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Forest Service Firewood Program

July 28, 1981

THE FOREST SERVICE FIREWOOD PROGRAM

U.S. Department of Agriculture
Forest Service

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Policy Analysis

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THE FOREST SERVICE FIREWOOD PROGRAM
EXECUTIVE SUMMARY

The firewood program administered by the Forest Service--both commercial and noncommercial--has grown 1,165 percent since the energy crisis in 1972. Ninety-two percent of the FY 80 program was free use. This growth rate has left many National Forests ill-equipped to deal with the public demand for firewood and has resulted in a high number of complaints and congressional inquiries.

The objective of this study is twofold: To identify and examine program authorities, policies, and direction and to develop alternatives to resolve identified problems.

The main issue surfaced by this report is the extent and the conditions under which firewood for personal use should be provided.

The Forest Service Manual (FSM) promotes personal use of firewood, but states that such use is constrained by budget and manpower limitations. It generally treats the firewood program as an adjunct to traditional resource management activities, but does provide adequate direction for field personnel.

The enabling legislation for the firewood program is found in the Organic Act of 1897. The National Forest Management Act of 1976 established the legitimacy of the commercial component of the program. The Wood Residue Utilization Act of 1980 encourages the removal or yarding of wood residues and the establishment of demonstration projects. A provision of the Act states that firewood supplies should not be decreased as a result of these biomass-oriented activities.

All Regions except R-8 predict having adequate supplies to meet an estimated 492 percent growth in firewood demand through 1985, although individual Forests forecast having shortfalls for this same period. Except for R-1 and R-3, all Regions expect their firewood supply to be inadequate to meet the demand for 1986-2000. Lack of access to suitable material was cited as the major reason for firewood shortages and will remain a dominant factor through 2000.

Forests near metropolitan areas are experiencing particularly high levels of demand. New energy technologies may increase pressures on the firewood resource and require that allocation decisions be made.

Costs incurred by the firewood program are primarily administrative and are estimated to be $3.8 million for the entire FY 80 program. This figure is exclusive of overhead. Managers are hard-pressed to administer the program as an adjunct to other resource management activities.

Several resource management tasks are accomplished as a result of firewood activities. The program provides the Forest Service with excellent public education and HOST opportunities and gives the public a chance to pursue what many people consider a pleasurable outdoor activity.

Major decision items needing Chief and Staff attention involve three areas: Distribution, Supply, and Funding. The specific questions to be answered are: (1) How should firewood be allocated between individual and commercial consumers, (2) to what extent should the Forest Service meet the demand for firewood, and (3) how should the Forest Service fund the firewood program?

Administrative problems which should be addressed by Timber Management are: (1) FSM direction, (2) planning, (3) access, (4) trespass, (5) injuries, (6) reporting units, (7) log lengths, and (8) removal criteria and procedures.

THE FOREST SERVICE FIREWOOD PROGRAM

Outline

The Forest Service Firewood Policy

I. Introduction

A. Background

In response to public, congressional, and Agency concerns, the Chief of the Forest Service directed that a review of policies and procedures for firewood use be made to determine their adequacy in light of current and future demands for this resource.

Until 1973, only those persons living within or in close proximity to a National Forest could receive a free use permit. This policy was changed when Chief John R. McGuire announced a revised free use program which eliminated this requirement (see Appendix 1a). In response to an energy crisis brought about by an extremely cold period in the East during the winter of 1976-77, firewood for personal use was made even more widely available (see Appendix 1b). Reaction to this revised policy was immediate and overwhelming. The firewood program sustained a 22 percent growth rate over the next 3 years--up from 2 million cords in 1977. From 1972 to 1980 firewood demand increased by 1,165 percent. Ninety-two percent of FY 80 volumes were free use. Some Regional and local growth rates were considerably higher (see Appendix II, Table A). Analysis of 1980 data shows a continuation of this trend with 970,000 permittees removing approximately 4 million cords of wood. On some forests the firewood program removal exceeds the annual programmed timber harvest.

The rapid growth of the firewood program has left many National Forests ill-equipped to deal with the increased demand. Major barriers such as supply, access, and funds for administration have begun to surface. In many areas managers' options to shift manpower, funding, and priorities to meet demand have quickly narrowed or disappeared. Innovative attempts have been made to cope with demand, but in some cases these efforts have resulted in conflicting procedures and standards and have led to public confusion and complaints.

It is expected that the cost of energy in all forms will continue to increase. If the public retains its perception of wood as a cheap alternative fuel, demand for firewood will continue to increase in the near future.

B. Objective

The objective of this study is: To identify and examine program authorities, policies, and direction and to develop alternatives to resolve identified problems.

C. Approach

Data for this study were obtained from a questionnaire submitted to each Region (Appendix II). This provided an assessment of the current and projected size of the firewood program, costs of administration, related benefits, supply and demand comparisons, and a summary of present and future problems associated with firewood use and administration. In addition, a review was made of appropriate

laws, FSM materials (Sections 2430 and 2462), and other documents relative to firewood use.

II. Analysis

A. Policy

1. National. Free use firewood policies and direction are contained in FSM 2462. Commercial use is included in the section on regular timber sales--FSM 2430.

The elements in FSM 2462 related to the firewood program are:

--Free use is granted primarily to protect and improve the timber resource.

--Free use firewood is limited to dead, insect infested, or diseased material in addition to logging debris and thinnings.

--Supervisors will designate free use areas and such wood is to be cut in accordance with fire regulations and safety measures. Wood can be cut outside these areas only for emergency and transient use; all other green wood requires a permit.

--Forest Officers are authorized to allow an individual to cut up to $20 worth of free use wood annually; Forest Supervisors up to $100; and Regional Foresters up to $5,000. Larger amounts must be approved by the Chief.

--Firewood is made available only when other resources are adequately protected.

--Activities which provide access to supplies of firewood material--timber sales, road construction, slash disposal, etc.--must be considered in terms of their possible negative effects on the Forest environment.

--Free use of green wood for firewood material is restricted but this does not include supplies from thinnings or timber stand improvement.

--Guidelines for distribution among cutters when firewood supplies are less than demand are recommended in the following priority: (1) to provide more access to firewood supplies; (2) to reduce the amount of wood an individual may cut; (3) to limit the number of permits issued; and (4) to provide a lottery to equalize user opportunity. However, these guidelines do not preclude local Forest Officers from using other equitable means of apportionment.

--Three administrative goals for the firewood program are (1) to secure compliance with the terms under which permits are issued; (2) to minimize potential conflict with other users; and (3) to protect other resource values.

--National Forests and Ranger Districts should establish guidelines appropriate to their individual circumstances, and Forest Supervisors have the responsibility to effect changes in price.

--A firewood use objective is to make material which might otherwise be wasted available to as wide a range of individuals as practical and to provide an opportunity for alleviating heating fuel shortages.

--Material should be made available in a manner consistent with manpower and budget constraints as long as other resource values are protected.

--Options for providing material include plowing snow from roads, leaving temporary roads open in completed timber sales, piling debris from road clearings, and other similar actions. Forest Officers are encouraged to be aggressive in searching out these opportunities.

2. Regional. Regions 2, 3, 6, and 10 have issued FSM supplements regarding firewood. These are summarized as follows:

Region 2's supplement establishes posting procedures for roads, log decks, and special areas such as timber or commercial sales. It also outlines marking procedures for firewood and emphasizes compliance with the Colorado Department of Agriculture's Pest Control Act, which prohibits transportation of any wood infested with mountain pine beetles.

Region 3's supplement discusses the firewood program's high visibility and the concurrent importance of well-established public information procedures. It also provides guidelines regarding free use on pinyon and juniper control projects.

Region 6's supplement outlines permit procedures, marking specifications and scaling/measurement guidelines.

Region 10's supplement establishes various requirements regarding the issuance of permits. Example: Each free use permit will be issued on Form 2400-8.

3. Findings - Policy

a. Personal use firewood policies are contained in FSM 2462. Commercial policies are in FSM 2430.

b. The Forest Service Manual promotes personal use of firewood but states that such use is constrained by budget and manpower limitations. It further suggests using cooperative funds for snowplowing roads or closing roads after logging operations and disallows use of road maintenance funds.

c. The FSM generally treats free use firewood exactly as it has been administered--as a minor program that can be handled as an extracurricular activity on most units.

d. Under current policy, the Forest Service firewood program provides adequate direction for field personnel. Some Regions have supplemented the Manual parent material to reflect their local situation.

B. Legislation

1. Background. The enabling legislation for the firewood program is found in the Organic Act of 1897 which granted free firewood to "bona-fide settlers, miners, residents, and prospectors." The existence of the commercial aspect of the program was acknowledged in the National Forest Management Act of 1976.

2. Major Bills. The 96th Congress considered four firewood-related bills.

--S 1996, introduced by Senator Melcher of Montana, proposed to "authorize the Secretary of Agriculture to encourage the efficient use of wood and wood residues through pilot projects and demonstrations and a pilot wood utilization program." One means of accomplishing this goal was: "The Secretary shall use residue removal incentives to pay purchasers of National Forest System timber...for defined costs of activities necessary for the removal of wood residues from timber sales to points of prospective use."

--H.R. 6755, submitted by Congressman Weaver of Oregon, was similar to the bill proposed by Senator Melcher. It also provided for the "establishment and operation of fuelwood concentration and distribution centers" and the "construction of access roads needed to facilitate wood residue utilization."

--S 1775, proposed by Senator Talmadge of Georgia, was designed to "promote the development of energy from...forest products and their wastes and residues" through an ambitious program of research, extension, and financial incentives.

--H.R. 5397, introduced by Congressman Fithian of Indiana, was also designed to encourage this aspect of energy technology. As with H.R. 6755, there was a provision for the establishment of firewood concentration and distribution centers.

S 1996 and H.R. 6755 were combined to create "The Wood Residue Utilization Act of 1980" which became law on December 19, 1980.

3. Findings - Legislation

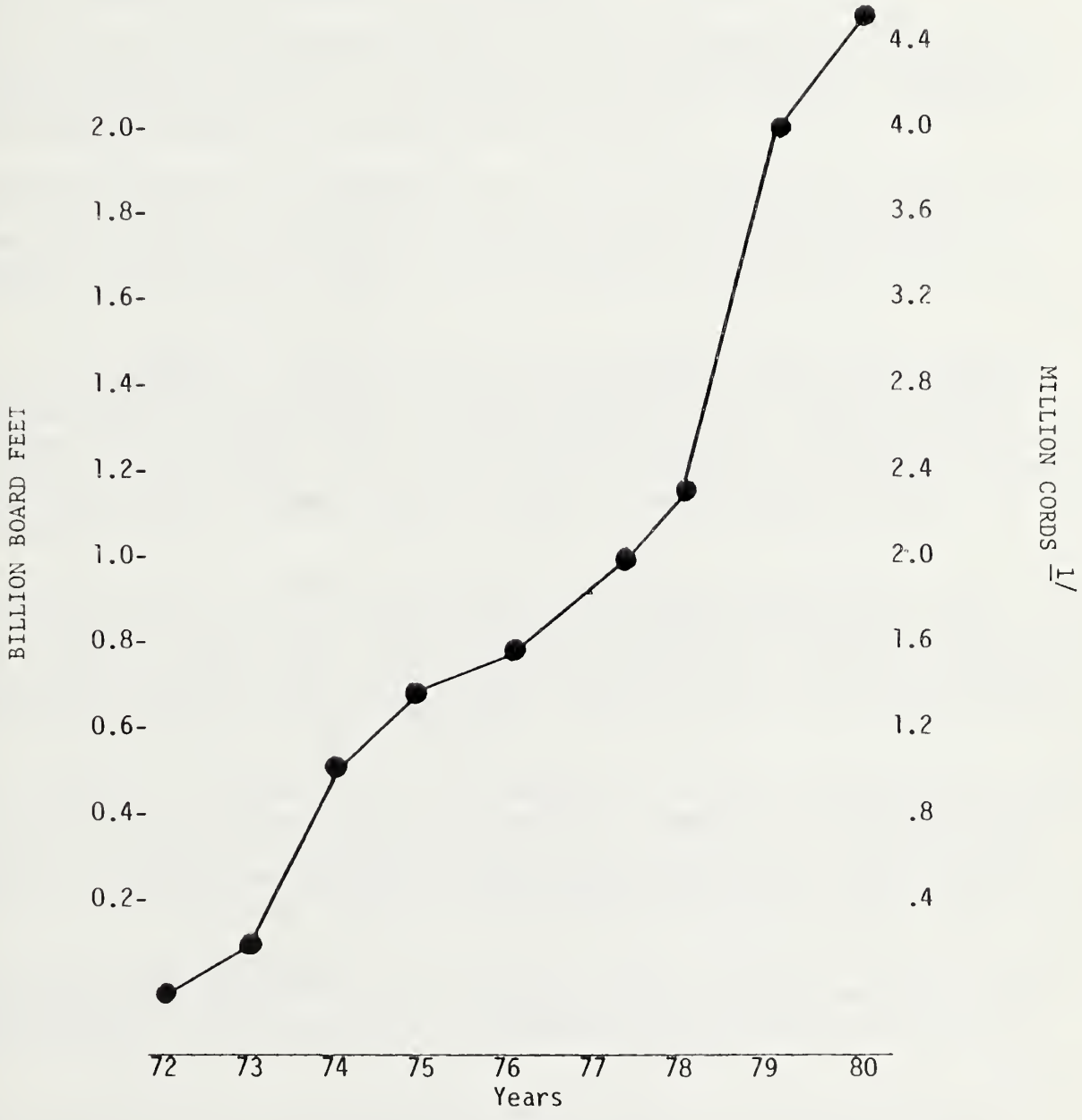
a. Personal and commercial uses of firewood are established in the Organic Act of 1897 and the National Forest Management Act of 1976, respectively.

b. Appropriations in the Wood Residue Utilization Act were scheduled to begin in 1982 with a maximum of $25 million/year for 5 years. These funds were to be used for purchaser credit in removing or yarding wood residues and for the establishment of demonstration projects. However, Congress did not authorize the program to start in FY 82.

c. The Wood Residue Utilization Act specifically states that firewood supplies should not be decreased because of its provisions.

FIGURE 1

Estimated volume of fuelwood removed from National Forest System Lands[2/]



1/ 1,000 board feet = 2.0 cords
2/ Source: Timber Management Staff

C. Demand and Supply

1. Demand. The size and growth of the firewood program for the period 1972-1980 is illustrated in Figure 1. In this 8-year period, total commercial and noncommercial firewood volumes increased some 1,165 percent nationwide with free use comprising 92 percent of the program for FY 80.

The size of the FY 80 firewood program is found in Appendix II, Table A. Regions 1, 2, 4, 6, 8, and 9 each experienced increases of over 1,000 percent with the greatest increase, 1,712 percent, occurring in Region 4. Region 3 experienced the smallest increase with 637 percent.

Noncommercial permit and nonpermit activity for this same period ranged from a low of 18,630 cords in Region 10 to a high of 1,078,700 cords in Region 6. Commercial volumes varied from 866 cords in Region 10 to 89,692 cords in Region 5. The national commercial and noncommercial totals were 382,437 and 4,140,930 cords, respectively.

2. Supply. A summary of FY 79 and projected supply and demand for firewood appears in Appendix II (Tables B through D). For FY 79 all Regions reported having adequate supplies to meet demand for both commercial and noncommercial uses, however, Forests in some Regions often reported shortfalls. In Region 3, for example, supply surpluses were indicated on a Regional scale, yet three Forests indicated supply shortages for both commercial and noncommercial uses.

A similar situation is projected for 1985. All Regions except R-8 expect that available supplies will meet demand, but within Regions some Forests will experience shortages in both commercial and noncommercial supplies. Between the years 1986 and 2000 shortages are expected in supplies of either commercial or noncommercial materials for seven Regions, three of which (R-2, R-6, and R-8) anticipate shortfalls in both categories.

Total demand for noncommercial use is expected to increase 99 percent from 1979 to 1985 and an additional 146 percent by 2000. Commercial firewood demand is expected to increase 393 percent in the first period and 257 percent by 2000. However, the supply and demand situation varies substantially within Regions. Forests near metropolitan areas are experiencing particularly high demand.

Distance to a firewood supply is a critical factor. Firewood cutters who live in an area where demand has exceeded supply would take small comfort in the knowledge that adequate amounts of firewood material are available several hundred miles away.

Lack of access was cited most frequently as a cause of supply problems in FY 79--more frequently than lack of suitable material or policy and other related items such as insufficient financing, manpower, and reporting. Survey data is presented in Appendix II, Table E. Lack of access to wood will continue to be a major supply problem through 1985 and will also be the major problem in the 1986-2000 period (Appendix II, Tables F and G). Lack of wood and other related items will also cause some problems in the long term.

Overall pressure on firewood supplies will increase as new energy technologies such as wood-burning power plants expand the utilization for all types of biomass.

The Forest Service Biomass Energy Program, in its publication "A National Energy Program for Forestry", has targeted an increase in the use of wood-derived energy from the current 1.1 quads to 6.4 quads (about 300 million cords) by 1990. Needed are improved silvicultural methods and more efficient techniques for harvesting, processing, and delivering biomass material. Taken as a separate and distinct problem there are adequate supplies to meet the biomass goal of 6.4 quads, but there are likely to be major problems regarding resource allocation on those National Forests located in areas where demands for biomass and firewood for personal use conflict. A good example is the Pacific Coast--a locale where the demand for firewood is already high (see Appendix II, Table H).

3. Findings - Demand and Supply

a. During 1972-1980 total firewood volumes increased 1,165 percent nationwide.

b. Ninety-two percent of the FY 80 program was free use.

c. All Regions except R-8 should have adequate supplies to meet a projected 492 percent growth in firewood demand through 1985, although some individual Forests predict shortfalls.

d. All Regions except R-1 and R-3 expect their firewood supply to be inadequate to meet a projected 403 percent growth in demand during 1986-2000.

e. Forests near metropolitan areas are experiencing particularly high levels of demand.

f. Lack of access was the major reason for firewood shortages in FY 79 and will remain a dominant factor through 2000.

g. New energy technologies will increase demand on the firewood resource and worsen some local shortages.

D. Program Administration

1. Funding. Fiscal Year 79 firewood program costs for activities such as permit processing, volume reporting, area designation, and removal oversight are shown in Figures 2 and 3.

Access and other problems such as trespass and injuries may have played a significant role in elevating personnel time in Regions 3 and 5 to a level almost double the national average. Both access and other problems are covered in further detail in following sections.

Estimated total costs for the FY 79 noncommercial program component, exclusive of overhead, were $2.4 million for the removal of 3.7 million cords of firewood. Commercial program component costs were $0.9 million for removal of about

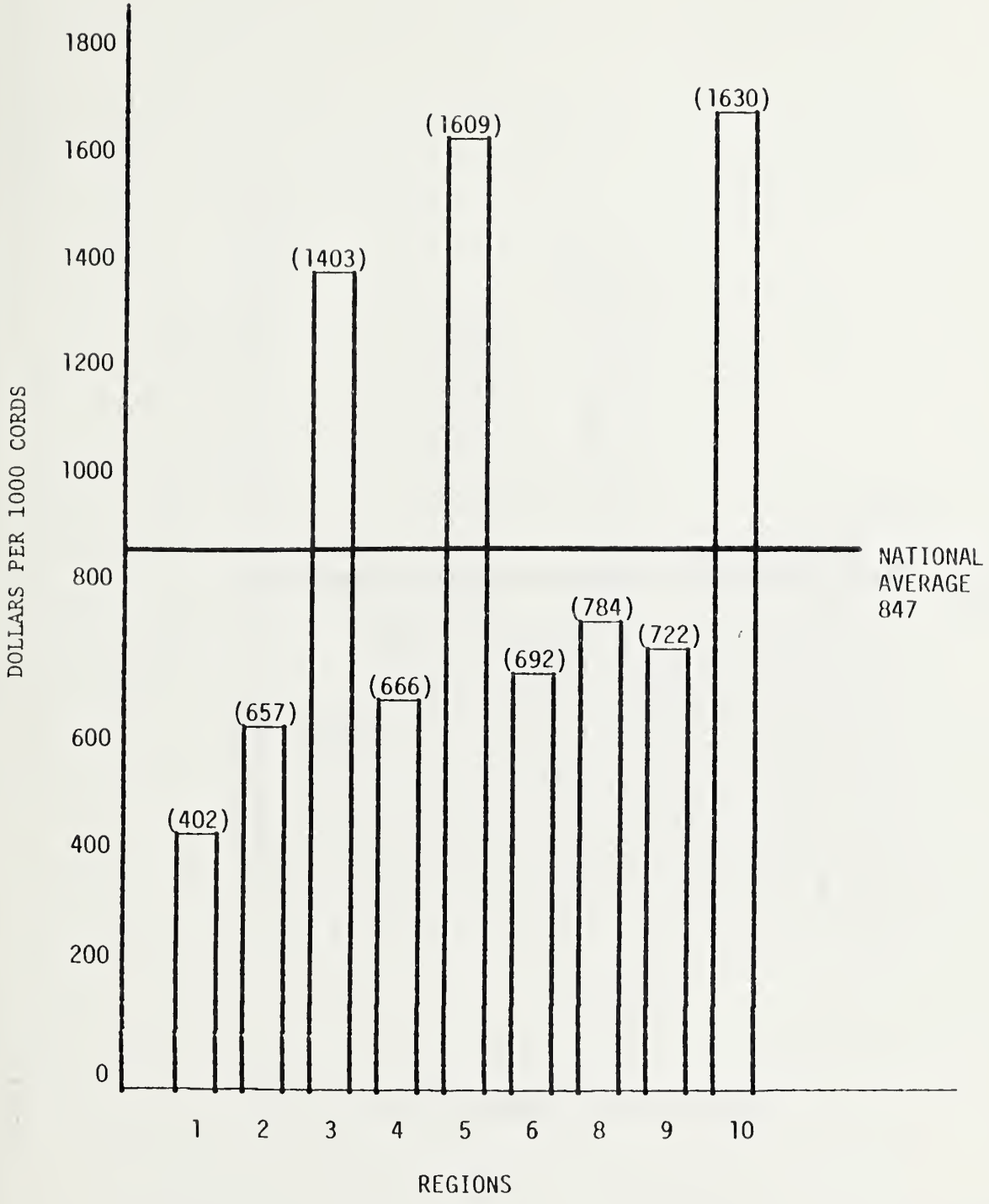


Figure 2. FY 79 administrative costs.

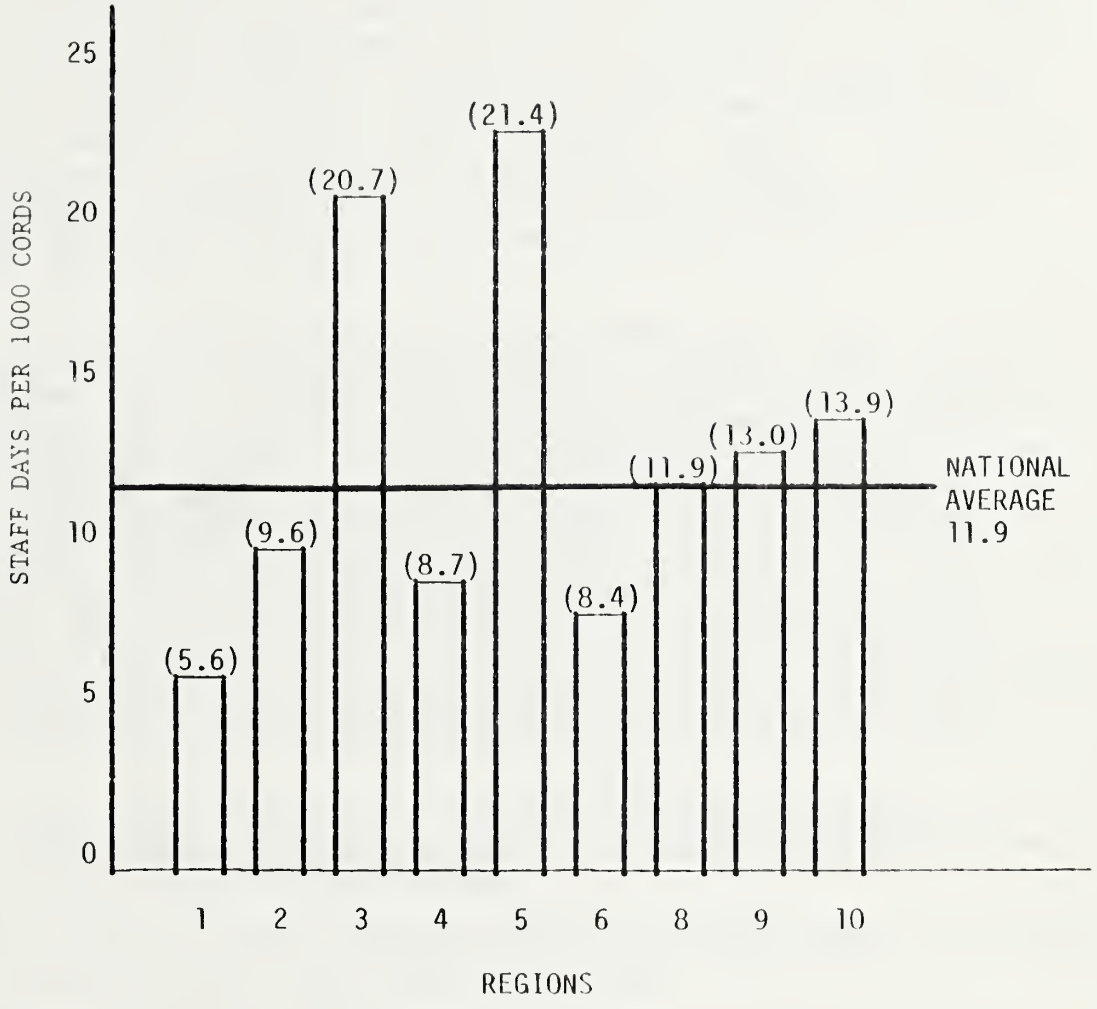


Figure 3. FY 79 Personnel time investment.

0.3 million cords. Totals for both the commercial and noncommercial program elements were $3.3 million for removal of 4.0 million cords of firewood in FY 79 (see Appendix II, Table A).

Demand for firewood is not evenly distributed throughout the National Forests. By using administrative remedies, many Rangers have been able to shift priorities and manpower to meet demand. In some areas administrative options have become overtaxed and other innovative fuelwood supply methods have been tried. These include requiring logging contractors to yard unutilized material, designating free use areas, charging for permits, limiting permits, and leaving logging roads open. Occasionally even these options and methods have been exhausted, leaving Rangers unable to respond to public demand for firewood. With projected increases in demand from 4.0 million cords in FY 79 to 9.4 million cords in FY 85 (see Appendix II, Tables B and C) and no relief from demand pressures encouraged by the national biomass program, wood shortage problems will intensify in some areas.

Traditionally, managers have administered the firewood program as an adjunct to other resource work by shifting funds and manpower as needed. Funds used for firewood programs are usually taken from timber sale administration, timber stand improvement, brush disposal, wildlife habitat improvement, recreation, and fire hazard reduction accounts. Due to this arrangement, funding for firewood activities is totally dependent on appropriations which have already been earmarked for other management purposes. When these monies are depleted, the firewood program is bereft of any means with which to accomplish its objectives. For example, in several regions Regular 031 (Timber Sale Preparation and Administration) funds are not sufficient for both the firewood program and current timber output goals. In addition, use of the Regular 031 account for firewood distorts timber management costs, because firewood administration costs are not distinguished from those associated with regular commercial timber sales.

If noncommercial firewood volumes were included in timber sale targets, Regular 031 monies would be adequate to fund the firewood program because they are appropriated according to timber volumes.

Brush Disposal accounts provide a funding option if firewood removal contributes properly to these objectives. Many times it does not.

Other funds such as wildlife, recreation, and fire may be coordinated with firewood removal, but treated areas funded from these accounts are often remote from firewood sites. Firewood gatherers often lack the equipment and skills necessary to obtain material unless it is close to roads.

2. Access. In the near future on a regional and national basis there will be a sufficient supply of firewood to meet demand, but in many cases there is no way the public can get to that supply without damaging other resources. Reasons include: few roads are being built due to low timber sale activity,

there is a lack of Forest Road and Trail (FR&T) funds to build or maintain roads, RARE II areas are unresolved, rights-of-way problems exist, and in some cases there is reluctance to reopen roads or leave those scheduled for closing open for firewood use.

Normally, all roads not planned for retention and maintenance are closed and rehabilitated at the end of a timber sale by the logger through contract requirements. Provisions may be made through the contract to leave such roads open for later use, if desirable. However, this places the future burden of finding funds to rehabilitate and close roads on the Forest Supervisor because their continued use for firewood may require additional maintenance prior to closing.

FR&T construction and maintenance funds are generally limited and therefore insufficient to meet firewood program transportation needs. Nearly every FR&T dollar is already tied to a particular road or road system. Funds are usually unavailable to develop or maintain secondary or tertiary roads needed for firewood removal.

3. Other. Trespass is a major concern affecting the firewood program (see Appendix II, Table I). Fiscal Year 79 trespass losses amounted to an estimated 183,978 cords of wood. Administrative costs related to this problem for the same period totaled $483,263 and nearly 19 staff years. Trespass is a negative aspect of the fuelwood program that will probably increase along with the economic incentives to gather firewood. Other forest resources may also be damaged by trespass. Funds for investigations are limited and trespassers are encouraged by the apparent lack of a visible authority over large areas of open forests.

Deaths and injuries among firewood cutters are another problem. Fiscal Year 79 data indicate a total occurrence of 1,380 injuries, including three deaths (see Appendix II, Table J). The two leading causes of injury were lack of operator skill and the presence of physical hazards. Understandably, the injury rate was much higher among noncommercial cutters due to their lower level of expertise.

An additional consideration concerning injuries is the possibility of litigation. Responsibilities for user safety in firewood gathering situations is unclear. Generally, forest users are responsible for their own safety, but this issue is always a concern of managers. There may be ways to reduce such injuries through public education.

Another problem in program administration is that of reporting firewood volumes. Firewood amounts are currently reported in thousand board feet, whereas the convention is to report firewood in cords. Conversions from board feet to cords are usually made using a constant without regard to species and regional differences. Resultant data are not as accurate as they might be if the standard firewood reports were expressed in cords.

Cubic feet

Two remaining concerns relate to the different log lengths deemed allowable by various field units in order to circumvent the possible illegal conversion of firewood into sawtimber and the separate removal criteria and procedures for green and dead wood. These variances often cause confusion to the firewood-gathering public.

4. Findings - Program Administration

a. Costs incurred by the firewood program are primarily administrative.

b. Estimated costs for the total FY 79 firewood program, exclusive of overhead, were $3.3 million.

c. Managers are hard pressed to administer the firewood program as an adjunct to other resource management activities.

d. Lack of access is the primary deterrent to an expanded firewood program.

e. Trespass is a problem that will increase with the value of firewood.

f. Deaths and injuries are additional problems which will occur more frequently as the firewood program expands.

g. Data inaccuracies result from conversions from the conventional timber standard--board feet--to the firewood standard--cords.

h. Differences between authorized log lengths confuse firewood gatherers.

i. Separate removal criteria and procedures for green and dead wood confuse firewood gatherers.

E. Related Benefits

1. Program Benefits. The most tangible benefits related to the firewood program are the resource management activities that are indirectly accomplished as a result of firewood cutting. Fiscal Year 79 firewood program estimates reveal that the combined commercial and noncommercial firewood program benefitted timber stand improvement, slash disposal, visual and wildlife habitat improvement activities on 258 thousand acres. Estimated value of these benefits, shown in Figure 4, is $5.6 million. Net values received after deducting program costs were almost $2.3 million.

Intangible benefits are derived from public contact. The firewood program provides a high level of visibility for the Forest Service. Firewood-related

activities are unprecedented in the amount of public contact they may entail and, for the same reason, give the Forest Service an opportunity to bring awareness of good forest management practices to the public. Gathering firewood is an increasingly powerful incentive for Americans to utilize goods and services from their National Forests, and the chance to educate citizens about such Forest Service activities as fire prevention and resource protection is tremendous.

Another related benefit is the recreational opportunity afforded by collecting firewood. Despite the fact that it may not be economically efficient for many firewood gathers, people view gathering wood as a pleasurable outdoor pursuit, thus offsetting the costs of equipment, gasoline, and labor. In FY 79 these costs amounted to approximately $75 per cord.

2. Findings - Related Benefits

a. Many resource management tasks are accomplished as a result of the firewood program.

b. The firewood program provides the Forest Service with an unparalleled opportunity for public education and on-the-ground application of the HOST program.

c. Many cutters view gathering wood as a pleasurable outdoor pursuit and are willing to disregard their labor and other expenditures necessary to gather firewood.

III. Summary and Recommendations

The dramatic rise in recent years in the demand for firewood from the individual wood cutter for his own use and the commercial cutter, whose principal customer is the individual homeowner, is expected to continue. Demands for the use of wood as a fuel source, now only a fledgling industry, will increase. At times, conflicts between these and conventional timber products interests will arise. The National Forests will continue to be looked upon as a major source of supply, especially in the West. Field managers can look forward to continuing pressures and competition for available firewood for heating, cooking, industrial, biomass, and recreation purposes.

The firewood program has traditionally been a minor program. Its management on most Ranger Districts has been handled as an adjunct to other programs. Associated resource functions have contributed funds and manpower where benefits accrue or where surplus funds have been available. Policies, programming and planning procedures, reporting mechanisms, and administration practices were written in this same vein and served the program's needs adequately for over 70 years.

The firewood program is no longer a minor program. In most cases the program offers significant benefits to resource management; examples can be found in silvicultural improvement, fire hazard reduction, wildlife habitat improvement, and recreation. Its current size and a growing public demand for firewood suggest it should become another major Forest Service program. Managers are running out of priority and program options to administer the program at current demand levels.

Creative

Field managers must seek inventive ways to apply policy and procedural change to this authorized and traditional use of National Forest land, and at the same time, take advantage of the many benefits it can offer. Policies and procedures should be updated to respond to program growth and needs.

Principal among these requirements is flexibility. Problems associated with the firewood program are not uniform across the National Forest System. Within Regions and forests there are vast differences in demand, supply, and other related problems. Therefore, managers need a variety of alternate solutions and general guidelines from which to select the appropriate response to their particular situation and, at the same time, provide the necessary measure of consistency for public understanding.

Areas that need immediate attention have been divided into two categories: (1) Major decision items, and (2) administrative problems.

Recommendation 1. Distribution, Supply, and Funding should be addressed by Chief and Staff for decision.

In the Analysis of Alternatives section that follows, each of these major decision items is discussed in detail and alternatives for their solution are presented.

Recommendation 2. As a result of Chief and Staff decision on the "Major Decision Items" the administrative problems related to the firewood program can and should be resolved by the Timber Management Staff.

Several problems of an administrative nature have been surfaced by this study. They involve: Manual direction, planning, access, trespass, injuries, reporting units, log lengths, and removal criteria and procedures.

Administrative Problems A through H are summarized below.

Problem A: FSM and Forest Service Handbook (FSH). Overall recognition of the size, scope, and opportunities of the program is reflected in a recent revision of FSM 2462, Free Use. However, the manual should be updated to cover the items listed below.

Specific items that should be covered include:

-- pointing out the many resource and public contact benefits that can be derived

-- developing guidance on monitoring removal amounts for accurate reporting

-- suggesting Regional Forester oversight on standards and guidelines within the Region for consistency where possible

-- setting guidelines and suggestions for using timber sale and other contracts and agreements for accomplishing wood gathering objectives

-- setting objectives for the firewood program such as for energy use, biomass, and resource enhancement

-- establishing a realistic value of firewood rather than stating that the amount of material granted any user in any one year cannot exceed $20 (FSM 2460.1f)

-- setting guidelines on estimating budget requests for realistic administration costs

-- setting guidelines for a fee system

Problem B: Planning. Managers should be encouraged to accommodate, insofar as practical, current and anticipated public demands for firewood in resource and transportation planning and to take advantage of the values of the program.

Problem C: Access. Managers should also be urged to pursue the utilization of timber sale and other types of contracts and agreements in order to make firewood more accessible. Some of the various options available are leaving logging roads open after a sale has ended and requiring timber purchasers to yard unmerchantable material.

Problem D: Trespass. Trespass is a problem confronting the firewood program as well as many other aspects of resource management. As the market value of firewood continues to rise this problem will increase.

Problem E: Injuries. The number of injuries to firewood cutters has increased with the size of the firewood program. However, there appears to be adequate national direction regarding the safety of forest visitors.

Problem F: Reporting Units. Conversion of firewood volumes from cords to board feet results in reporting inaccuracies.

Problem G: Log Lengths. The practice of authorizing specific log lengths is designed to circumvent the possible illegal conversion of firewood into sawtimber. Public confusion arises from the different lengths mandated by different areas. This problem is generally local in nature and does not appear to warrant national direction.

Problem H: Removal Criteria and Procedures. Separate removal criteria and procedures for green and dead wood are designed to protect the timber and firewood resources. This practice leads to public confusion. In many cases removal of green wood is a desirable management practice.

IV. Analysis of Major Decision Items and Alternatives

As stated previously, three items were recommended to be sent to Chief and Staff for decisions: A. Distribution, Supply, and C. Funding. These items are presented below.

A. Distribution Decision. The price at which firewood should be allocated between individual and commercial consumers is crucial for managing demand and establishing a permanent income stream from the firewood resource.

Alternative 1. Continue current policy for free use and a nominal charge for commercial users.

Advantages

--requires a minimal amount of monitoring
--avoids negative public response to initiation of a charge system
--maximizes public contact and education possibilities

Disadvantages

--provides only minimal receipts to treasury
--makes conflicts with other resources in high demand areas difficult to reconcile

reporting difficulty, i.e. no idea of volumes removed.

Alternative 2a. Establish a national policy for a uniform charge system for all users.

Advantages

--benefits the general public in the form of treasury receipts
--consistent policy is easy to understand

Disadvantages

--negative public reaction to increased cost
--standard fees are inappropriate for all local conditions
--must develop and administer fee system
--economically disadvantaged people may not be able to afford the minimum fee

Alternative 2b. Establish a national policy for a 2-tier charge system: one price for commercial users and one price for noncommercial.

Advantages

--permits more flexibility by differentiating between commercial and noncommercial users
--benefits the general public in the form of treasury receipts

Disadvantages

--negative public reaction to increased cost
--must develop and administer two fee systems
--economically disadvantaged people may not be able to afford the minimum fee

Alternative 3. Regional Forester to implement charge system based on local fair market value and considering local supply, demand, resource management objectives, and local needs.

Advantages

--recognizes local market conditions and uses traditional pricing system to help administer the resource
--provides increased treasury revenue
--allows for free use where merited by local supply, market and community conditions
--permits maximum flexibility for integrated planning and local consideration

Disadvantages

--fees will not be uniform and will cause confusion
--public reaction may be negative in some areas

B. Supply Decision. To what extent should the Forest Service meet the demand for firewood?

Alternative 1. Reduce the availability of current supplies.

Advantages

--reduces short-run administrative costs
--permits full utilization of resource program dollars toward targeted outputs
--permits more available manpower to be used on targeted outputs

Disadvantages

--limits distribution of firewood to public
--decreases Forest Service efforts towards solving energy problems
--reduces related benefits (TSI, slash disposal, visual, and wildlife habitat improvement)
--creates a negative public response
--results in increased trespass

Alternative 2. Continue the program at current levels.

Advantages

--precludes necessity of increased administration costs and manpower
--limits source of related problems (trespass and injuries)
--limits need for revised policies and procedures
--provides moderate related resource benefits

Disadvantages

--limits public firewood distribution to current levels
--limits Forest Service effort toward solving energy problems
--limits related benefits (TSI, slash disposal, visual, and wildlife habitat improvement) to current levels
--forces managers to use targeted resource funds to meet public demands which reduces other outputs

Alternative 3. Increase the available supply of firewood.

Advantages

--increases Forest Service effort toward solving energy problems
--increases related benefits (TSI, slash disposal, visual and wildlife habitat improvement)
--results in positive public response

Disadvantages

--requires increased administration and funding
--increases related problems (injuries, etc.)

C. Funding. How should the Forest Service fund the firewood program?

Alternative 1. Continue funding the firewood program as currently practiced.

Advantages

--changes in policies and procedures are not required
--accounting for an additional program is avoided

Disadvantages

--productivity in other programs will decline as administrative costs for firewood administration rise

--accounting, planning, and accrediting for program costs and outputs is not possible

Alternative 2. Provide appropriate funds and make the program a line item.

Advantages

--provides an display of all costs necessary for effective program management
--provides planned access
--shows potential for trespass to decrease because of visible authority
--collects adequate data to be used in program evaluation
--places a realistic value on the resource
--makes the manager accountable for funds and output targets
--establishes output targets

Disadvantages

--increases regulations
--limits budget and ceilings
--making the firewood program a separate line item limits field flexibility to adjust work programs to changing local conditions

Alternative 3. Modify the Management Information Handbook (MIH) to contain an activity code for firewood administration.

Advantages

--allows Forest, Region, and Washington Office display of all necessary firewood administration costs
--provides for field flexibility to respond to changing resource demands
--shows potential for trespass to decrease because of visible authority
--collects adequate data to be used in program evaluation
--places a realistic value on the resource
--makes the manager accountable for funds and output targets

Disadvantages

--requires changing the MIH
--requires local managers to account for an additional program

Note: This is not truly a funding alternative; it is a procedure for making the program visible which can help isolate, assess, and convey funding needs.

APPENDIX I

APPENDIX 1a

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McDavid (202) 447-4026

NEWS

U. S. DEPARTMENT OF AGRICULTURE

USDA TO LET PUBLIC CUT FREE FIREWOOD TO EASE ENERGY SITUATION:

WASHINGTON, Nov. 18--With the possibility of a long, cold winter and an energy crisis looming, the U.S. Department of Agriculture today announced it will let more people cut free firewood in the National Forests.

For the duration of the energy crisis, permits to cut firewood will be granted without regard to where a person lives, announced Forest Service Chief John R. McGuire.

Previously, only "bona fide settlers, miners, residents and prospectors" could get such permits, and "residents" had generally been defined as persons living within or very near one of the 155 National Forests, he said. There are National Forests in 44 states and Puerto Rico.

People who want to cut their own firewood should contact the supervisor's office or one of the ranger district offices within their nearest National Forest.

"We recommend you call or send a postcard ahead of time," Chief McGuire said. "Then we can send instructions where to report for your permit and tell you where and what you should cut."

In general, he said, people will be allowed to cut only dead timber or timber not more valuable for other purposes. Cutting normally will be in areas easily accessible by roads open to the general public and in places where it can be supervised. Such firewood is for personal use only, and no one may cut free firewood for commercial use of for sale to others, he said. In a few areas in the West, a permit will not be required, but persons must check first to get cutting clearance, he said.

"We issued 64,000 free-use permits to cut firewood last fiscal year, but in the last few months these requests have increased dramatically," Chief McGuire said.

USDA 3558-73

"We felt that by relaxing the restrictons on cutting, we could help ease some of the nation's energy problems."

Additional information about the availability of firewood in local areas, and procedures to be followed, may be obtained from the supervisor or ranger district offices, he said. Any forestry employee can direct individuals to the nearest office, or most local agencies of the U.S. Department of Agriculture can provide an address, he said. These offices are listed in telephone books under "U.S. government."

USDA 3558-73

APPENDIX Ib

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NEWS
U.S. DEPARTMENT OF AGRICULTURE

FOREST SERVICE EXPANDS FREE FIREWOOD POLICY:

WASHINGTON, Feb. 4--Rules governing the free use of firewood on National Forests in the eastern part of the country have been liberalized for the present emergency period caused by cold weather and fuel shortages, the U.S. Department of Agriculture announced today.

John R. McGuire, chief of USDA's Forest Service, said he has directed National Forests having available and accessible supplies of firewood to inform the public where and how firewood can be cut. Normally, free permits are required. However, when appropriate, temporary free use areas may be designated where down and dead material will be available without permits. Mr. McGuire said every effort will be made to make all surplus wood available during the emergency. The cutting areas are generally selected in easily accessible areas to assist in clearing the forests of natural debris which creates fire, insect and disease hazards. In addition, some standing green trees may be available for public cutting where thinning or other silvicultural work is needed.

Mr. McGuire emphasized people interested in cutting their own firewood should contact their local Forest Supervisor or District Ranger office to obtain information about the availability of firewood and procedures to be followed. This free firewood is for personal use only, and the cutting of firewood for commercial use for sale to others is prohibited.

Mr. McGuire said he has also directed the agency to volunteer its services wherever emergency situations exist, as declared by the President or state Governors.

The following states in the eastern half of the country contain national forests: Alabama, Arkansas, Florida, Georgia, Illinois, Indiana, Kentucky, Louisiana, Maine, Michigan, Minnesota, Mississippi, Missouri, New Hampshire, North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee, Texas, Vermont, Virginia, West Virginia, and Wisconsin.

Forest Supervisor and Ranger District offices are listed in telephone books under "U.S. Government."

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USDA 321-77

APPENDIX II

TABLE A. Firewood program data for FY's 79 and 80

Program Components	REGIONS 1	2	3	4	5	6	8	9	10	ALL
FY 79 Commercial (sales)										
Green (cords)	180	11,242	21,180	4,125	18,122	2,756	17,667	28,371	20	103,663
Total (cords)	22,626	36,376	29,907	32,438	43,737	44,771	18,139	30,755	435	259,184
Costs ($)	44,086	90,132	157,571	79,443	201,067	133,637	140,720	41,531	4,905	893,092
Administration (PY's)	2.67	5.44	9.54	4.37	11.05	6.78	0.71	4.76	0.19	45.51
FY 79 Noncommercial (sales and free use permit)										
Green (cords)	18,127	8,173	42,619	10,483	35,859	23,302	627,894	59,226	421	826,104
Total (cords) 1/	322,990	95,363	256,331	491,697	348,564	621,593	627,894	246,700	660	3,011,792
Costs ($)	98,997	39,319	393,648	276,477	427,942	367,184	363,700	161,232	3,180	2,131,679
Administration (PY's)	6.50	3.50	28.15	16.28	26.32	19.65	33.78	11.55	0.21	145.94
FY 79 Noncommercial (free use nonpermit)										
Green (cords)	1,050	4,363	10	3,980	-0-	175	2,445	3,319	90	15,432
Total (cords)	154,368	177,059	186,688	23,602	6,023	101,976	2,489	11,769	9,520	673,494
Costs ($)	57,674	73,443	112,168	9,135	11,933	30,945	4,000	5,958	9,220	314,476
Administration (PY's)	3.39	4.31	6.01	0.56	0.60	2.30	0.02	0.41	0.26	17.86
FY 79 Total Program										
Green (cords)	19,357	23,778	63,809	18,588	53,981	26,233	648,006	90,916	531	945,199
Total (cords) 2&3/	499,984	308,798	472,926	547,737	398,324	768,340	648,522	289,224	10,615	3,944,470
Costs ($)	200,757	202,894	663,387	365,055	640,942	531,766	508,420	208,721	17,305	3,339,247
Administration (PY's)	12.56	13.25	43.70	21.21	37.97	28.73	34.51	16.72	0.66	209.31
FY 1980 Commercial	18,132	54,254	30,765	53,479	89,692	66,600	31,743	36,906	866	382,437
FY 1980 Noncommercial	578,016	255,534	380,278	575,792	497,394	1,078,700	464,194	292,392	18,630	4,140,930
FY 1980 Total	596,148	309,788	411,043	629,271	587,086	1,145,300	495,937	329,298	19,497	4,523,367
FY 1980 % of free use	97	83	93	92	85	95	94	89	96	92
FY 1980 % increase over 1972	1,549	1,603	637	1,712	649	1,531	1,170	1,364	645	1,165
1/ % free use	99	97	83	99	98	99	98	97	93	97
2/ % increase over 1972	1,283	1,597	748	1,477	405	994	1,561	1,186	306	1,002
3/ % free use	95	88	93	94	89	94	97	89	95	93

Appendix II
TABLE B

Firewood Program Supply and Demand FY 79 (by Region)

REGION	Estimated Supply (Cords)		Estimated Demand (Cords)		Difference (Supply Minus Demand)	
	Commercial	Non-Commercial	Commercial	Non-Commercial	Commercial	Non-Commercial
1	2,572,612	8,414,572	27,686	444,893	2,544,926	7,969,679
2	470,224	836,404	61,393	234,310	409,831	605,494
3	4,218,746	4,881,493	45,320	392,119	4,173,426	4,489,374
4	5,815,353	2,736,700	38,289	511,456	5,777,064	2,225,244
5	1,758,563	993,692	98,743	450,912	1,659,820	542,780
6	539,304	1,787,514	110,003	761,638	429,371	1,025,876
8	500,000	700,000	17,667	617,724	482,333	82,276
9	493,114	442,609	38,910	206,866	453,204	235,743
10	67,075	36,150	2,035	9,170	65,040	26,980
Totals:	16,434,991	20,829,134	441,046	3,628,988	15,995,015	17,203,446

ABLE C

Firewood Program Supply and Demand
[illegible] (Grouped by Region)

REGION	Estimated Supply (Cords)		Estimated Demand (Cords)		Difference (Supply Minus Demand)	
	Commercial	Non-Commercial	Commercial	Non-Commercial	Commercial	Non-Commercial
1	2,224,400	6,802,780	486,720	1,599 160	1,737,680	5,203,620
2	418,700	882,600	380,500	788 300	38,200	94,300
3	4,101,119	4,671,061	112,375	658 299	3,988,744	4,012,762
4	5,618,085	2,473,880	149,535	863 840	5,468,550	1,610,040
5	1,541,700	955,660	230,920	684 900	1,310,780	270,760
6	537,365	1,732,290	403,766	1,349 491	133,599	382,799
8	700,000	800,000	239,000	875 000	461,000	-75,000
9	478,700	416,600	153,250	353 570	325,450	63,030
10	67,250	44,500	19,350	44 500	47,900	----------
Totals:	15,687,319	18,779 371	2,175,416	7,217 060	13,511,903	11,562,311

Appendix II
TABLE D

Firewood Program Supply and Demand
(1986-2000 Estimates by Region)

REGION	Estimated Supply (Cords)		Estimated Demand (Cords)		Difference (Supply Minus Demand)	
	Commercial	Non-Commercial	Commercial	Non-Commercial	Commercial	Non-Commercial
1	2,757,200	5,716,100	1,583,000	4,204,550	1,174,200	1,511,550
2	963,300	1,472,600	1,051,500	1,986,600	-88,200	-514,000
3	3,690,643	4,210,663	209,092	1,017,727	3,481,551	3,192,936
4	3,976,125	2,554,900	384,975	2,814,900	3,591,150	-260,000
5	1,564,300	945,871	1,320,168	977,928	244,132	-32,057
6	960,529	2,826,623	1,682,671	4,788,692	-722,142	-1,962,069
8	750,000	760,000	1,050,000	1,064,000	-300,000	-304,000
9	471,100	431,850	373,900	760,250	97,200	-328,400
10	182,500	135,750	119,750	140,500	62,750	-4,750
Totals:	15,315,697	19,054,357	7,775,056	17,755,147 [1/]	7,540,641	1,299,210

1/ High estimates due to assumption of zero price. Analysis of alternatives unaffected because it addresses current local supply shortages.

Appendix II

TABLE E

Firewood Program Supply Limitations
(FY 79 by Region)*

REGION	Lack of Suitable Material		Lack of Access to Material		Other Policy-Related Items(a)	
	Commercial	Non-Commercial	Commercial	Non-Commercial	Commercial	Non-Commercial
1	--	--	1	--	1	--
2	4	3	6	5	5	5
3	1	3	2	2	2	1
4	2	1	3	1	2	--
5	4	2	6	4	7	3
6	2	1	1	1	3	1
8	--	5	5	5	--	--
9	--	1	1	1	1	1
10	--	--	--	--	--	--
Total	13	16	25	19	21	11

a) Funds, personnel or current value limitations (Timber Regulation 36 CFR 223.1e).

* Figures indicate number of Forests within Region citing particular limitation.

Appendix II

TABLE F

Firewood Program Supply Limitations
(FY 85 estimates by Region)*

Region	Lack of Suitable Material		Lack of Access to Material		Other Policy-Related Items(a)	
	Commercial	Non-Commercial	Commercial	Non-Commercial	Commercial	Non-Commercial
1	1	2	2	3	1	1
2	4	3	6	6	5	8
3	4	5	5	7	3	4
4	3	4	7	8	4	2
5	5	6	6	9	7	6
6	6	6	8	8	8	6
8	--	2	--	2	--	2
9	1	1	3	6	3	3
10	--	--	1	2	--	--
Totals	24	30	38	51	31	32

a) Funds, personnel or current value limitations (Timber Regulation 36 CFR 223.1e).

* Figures indicate number of Forests within Region citing particular limitation.

Appendix II
TABLE G

Firewood Program Supply Limitations
(1986-2000 estimates by Region)*

REGION	Lack of Suitable Material		Lack of Access to Material		Other Policy-Related Items(a)	
	Commercial	Non-Commercial	Commercial	Non-Commercial	Commercial	Non-Commercial
1	4	6	4	6	2	2
2	5	6	6	7	7	8
3	6	6	5	5	2	2
4	7	9	8	11	4	4
5	7	6	6	10	8	8
6	12	15	9	13	7	10
8	2	2	2	2	2	2
9	5	5	5	10	4	5
10	--	1	1	2	--	1
Totals	49	57	46	77	36	42

a) Funds, personnel, or current value limitations (Timber Regulation 36 CFR 223.1e).

* Figures indicate number of Forests within Region citing particular limitation.

Appendix II
Table H

WHERE THE WOOD BIOMASS SHOULD COME FROM IN 1990 TO MEET THE 6.4 QUAD TARGET

Region	National Forests	Other Public	Forest Industries	Farm and Other	Total
	Million Oven Dry Tons				
North	8.2	4.5	9.2	45.0	66.9
South	6.4	3.3	17.0	59.6	86.3
Pacific Coast	18.1	4.9	4.9	4.1	32.0
Rocky Mountain	9.9	1.6	0.8	2.4	14.7
Total	42.6	14.3	31.9	111.1	199.9[a]

[a]The 199.9 million oven dry ton total represents the additional biomass energy use that must be stimulated by Federal programs to reach a 6.4 quad (400 million ODT equivalent) use target. Distribution by region and ownership was made on the basis of existing growing stock on commercial forest lands reported in the 1976 national inventory (USDA, Forest Service, 1978).

Source: "Wood Biomass Project Selection and Evaluation" (Elinor Cruze and Jim Pharo).

Appendix II
TABLE I

FY 79 Firewood Program--Trespass, Volume, and Costs
(by Region)

Region	# Incidents	Volume Green (Cords)	Volume D&D(a) (Cords)	Total Volume Gr. & D&D	Estimated Total Costs(b)	Est. Staff Years (c)
1	8,227	6,937	47,038	53,975	24,196	1.10
2	1,119	4,058	8,856	12,939	12,920	1.07
3	14,565	25,146	15,544	40,690	170,813	4.26
4	2,902	1,081	7,741	8,822	11,535	.76
5	2,701	10,868	11,174	22,042	105,841	6.34
6	5,479	5,941	30,595	36,536	129,418	3.66
8	140	750	--	750	--	--
9	2,660	3,586	3,658	7,244	22,580	1.48
10	263	980	--	980	5,900	.22
Totals:	38,056	59,347	124,606	183,978	483,263	18.92

a) Dead and Down
b) Aggregate District-level administrative and management costs.
c) Aggregate District-level administrative and management time.

Appendix II
TABLE J

FY 79 Firewood Program Injuries--
Causes and Rates (by Region)

REGION 1	Physical Hazards	Equipment	Operator Skill	Total Injuries	# Lawsuits/ Claims
Commercial	3	---	3	6	---
Non-Commercial					
Permit	8	6	67	81	---
Non-Permit	12	15	60	87	---
Total Non-Commercial	20	21	127	168	---
Total	23	21	130	174	---

REGION 2	Physical Hazards	Equipment	Operator Skill	Total Injuries	# Lawsuits/ Claims
Commercial	1	---	3	4	---
Non-Commercial					
Permit	---	---	---	---	---
Non-Permit	112	15	40	167	---
Total Non-Commercial	112	15	40	167	---
Total	113	15	43	171	---

REGION 3	Physical Hazards	Equipment	Operator Skill	Total Injuries	# Lawsuits/ Claims
Commercial			4	4	---
Non-Commercial					
Permit	2	1	52	55	---
Non-Permit	4	8	4	16	---
Total Non-Commercial	6	9	56	71	---
Total	6	9	60	75	---

REGION 4	Physical Hazards	Equipment	Operator Skill	Total Injuries	# Lawsuits/ Claims
Commercial	1	---	1	2	---
Non-Commercial					
Permit	44	22	124	190	---
Non-Permit	---	4	1	5	---
Total Non-Commercial	44	26	125	195	---
Total	45	26	126	197	---

REGION 5	Physical Hazards	Equipment	Operator Skill	Total Injuries	# Lawsuits/ Claims
Commercial				15	
Non-Commercial					
Permit				43	1
Non-Permit				---	
Total Non-Commercial				43	1
Total				58	1

Appendix II
TABLE J (Con't.)

REGION 6	Physical Hazards	Equipment	Operator Skill	Total Injuries	# Lawsuits/ Claims
Commercial.....	6	12	16	34	---
Non-Commercial					
Permit.....	89	42	353	484	----
Non-Permit.....	2	5	3	10	---
Total Non-Commercial	91	47	356	494	---
Total.....	97	59	372	528	---

REGION 8	Physical Hazards	Equipment	Operator Skill	Total Injuries	# Lawsuits/ Claims
Commercial.....	4	2	---	6	---
Non-Commercial					
Permit.....	22	55	45	122	---
Non-Permit.....	3	15	15	32	---
Total Non-Commercial	25	70	60	155	---
Total.....	29	72	60	161	---

REGION 9	Physical Hazards	Equipment	Operator Skill	Total Injuries	# Lawsuits/ Claims
Commercial.....	1	---	1	2	---
Non-Commercial					
Permit.....	4	4	10	18	
Non-Permit.....	---	---	---	---	---
Total Non-Commercial	4	4	10	18	---
Total.....	5	4	11	20	---

REGION 10	Physical Hazards	Equipment	Operator Skill	Total Injuries	# Lawsuits/ Claims
Commercial.....					
Non-Commercial					
Permit.....					
Non-Permit.....					
Total Non-Commercial					
Total.....				6	$5,000

TOTALS	Physical Hazards	Equipment	Operator Skill	Total Injuries	# Lawsuits/ Claims
Commercial.....					
Non-Commercial					
Permit.....					
Non-Permit.....					
Total Non-Commercial					
Total.....	308	206	802	1380	2

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