Forest Service to prepare plans for each national forest. The “rational” planning process envisioned in the National Forest Management Act (NFMA),<sup>31</sup> however, is failing. Plans are coming out years late, at triple their expected costs, and are not solving, or even addressing, the most important problems.<sup>32</sup> Issues like clearcutting, wilderness, herbicides and grazing are ignored by almost all forest plans.<sup>33</sup>

In reality, the planning process developed by the Forest Service to implement NFMA appears to have been designed to insure that timber sale levels would be maintained or increased in spite of the extreme inefficiency of trying to grow timber in many of the national forests. This can be seen readily by examining how planning treats below-cost timber sales.

First, the Forest Service decided to use a four percent discount rate in planning.<sup>34</sup> This rate is extremely low compared to the rate used by the timber industry, which prior to 1980 used a seven percent rate and since then has used rates in excess of ten percent.<sup>35</sup> Although the Office of Management and Budget tried to get the Forest Service to use a higher rate, the agency refused to do so because, as one Forest Service economist stated, “trees just don’t grow that fast.”<sup>36</sup> Discount rates represent the cost of money, and refusing to use a realistic rate because “trees don’t grow that fast” is the same as saying to an auto dealer, “my income isn’t high enough to pay \$20,000 for a new Cadillac, so I’m going to take one from you and pay only \$5,000.”

31. 16 U.S.C. § 576b (1982).

32. R. O’TOOLE, *supra* note 4, at 176.

33. *Id.* at 178-180.

34. USDA FOREST SERVICE, FOREST SERVICE MANUAL 1970 (1981).

35. C. CUBBAGE & F. REDMOND, CAPITAL BUDGETING IN THE FOREST PRODUCTS INDUSTRY 17 (1985) (University of Georgia Agricultural Experiment Station Research Bulletin 333).

36. Row, *Forest Service Budget Maximization: A Dissent*, 2 RENEWABLE RESOURCES JOURNAL, No. 4, 6 (1984).

Using the four percent rate, says Row, along with "many other improvements in economic methodology, the Forest Service is now finding that economic efficiency analyses are, in their managers' judgment, more realistic."<sup>37</sup> The "other improvements" include an accounting decision to count reforestation costs against the value of timber harvested today rather than as an investment in future timber growth. This decision has been retained in a recent "timber sale accounting system" which the Forest Service developed (at a cost of \$400,000) at the request of Congress.<sup>38</sup>

Reforestation is usually the major investment cost in growing a new stand of trees. Unless the land is very productive, the returns on reforestation investments are very low—usually less than four percent in the national forests. Pretending that reforestation costs nothing because it is "paid for" by the receipts from existing timber harvests, causes the rate of return to seem much more favorable.

This is a completely absurd point of view. Suppose someone sells \$100,000 worth of stock in Weyerhaeuser to buy into Boise-Cascade—only to see the value of Boise-Cascade stock fall by fifty percent before they sell it. The Forest Service would say they made a \$50,000 profit. The \$50,000 invested and never recovered doesn't count as it was "paid for" by the sale of Weyerhaeuser stock.

This attitude towards reforestation and other costs reflects a long-held forester belief that timber management is really cost-free. A bumper sticker posted in the Region 1 Regional Office says "Wood is Good—Use It and Nature Renews It." Obviously, if nature is renewing it, no costs are involved.

A parallel belief is that wood is essential for human existence. Wood substitutes, such as concrete, brick and steel, are "energy intensive." Only food is more important than wood. As a Forest Service brochure on clearcutting once said, the Forest Service cuts timber "because it is necessary for the survival of mankind (sic)."<sup>39</sup> This belief finds its way into the planning process in the form of high timber prices. Planners assume not only that wood is worth a lot today, but also that its value relative to all other

37. *Id.*

38. USDA FOREST SERVICE, TIMBER SALE PROGRAM INFORMATION REPORTING SYSTEM 67-68 (1986).

39. USDA FOREST SERVICE, PATIENCE AND PATCHCUTS 17 (1974).

goods and costs is rapidly growing—sometimes doubling every ten years.

Beaverhead Forest planners, for example, assumed that average timber prices today are higher than the Forest Service has ever received in any given year for its timber sales. They went on to assume that prices will be growing or “trending” at several percent per year for the next fifty years.<sup>40</sup> All of the forty-five forest plans reviewed by CHEC assume that timber prices are fifteen to one hundred percent higher than the timber industry bid for timber in 1986—a year of record softwood timber consumption.

Low discount rates, overestimated timber prices and underestimated or misallocated costs are the sorts of “improvements in economic methodology” which make Forest Service planning “more realistic” in the judgment of national forest managers. These manipulations help to justify policies which contribute to the Forest Service’s budget.

#### MARKETING THE FOREST SERVICE

If planning will not solve the Forest Service’s problems, new legislation is needed which will solve those problems. Successful reforms of the Forest Service must recognize that the Forest Service is not composed of evil people, but is simply an institution which is governed by its own set of incentives. One of the most important of these incentives is the desire of the agency to increase its budget. Reforms that try to fight the bureaucracy’s natural tendency to increase its budget will be doomed to failure. Instead, they should employ this tendency so that the budget becomes a part of a feedback loop: as the agency maximizes its budget, it also will accomplish social, economic and environmental goals.

Such feedback loops are possible whenever markets can be substituted for the political process. Markets provide feedback to managers in the form of prices and costs. When the cost of a good is greater than its price, managers will know not to produce that good; when the net value of one good is greater than another, managers will know to emphasize the more valuable good. None of this information is produced by the current planning and political process.

40. R. O’TOOLE, *supra* note 4, at 59-61.

Because markets are the key to reforming the Forest Service, this proposal is called *marketizing*. Marketizing implies four basic changes.

1. All activities are funded out of a percent share of the net returns from user fees, thus encouraging managers to be efficient. For example, instead of the often expensive reforestation techniques used today, managers will use harvest methods which allow reforestation at a relatively low cost. Where current laws like the Knutson-Vandenberg Act<sup>41</sup> effectively give managers a share of gross receipts based on the number of acres harvested, this proposal would give managers a share of net receipts based on a percentage of that net.
2. Forest Service appropriations from Congress are reduced to zero, removing the incentive to sell resources below-cost to gain congressional support. Under the current system, national forests which have no valuable timber nevertheless have a subsidized sale program so that the timber pork barrel can be spread to as many congressional districts as possible.
3. Managers are allowed to charge market prices for all resources, making it possible to use prices as signals indicating the value which members of the public place on various resources. "Market prices" may be determined by individual managers. Because managers receive a percent share of net returns, they will be motivated to keep prices high enough to cover costs and provide a return to taxpayers but low enough to sell the resource. Resources whose values are so low that no one will pay this price will not be sold.
4. The National Forest System and other Forest Service programs are decentralized, allowing individual national forests to experiment with new techniques of resource management. Decentralization is also financially necessary because resource receipts will be insufficient to maintain the nearly four thousand employees now located in the Washington and regional Forest Service offices.

#### SPECIFIC REFORMS

With appropriate refinements, these four basic changes could be applied to many natural resource agencies, including the Bureau of Reclamation, the National Park Service and the Bureau of

41. 16 U.S.C. § 576 (1982).

**Land Management.** For the Forest Service, they translate into ten specific proposals, all but one of which can be passed by a single act of Congress. These proposals are:

1. *Repeal misincentives:* The laws which encourage the Forest Service to act inefficiently, including the Knutson-Vandenberg Act of 1930<sup>42</sup>, the Brush Disposal Act of 1916<sup>43</sup> and portions of the National Forest Management Act<sup>44</sup> relating to timber salvage sales, should be repealed.
2. *Provide new incentives:* Operations and maintenance of each resource on each national forest should be funded out of a portion, probably about two-thirds, of the net receipts produced by that resource. This would give managers the incentive to maximize net returns from national forest management. Counties would still collect twenty-five percent of gross receipts, while the Treasury would collect the rest.
3. *Revise fee collections:* Fees at market prices should be collected for all resources. Rather than legally defined market price, local managers should be allowed to determine fees based on available information. Given that their funding will come out of receipts, managers can be relied upon not to sell resources below-cost.
4. *Eliminate appropriations:* Given that fees can cover most operations and maintenance, there is no need for Congress to continue to appropriate funds for most Forest Service activities. Only a few budget items should require continued funding by Congress. Appropriations may still be needed for threatened and endangered species, watershed protection and research. Funds for these activities should be appropriated to the Fish and Wildlife Service, Soils Conservation Service and National Science Foundation.
5. *Decentralize forest management:* As all Forest Service operations will be paid out of user fees, there will be little need and less financing for the huge, thousand-person staff in the Forest Service's Washington office.<sup>45</sup> Instead, each national forest should be chartered as an independent, publicly-owned (in the sense that the Post Office is publicly-owned) organization run by a CEO and a board of directors. Charters would give

42. 16 U.S.C. § 576 (1982).

43. 16 U.S.C. § 490 (1982).

44. 16 U.S.C. § 576b (1982).

45. R. O'TOOLE, *supra* note 4, at 228.

- run by a CEO and a board of directors. Charters would give national forests broad authority to sell or lease timber, recreation, grazing and other forest goods and services.
6. *Create wilderness trusts*: Wilderness areas represent a unique resource which should be managed using a special system. All wilderness areas in a given region should be overseen by a board of trustees which is obligated to obey the terms of the Wilderness Act<sup>46</sup> and maximize wilderness values. Wilderness recreation fees collected by the trusts would pay for wilderness operations and maintenance. The wilderness system could be expanded by using recreation fees, donations from the public and fees from other activities, such as grazing or off-site oil production, to purchase development rights on lands outside the wilderness.
  7. *Compensate displaced workers*: This proposal may result in the loss of 30,000 to 40,000 jobs, including loggers, sawmill workers, ranch workers and Forest Service staff. A "seed money" fund of \$100,000 per job should be created to train and place displaced workers. Such a fund will require only about fifteen percent of the capitalized value of the amount this proposal will save taxpayers.<sup>47</sup>
  8. *Give national forests authority over subsurface resources*: Under current laws, the Bureau of Land Management has jurisdiction over most national forest subsurface resources. That jurisdiction should be given to the individual national forests. Jurisdiction over subsurface resources in wildlands should be given to the wilderness trusts. The forests and trusts should be allowed to charge fair market value for all such resources.
  9. *Repeal unneeded and meaningless laws*: Given the above changes in national forest management, forest plans as conceived by the Resources Planning Act<sup>48</sup> and National Forest Management Act<sup>49</sup> are cumbersome and irrelevant. These laws, along with most other laws relating to national forest management, should be repealed or amended so that they do not apply to the national forests. These would include the National Environmental Policy Act (NEPA)<sup>50</sup> and the Multiple-

46. 16 U.S.C. §§ 1131-1136 (1982 & Supp. IV 1986).

47. R. O'TOOLE, *supra* note 4, at 226.

48. 16 U.S.C. §§ 1600-1614 (1982 & Supp. IV 1986).

49. 16 U.S.C. § 576b (1982).

50. 42 U.S.C. §§ 4321-4370 (1982 & Supp. III 1985).

Use Sustained-Yield Act.<sup>51</sup> Three laws which would be retained are the Endangered Species Act,<sup>52</sup> the Clean Water Act,<sup>53</sup> and the Clean Air Act.<sup>54</sup>

10. *Change state water and wildlife laws*: Quality water and wildlife can best be protected if the national forests and other landowners have an incentive to protect them. No such incentive exists under current state laws. State water laws should be changed to allow landowners with water rights to sell those rights to others, making it possible for fisheries groups to ensure minimum streamflows, for irrigators to sell to municipalities where it is profitable and for landowners to keep waters clean. Fish and wildlife laws should also be changed where needed to allow private landowners to charge for fishing and hunting access.

If implemented, these reforms should have dramatic effects on the economic and environmental health of the national forests. Eliminating Forest Service appropriations would immediately save taxpayers about \$1.6 billion per year. But an end to cross-subsidies and an increase in recreation fees will actually result in a tripling of returns to the Treasury, from about \$300 to over \$900 million per year. Thus, total savings to U.S. taxpayers will be over \$2.2 billion per year.<sup>55</sup>

Counties will also enjoy the increase in recreation and other receipts. Current payments to counties are less than \$500 million per year, but this proposal would increase payments to over \$700 million per year. Almost every county with national forest lands would benefit.<sup>56</sup>

Sustained timber sales would decline from the current eleven billion board feet to between six and seven billion board feet. This might be partially offset by temporary increases in harvests from forests in the Pacific Northwest, which would no longer be required to sell timber on a strict nondeclining flow basis. Because Forest Service timber sales represent only about ten percent of the wood consumed in the U.S., this decrease would have

51. 16 U.S.C. § 528 (1982).

52. 16 U.S.C. §§ 1531-1543 (1982 & Supp. IV 1986).

53. 33 U.S.C. §§ 1251-1376 (1982 & Supp. III 1985).

54. 42 U.S.C. §§ 7401-7642 (1982 & Supp. III 1985).

55. R. O'TOOLE, *supra* note 4, at 224.

56. *Id.* at 225.

negligible effects on wood prices. The cost of a typical house, for example, might rise by about one percent.<sup>57</sup>

Although recreationists would have to start paying higher fees than are currently charged, they would gain enormous benefits from these proposals. National forest managers would have an incentive to produce recreation for the first time in Forest Service history; they should take advantage of this opportunity. If the Forest Service is able to collect only one-third of the amount its economists estimate people are willing to pay for recreation—an average of about \$3 per recreation visitor day—recreation receipts will exceed timber receipts on all national forests outside of Oregon, Washington, northern California and a few national forests in the deep South. These fees should more than double national forest recreation and wildlife budgets.<sup>58</sup>

If national forests start to charge recreation fees, private landowners will also have an incentive to provide recreation. Recreation opportunities which are not even considered today will open up. Since private lands will provide much of the developed recreation, many national forests will focus on semi-primitive and primitive recreation.

Given the high recreation values, these proposals will solve almost all of the controversies now being debated over national forest management. Questions relating to rare species of wildlife, such as the spotted owl, will remain unresolved, but elimination of below-cost timber sales should reduce the pressure on other endangered species, such as the grizzly bear.

#### WINNERS AND LOSERS

These proposals represent drastic changes in public forest management, not to mention some touchy changes in western water law. Yet there are good reasons to expect that such reforms are possible. Environmentalists should support the changes because they will result in a clear improvement in national forest management and have a good chance of improving private forest management as well. Some conflicts between timber production and wildlife preservation will remain, but most other environmental battles in the national forests will be resolved.

57. *Id.* at 227.

58. *Id.* at 224.



Counties should support the changes because they will increase national forest payments to counties. Cross-subsidized timber sales reduce county payments by \$12.5 million per year or more. The failure to collect reasonable recreation fees reduce them even more. As estimated above, these proposals will increase county income by hundreds of millions of dollars per year.

Many private landowners should support the changes because they will provide new sources of income and eliminate controversy over who owns land resources. Currently, some state legislatures are considering passage of laws giving people free access to hunting and fishing on private lands. Such laws will encourage landowners to abuse fish and wildlife habitat so they will not be bothered with what they regard as trespassers.

Private timber companies and ranchers may or may not oppose these proposals depending on their particular situation. The public land agencies may be so wedded to the status quo that they will oppose reductions in their bureaucracy no matter how beneficial such reductions will be to the public. But, with the broad base of support described here, reforms should be possible in spite of such opposition.

