
ECONOMIC CONTRIBUTIONS AND EXPENDITURES IN THE NATIONAL FORESTS

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INTRODUCTION

The Forest Service was founded in 1905 by Gifford Pinchot, who believed that public ownership of forests would protect the land from exploitation at the hands of private corporations. Today, the Forest Service employs approximately 40,000 people and manages 192 million acres. National forests comprise the majority of this acreage, and national grasslands constitute the difference. The agency also conducts research and assists state and private forest land owners. With a \$3.5 billion budget, the Forest Service is the largest agency in the Department of Agriculture. Approximately \$1.5 billion of that budget is dedicated specifically to extractive activities.

In 1976, Marion Clawson, then one of the leading forest economists in the nation, estimated that the asset value of the national forests' standing timber was about \$50 billion dollars. Despite the crudity of Clawson's measurements and the subsequent removal of standing timber, it is likely that the forests' timber value holds at \$50 billion and is probably closer to \$100 billion today.¹ However, this analysis fails to take into account any other forest values.

Since the 1960s, the Forest Service has incurred steadily increasing financial expenditures of hundreds of millions of dollars each year. The Forest Service has also allowed and even contributed to severe degradation of rare and valuable natural resources. These expenditures result from a system that rewards managers for emphasizing extractive activities like timber, grazing, mining, and developed recreation, activities which occur at the expense of much more valuable amenities like wildlife, fish, soil, air, water, and backcountry recreation. The Forest Service may keep the receipts for the extractive activities in off-budget funds like the Knutson-Vandenburg and salvage sale funds. A recent General Accounting Office audit reports that in the past three years only \$124.5 million out of \$1.85 billion in timber sale receipts were returned to the U.S. Treasury. The remaining \$1.7 billion went into off-budget funds.² These funds were either used for more logging or to mitigate logging damage.

The Office of Management and Budget, the Forest Service, and Congress face varying incentives and choices when deciding how agency managers should spend their time and money. By law, the agency must analyze all of its activities through financial and socioeconomic filters.³ The agency must also make choices that provide the best benefits for the most people, as specified in the Circular A-94 guidelines from the Office of Management and Budget. However, the Forest Service either brushes off or falsely states socioeconomic considerations, because the agency receives large appropriations and incentives to extract, rather than protect, resource values.

Despite the existence of these specific regulations and guidelines, the Forest Service fails to meet many financial and socioeconomic goals of national forest management. In combination with institutional and budgetary incentives, this noncompliance, ensured by the continued funding of ecologically and fiscally irresponsible Forest Service activities, is putting taxpayers' investments in our national forests in jeopardy.

Taxpayers, citizens' groups like American Lands Alliance and John Muir Project, and Congress are pressuring the Forest Service to become both fiscally and ecologically responsible. The first step toward that goal is to design a framework whereby the Office of Management and Budget can compare the financial and socioeconomic returns on our investment with regard to various national forest activities.

RESOURCE PROGRAM EXPENDITURES AND INVESTMENTS - FINANCIAL

National forests make up roughly 25 percent of the forest land area in the United States⁴, However, the national forests provide the country with a significant majority of certain amenities like native wildlife habitat, biological diversity, recreation, scenery, open space, clean air, clean water, and a host of other values.

One way of tracking investments is through a financial filter. The Forest Service recently developed a system, called the All Resources Reporting system, or ARR, which can be used to compare financial returns of seven different forest management activities. A simple cost versus receipts analysis, however, does not measure the socioeconomic benefits or harm that result from various management strategies.

Extractive Activities (for commodity production):

- Timber
- Range
- Minerals

Nonextractive Activities (as investments):

- Recreation
- Wildlife and fish
- Soil, water and air
- Land ownership and protection

The national forests also provide a wide range of what economists call "ecosystem services," including flood control, regulation of agricultural and forest pests and disease, mitigation of wildfire, pollination, and carbon sequestration. Economists have recently estimated that the ecosystem services provided by native forests worldwide are worth at least \$4.7 trillion per year.⁵ The scarcity of these values and services, as well as their importance to our economic and ecological health, make our investment in the national forests extremely valuable.

The Forest Service spent almost \$1 billion on extractive activities in 1997. The timber sales program accounted for \$856 million of these expenses. The Forest Service invested over \$1.5 billion on nonextractive activities and land ownership and protection in 1997. Of that, fire suppression and suppression accounted for \$830 million. Often, the agency will claim that appropriations earmarked for nonextractive activities such as fish and wildlife, soil, air and water, and recreation were spent on "restora-

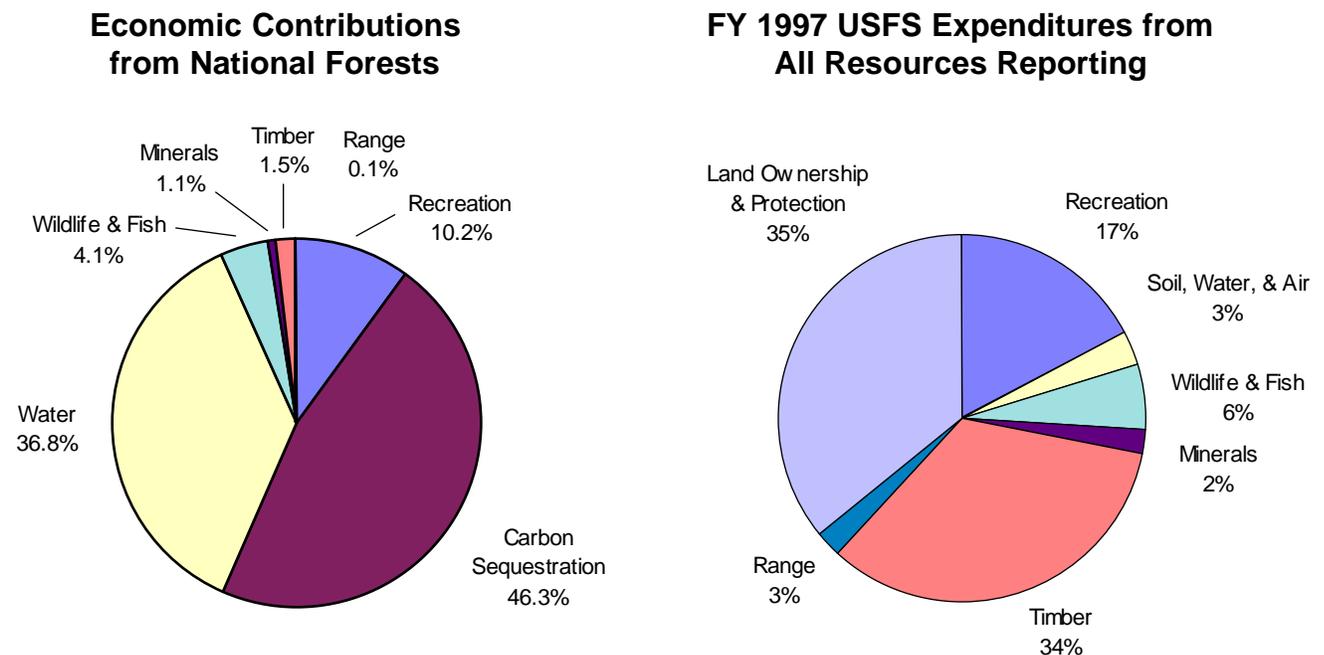
tion” or “ecosystem management.” However, a closer look reveals that money meant for these activities is often spent on extractive activities.⁶

RESOURCE PROGRAM EXPENDITURES AND INVESTMENTS - SOCIOECONOMIC

Standing national forests provide goods and services, which, in turn, provide jobs and income to local, regional, national, and international economies. Many of these services, like water filtration and carbon sequestration, are provided by the national forests free of charge. These “free” services are difficult and expensive to duplicate with technological solutions, do not need to be extracted, and exist without any management activity. Some values, like fish and wildlife habitat and backcountry recreation, can be improved by road decommissioning and by riparian and watershed restoration.

Extraction of national forest resources like timber, minerals, and forage for livestock grazing also provide products that, when extracted, provide jobs and income to economies. However, these extractive activities result in many externalized socioeconomic costs and foregone economic activity, such as biodiversity loss, loss of income to nontimber forest product companies, increased water pollution, and an enormous financial burden on taxpayers.

In order to better understand taxpayer expenses and investments for national forests activities and provide better advice to the President on Forest Service appropriations, the Office of Management and Budget could apply both a financial and socioeconomic framework to each activity. Socioeconomic indicators can include contributions and losses to jobs, total income, and percentage of Gross Domestic Product (GDP).



EXTRACTIVE ACTIVITIES

LOGGING

The Forest Service logged nearly 3.9 billion board feet of timber in 1997.⁷ This timber provides a small fraction—3.9 percent— of the total wood fiber consumption in this country.⁸

According to the *Forest Service Program for Forest and Rangeland Resources: A Long-Term Strategic Plan (RPA)*, in the year 2000, logging on national forests will make a direct economic contribution of \$1.09 billion, and contribute \$3.5 billion to the GDP. Compared to all other investments, logging makes up 3 percent of the overall contribution that national forests make to the GDP. This number is expected to decline to 2 percent by 2045.⁹ Logging on national forests contributes approximately 55,000 jobs to the economy, or 2 percent of the total jobs available from national forests programs.¹⁰ No regional economies actually depend upon public lands logging. In the states with the most federal commercial timberland, logging and wood products employment represents a minor share of overall jobs. In fact, it is highly unusual for the timber industry to be responsible for more than 10 percent of total personal income in a county.¹¹

This extractive activity, in turn, costs taxpayers billions of dollars in lost backcountry wilderness sites, water quality, water flow, and pest control services. In addition, logging activities often displace jobs in tourism, sport and commercial fishing, and hunting. Yet the Forest Service spent nearly \$856 million dollars in 1997 on timber management, or 30 percent of its budget.

LIVESTOCK GRAZING

The Forest Service allows extraction of forage by leasing grazing allotments on nearly 72 million acres of national forest land, including 2.4 million riparian acres. About 21.3 million of those acres are out of compliance with the Forest Service's own forest plan standards .

Only two percent of the feed consumed by beef cattle in the United States every year is provided from federal land.¹² Federal lands ranching produces three percent of U.S. beef each year.¹³ In the eleven western states with the most public land, federal grazing accounts for .04 percent of the total income, and .06 percent of the total jobs.¹⁴ Nationally, public lands grazing accounts for 23,145 jobs, or .7 percent of the total jobs available as a result of Forest Service programs.¹⁵

The Forest Service spent \$59 million on range management in 1997. According to the RPA, in the year 2000, grazing on national forests will make a direct economic contribution of \$55 million, and will contribute \$915 million to the GDP. Compared to all other investments, grazing makes up .7 percent of the overall contribution that national forests make to the GDP. This number is expected to decline to .5 percent by 2045.¹⁶

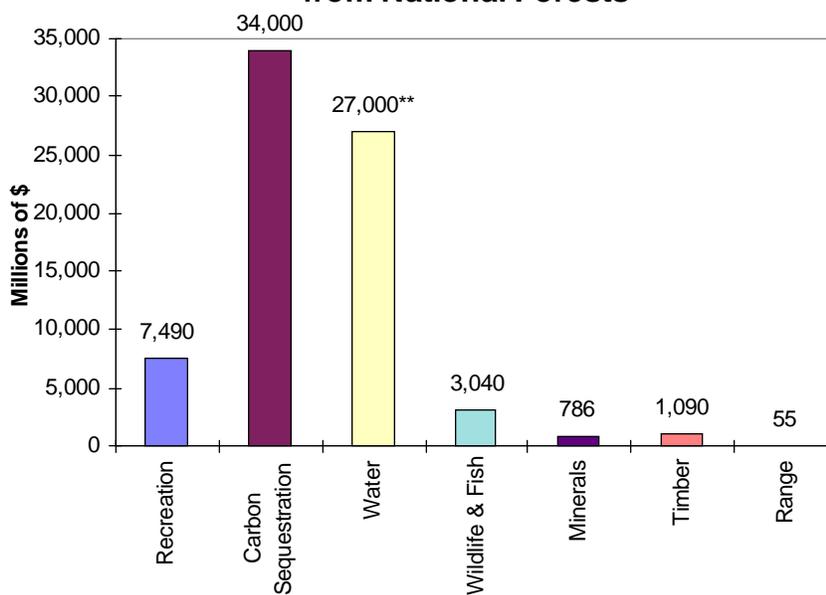
Livestock grazing has done more environmental damage in most of the American West than any other activity. It displaces tourism and degrades habitat for economically important species like cutthroat trout and salmon.

MINERALS

The Forest Service manages approximately 5.4 million acres leased for oil and gas, over 150,000 mining claims, and about 7,000 mineral material pits and quarries. There are over 2,000 new operations each year that require remediation bonds, and more than 20,000 total operations to monitor and inspect.

The Forest Service estimates that the value of energy and minerals extracted from national forests exceeds \$2 billion per year, not including the costs of developing the mine or administering the extraction and reclamation of the site. However, the actual net economic value of the output of a mineral development on public land is uncertain, especially before development gets underway. The costs mentioned above, commodity prices, or cumulative environmental problems may make the operation financially unviable. In fact, the agency estimates remediation of the environmental and health problems on abandoned and inactive mine sites will take up to 50 years at a cost of over \$4.7 billion.¹⁷

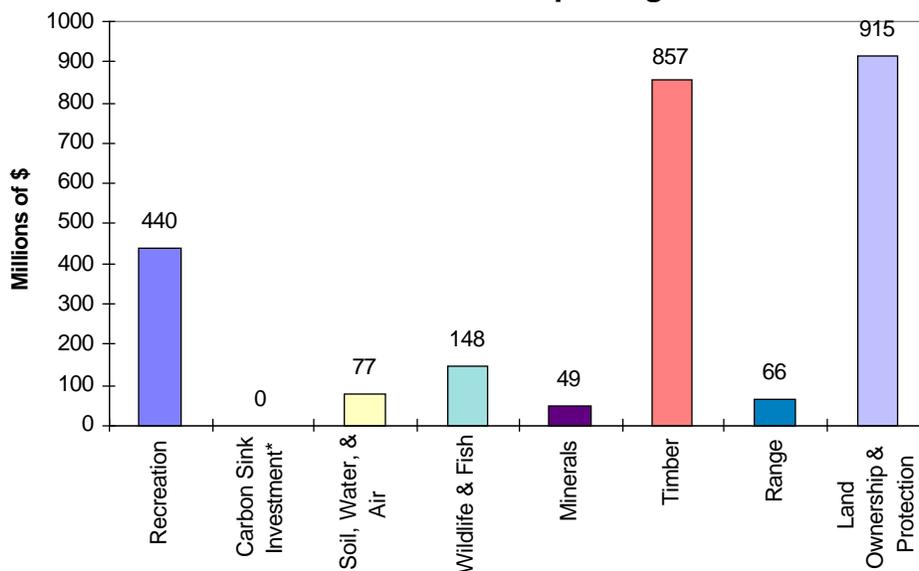
Economic Contributions from National Forests*



*Based on Market Clearing Prices

**Based on Willingness to Pay

FY 1997 USFS Expenditures from All Resources Reporting



*Carbon Sink Investments are not a category in All Resources Reporting

Only fifteen percent of hard-rock mining production in the country takes place on federal land.¹⁸ According to the RPA, in the year 2000, mining on national forests will make a direct economic contribution of \$786 million, and contribute \$10.2 billion to the GDP. Compared to all other investments, mining makes up 7.8 percent of the overall contribution that national

forests make to the GDP. This number is expected to decline to 5.4 percent by 2045.¹⁹ Other sources reveal that total employment associated with metal mining on federal land is about 12,000 jobs, or four-hundredths of 1 percent of total employment.²⁰ Thus, the contribution of mining to the GDP as stated in the RPA is probably overestimated.

While the Forest Service spent \$49 million on mining in 1997, these figures do not take into account the externalized costs mentioned above.

NONEXTRACTIVE ACTIVITIES

RECREATION

Nonextractive Forest Service activities are much more valuable to the economy than extractive activities, providing more jobs and income. The agency is often either the sole or largest provider of these services. For example, the Forest Service is the largest single federal provider of public outdoor recreation in the U.S. and in the world. The agency manages over 23,000 developed recreation facilities including campgrounds (over 4,000), trailheads, picnic areas, boat ramps, and visitor centers, more than 120 major ski areas (managed under special use permits), 412 units of the National Wilderness Preservation System totaling 34.7 million acres, and over 100,000 miles of designated trails located within national forests.²¹ In 1996, the Forest Service hosted over 859 million visits on national forests.²²

The national forest trail system serves a wide constituency at a relatively low cost.²³ The trails accommodate about 33 million Recreation Visitor Days a year, and helps support private sector annual outdoor product sales of \$10 billion that includes such items as footwear, backpacks, camping gear, mountain bikes, winter sports equipment, and outdoor accessories. A significant share of this activity is related to recreation and tourism opportunities dependent on national forest lands in a pristine state.

By the year 2000, Forest Service recreation will contribute \$7.49 billion to the economy directly, and \$98 billion to the GDP— or 75 percent of total agency programs—and generate over 3.3 million jobs. This figure is expected to grow to \$154 billion in 2045, or 78 percent.²⁴ The agency spent \$440 million on recreation in 1997.

WILDLIFE AND FISH

National forests and grasslands provide habitat for thousands of species of vertebrate and invertebrate wildlife, including more common game species like elk, deer, and turkey, and threatened and endangered species like the Indiana Bat and Northern Spotted Owl. National forests' streams and lakes also provide habitat for hundreds of inland and coastal fish species with important recreational, commercial, cultural, scientific, and ecological values. These include threatened and endangered species like salmon, steelhead, and cutthroat trout.

National forests and grasslands are also an increasingly popular area for bird watching, nature photography, and nature study. These forests provide habitat for 250 species of neotropical migratory songbirds, species that play important roles in regulating forest pests. According to Forest Service data, wildlife and fish viewing is the fastest growing wildlife use and opportunity.²⁵

According to the RPA, in the year 2000, wildlife and fish on national forests will make a direct economic contribution of \$3.04 billion and contribute \$12.9 billion to the GDP.²⁶ In 1995, national forest lands provided 33.3 million wildlife activity days and 330,000 jobs. The agency spent \$148 million on fish and wildlife in 1997. Expenditures from hunting trips supported 18,900 local jobs and generated State sales and income taxes of \$22.6 million. Recreational anglers fished more than 37 million days on national forests, with trip related expenditures of \$1.8 billion, providing employment for over 60,000 people.²⁷

SOIL, AIR, AND WATER

Watershed protection was one of the primary motivations for the creation of the national forests. National forests often include headwater areas that produce millions of acre-feet of water yearly. These water-rich lands provide some of the nation's purest and least expensive sources of drinking water to about 900 American cities and communities. Water from national forests is also used for other consumptive and nonconsumptive instream activities, such as recreation and wildlife and fish. Intact watersheds also prevent and mitigate the effects of floods.

Forest Service economists have estimated the value of consumptive uses of water from national forests between \$26.7 and \$75.03 per acre-foot,²⁸ or a total of \$27 billion.²⁹

Logging, especially on steep slopes, causes landslides, watershed erosion, and increased sedimentation. Increased sedimentation costs municipalities and private citizens millions of dollars a year in higher water treatment costs, reduction in the quality of municipal and industrial water, and other damages.

National forests, especially old-growth forests, absorb excess carbon from the atmosphere and sequester it. As a result, they are instrumental in slowing human-induced global warming and are essential to the stability of climate worldwide.

For carbon sequestration alone, economists have been able to estimate the value of intact forests at anywhere from several hundred to thousands of dollars per acre.³⁰ The Forest Service itself estimates that the willingness to pay for carbon sequestration on national forests is \$65 per ton³¹, or a total of \$34 billion.³² The agency spent \$77 million on soil, air and water in 1997.

LAND OWNERSHIP AND PROTECTION

Finally, the Forest Service created a potpourri category of activities called land ownership and protection. This category includes fire protection, special non-recreation uses of national forest system lands, real estate management and land exchange, insect and disease control, law enforcement, and general proprietary.

The Forest Service spent \$915 million in 1997 on land ownership and protection. The most significant investment in land ownership and protection in 1997 was fire protection, which received over \$830 million. Fire protection has become a significant expense for the Forest Service over the years because both the agency's fire suppression policy and logging program have increased the occurrence and severity of national forest wildfires. Congress has given Forest Service managers unlimited emergency funding for wildfire suppression. As a result, managers do not have any incentive to control these costs, and expenditures remain high.

CONCLUSION

National forests supply the majority of open space, scenic beauty, clean water, clean air, wildlife, and outdoor recreation opportunities in this country. The value of these nonextractive benefits far outweigh the value of extractive activities, yet the Forest Service spent over \$972 million on extractive activities in 1997.

According to Congressional mandate, the Forest Service must manage the forests to maximize the net social and economic contributions of our national forests so that they provide the greatest benefit to the greatest number of people. By law, the agency must also fully account for all the benefits and costs of management decisions. It clearly fails to do so.

Certain institutional biases reward Forest Service managers for favoring money-losing extractive activities like timber, mining, and grazing over protection of more valuable resources like wildlife, fish, soil, air, water, and recreation. These institutional biases encourage managers to fund restoration and reforestation out of extractive user fees, provoking a perverse cycle of destroying the forest in order to raise money to “protect” it. Meaningful economic analyses of nonextractive uses of the forests are almost never included in decision documents.³³

This bias toward extractive uses of the national forests often imposes more socioeconomic costs than benefits on taxpayers, especially those who reside adjacent to national forests and depend on them for jobs, water, and quality of life. Hunters, mushroom gatherers, and small woodland and resort owners face decreased resources, decreased income, and decreased present and future values of land.

The financial and socioeconomic data provided by the Forest Service support the conclusion that maximizing our investments in national forests would mean a move away from appropriations for extractive industries and toward protection of wildlife, fish, soil, air, water and undeveloped recreation. While these nonextractive activities do not directly provide an offset of costs, they are nonetheless a sound investment in terms of jobs, income, contribution to the GDP, and ecosystem-provided services and goods.

In order to protect our investment in national forests, appropriations are best spent on activities like watershed restoration, habitat restoration, and road decommissioning. Restoration would repair watersheds that provide valuable water filtration and carbon sequestration services, increased sport and commercial fishing opportunities, hunting, and wildlife viewing activities. Road decommissioning would decrease the fire risk, a high-cost threat to our investment. Road decommissioning would also protect valuable species and scenic areas from industrial recreation. Presently, the Forest Service spends only \$186 million a year on restoration, including \$85 million for wildlife and fisheries habitat, \$20 million on watershed improvements, and \$81 million on road maintenance and decommissioning.

If the Forest Service is to fulfill its mandate to provide “maximum benefits to the most people,” then it must move away from destructive extractive activities. It should invest, where appropriate, in protective measures and restoration, in order to achieve positive, measurable improvements.

Endnotes:

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- ²General Accounting Office, "Forest Service: Distribution of Timber Sale Receipts, Fiscal Year 1995 through 1997," GAO/RCED-99-24.
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- ⁷USDA Forest Service, Timber Sale Program Information Reporting System (TSPIRS), FY1997.
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- ²³Ibid.
- ²⁴Ibid.
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- ²⁹Friends of the Earth, et al., v USDA Forest Service CV-2:98-CV-410. U.S. District Court, Burlington, Vermont, "1998.
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- ³¹Quigley, T.M., and S.J. Arbelbide, tech eds., "An Assessment of Ecosystem Components in the Interior Columbia Basin and Portions of the Klamath and Great Basins" Volume 4, USDA, USDI Gen. Tech. Rep. PNW-GTR-405.
- ³²Friends of the Earth, et al., 1998.
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