January 5, 2001

Final Regulatory Flexibility Analysis for the Roadless Area Conservation Rule

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Final Regulatory Flexibility Analysis for the Roadless Area Conservation Rule

BACKGROUND

For any rule subject to the notice and comment requirements of 5 U.S.C. 553 or any other federal law, the Regulatory Flexibility Act (RFA), (5 U.S.C. 601 et seq.) directs that the agency prepare and make available for public comment an initial regulatory flexibility analysis. Because the Roadless Rule does not directly regulate small entities, the Forest Service does not believe that the RFA applies to this rule.[1] However, given the significant public interest in this rulemaking, the Agency prepared an initial regulatory flexibility analysis for the proposed rule on roadless area conservation and solicited public comment. In addition to comments received on the initial regulatory flexibility analysis, comments that were submitted about the Draft Environmental Impact Statement and the Cost-Benefit Analysis were also considered if relevant to impacts on small entities. This final regulatory flexibility analysis is based on that public input and additional agency information.

A final regulatory flexibility analysis is required to contain:

1) A succinct statement of the need for, and objectives of the rule;
2) A summary of the significant issues raised by the public comments in response to the initial regulatory flexibility analysis, a summary of the assessment of the agency of such issues, and a statement of any changes made in the final rule as a result of such comments;
3) A description of and estimate of the number of small entities to which the rule will apply or an explanation of why no such estimate is available
4) A description of the projected reporting, recordkeeping, and other compliance requirements of the rule, including an estimate of the classes of small entities which will be subject to the requirements and the type of professional skills necessary for preparation of the report or record; and
5) A description of the steps the agency has taken to minimize the significant economic impact on small entities consistent with the stated objectives of applicable statutes, including a statement of the factual, policy, and legal reasons for selecting the alternative adopted in the final rule and why each one of the other significant alternatives to the rule considered by the agency which affect the impact on small entities was rejected; reporting and compliance requirements of the rule.

PROPOSED ACTION

The Forest Service plans to publish a final Roadless Area Conservation Rule (Roadless Rule) to protect inventoried roadless areas within the National Forest System. This rule would prohibit road construction and reconstruction, including temporary road construction, upon

[1] Among other things, many of the factors set forth in the RFA are not pertinent to the context of this rule. Courts have held that the RFA imposes no obligation on an agency to conduct a regulatory flexibility analysis on entities that it does not regulate.

implementation of the final rule. Timber harvest within inventoried roadless areas would be prohibited except for clearly defined, limited purposes.

Timber harvest (cutting, sale, or removal) could only occur if the Responsible Official determined that one of the following circumstances exists:

(1) The cutting, sales, or removal of generally small diameter timber is needed for one of the following purposes and will maintain or improve one or more of the roadless characteristics:

   a) To improve threatened, endangered, proposed, or sensitive species habitat;
   b) To maintain or restore the characteristics of ecosystem composition and structure, such as to reduce the risk of uncharacteristic wildfire effects, but within the range of variability that would be expected to occur under natural disturbance regimes of the current climatic period;

(2) The cutting, sale, or removal of timber is incidental to implementing a management activity not otherwise prohibited by this rule;

(3) The cutting, sale of removal of timber is needed and appropriate for personal or administrative use; or

(4) Roadless characteristics have been substantially altered in a portion of an inventoried roadless area due to construction of a classified road and subsequent timber harvest. Both the road construction and timber harvest must have occurred after the area was designated an inventoried roadless area and prior to the publication date of the Roadless Rule. Timber may be cut, soil, or removed only in the substantially altered portion of the inventoried roadless area.

Personal use harvest includes cutting of firewood and Christmas trees. Tree cutting can occur incidental to other management activities such as trail construction or maintenance, removal of hazard trees adjacent to classified roads for public health and safety reasons, fire line construction for wildland fire suppression or control of prescribed fire, or for survey and maintenance of property boundaries. Mechanical fuel treatments such as crushing, piling, or limbing would be permitted.

These restrictions would apply upon implementation of the final rule to 58.5 million acres of National Forest System lands. However, the prohibition on road construction, reconstruction, or the cutting, sale, or removal of timber in inventoried roadless areas does not apply to the 9.3 million acres of inventoried roadless areas on the Tongass National Forest if a notice of availability for a draft environmental impact statement for such activities has been published in the Federal Register prior to the publication date of the Rule.

A number of exceptions have been included in the Rule to meet legal obligations and to mitigate some economic and social effects. The responsible official may authorize road construction and reconstruction in any inventoried roadless areas for the following reasons:

1) A road is needed to protect public health and safety in cases of an imminent threat of flood, fire, or other catastrophic event that, without intervention, would cause the loss of life or property;

2) A road is needed to conduct a response action under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) or to conduct a natural resource restoration action under CERCLA, section 311 of the Clean Water Act, or the Oil Pollution Act;
3) A road is needed pursuant to reserved or outstanding rights, or as provided for by statute or treaty;
4) Road realignment is needed to prevent irreparable resource damage that arises from the design, location, use, or deterioration of a classified road and that cannot be mitigated by road maintenance. Road realignment may occur only if the road is deemed essential for public or private access, natural resource management, or public health and safety;
5) Road reconstruction is needed to implement a road safety improvement project on a classified road determined to be hazardous on the basis of accident experience or accident potential; or
6) The Secretary of Agriculture determines that a Federal Aid Highway project, authorized pursuant to Title 23 of the United States Code, is in the public interest or consistent with the purposes for which the land was reserved or acquired, and no other feasible alternative exists; and
7) A road is needed in conjunction with the continuation, extension, or renewal of a mineral lease on lands that are under lease by the Secretary of Interior as of the publication date of the Roadless Rule, or for new leases issued immediately upon expiration of an existing lease.

Finally, in conjunction with, but independent of this rule, the Chief of the Forest Service would pursue funds to assist communities undergoing economic transition resulting from implementation of the Roadless Rule. The Agency's success in securing appropriations for these purposes would have a direct bearing on its ability to implement these programs. Such assistance could include the following:

- Provide financial assistance to stimulate community-led transition programs and projects in communities most affected by changes in roadless area management;
- Through financial support and action plans, attract public and private interest, both financial and technical, to aid in successfully implementing local transition projects and plans by coordinating with other Federal and State agencies; or
- Assist local, State, Tribal and Federal partners to work with those communities most affected by the final roadless area decision.

STATEMENT OF PURPOSE AND NEED

The purpose of the Roadless Rule is to conserve and protect the increasingly important values and benefits of roadless areas by: 1) prohibiting activities that have the greatest likelihood of degrading desirable characteristics of inventoried roadless areas, and 2) ensuring that the ecological and social characteristics of inventoried roadless areas are identified and considered through local land management planning efforts[2].

On October 13, 1999, President Clinton provided direction to the Forest Service stating:

[2] The Draft Environmental Impact Statement for Roadless Area Conservation included alternatives to develop procedures to evaluate and conserve roadless characteristics during land management planning revisions. The Forest Service determined that the procedures should be an explicit part of the plan revision process and addressed them at 36 CFR 29.9(b)(8) of the final Planning Regulations.

> *I have determined that is in the best interests of our Nation…to provide strong and lasting protection for these forests… Specifically, I direct the Forest Service to develop, and propose for public comment, regulations to provide appropriate long-term protection for most or all of these currently inventoried "roadless" areas, and to determine whether such protection is warranted for any smaller "roadless" areas not yet inventoried.*

Land management decisions on the national forests and grasslands attempt to achieve a balance between competing interests and values. Local land management planning efforts may not always recognize the cumulative national significance of inventoried roadless areas and the values they represent, especially given the increasing development of the nation's landscape. Urbanization, reduction in the size of forest tracts, habitat fragmentation, and other forest ecosystem health issues are concerns at local, regional, national, and global levels. When managing inventoried roadless areas, it is important to recognize that decisions made at finer scales (e.g. project, watershed, or national forest level), must be considered in a broader context. While individual decisions to build roads may achieve local management objectives, collectively they may result in a continued net loss of the quality and quantity of inventoried roadless areas nationally.

Regardless of how well informed individual decisions may be at the local level, any new road building in inventoried roadless areas still results in a loss of roadless characteristics. When local officials evaluate the impacts of their decision to build a road into an inventoried roadless area, the incremental effect of the decision is considered. However, when these individual decisions are aggregated over time, the ecological and social outcomes resulting from the loss of roadless areas may become substantial.

Even though 24.2 million acres (41%) of inventoried roadless areas are currently managed under land management plan prescriptions that prohibit road construction, these prescriptions could change at the next plan revision. The final rule would elevate the certainty of long-term protection to all inventoried roadless areas.

Given the history of controversy surrounding the management of inventoried roadless areas and the level of interest expressed by the public, the Agency has determined that there is a need for national-level direction for roadless area management. The action is needed because:

- Road construction, reconstruction, and timber harvest activities in inventoried roadless areas can directly threaten the fundamental characteristics of these areas by altering natural landscapes, including habitat fragmentation and changes in native plant and animal communities;
- Budget constraints permit only a small portion of the Agency road system to be effectively managed; and
- National concern over roadless area management continues to generate controversy, including costly and time-consuming appeals and litigation.

LEGAL AUTHORITY

The agency believes it has the authority to promulgate this rule and that it does not conflict with existing law and policy. The foundation for any exercise of power by the Federal government is the United States Constitution. The Constitutional provision that provides authority for management of public lands is the Property Clause (Article IV, Section 3). The Property Clause states that Congress has the power to dispose of and make all needful rules and regulations respecting land or other property belonging to the United States. Using this authority, Congress entrusted the Secretary of Agriculture with broad powers to protect and administer the National Forest System by passing laws, such as the Organic Administration Act of 1897 (the Organic Act) the Multiple-Use, Sustained-Yield Act of 1960 (MUSYA), and the National Forest Management Act of 1976 (NFMA).

The duties that Congress assigned to the Secretary include regulating the occupancy and use of National Forest System lands and preserving the forests from destruction (16 U.S.C. 551). Through the MUSYA, Congress directed the Secretary to administer the National Forest System for multiple-use and sustained-yield of renewable resources without impairment of the productivity of the land (16 U.S.C. 528-531), thus establishing multiple-use as the foundation for management of national forests and grasslands. These multiple-uses include outdoor recreation, range, timber, watershed, and wildlife and fish purposes. The statute defines "multiple-use" broadly, calling for management of the various uses in the combination that will best serve the needs of the American people (16 U.S.C. 531). Under this framework, courts have recognized that the MUSYA does not envision that every acre of National Forest System land be managed for every multiple-use, and does envision some lands being used for less than all of the resources. As a consequence, the agency has wide discretion to weigh and decide the proper uses within any area (Wind-River Multiple-use Advocates v. Espy, 835 F. Supp. 1362, 1372 (D.Wyo.1993)).

In passing the Multiple-Use, Sustained-Yield Act, Congress also affirmed the application of sustainability to the broad range of resources the Forest Service manages, and did so without limiting the agency's broad discretion in determining the appropriate resource emphasis and mix of uses. Some of the agency's past decisions have been challenged in court, leading to judicial decisions interpreting the extent of Forest Service discretion, or judgment, in managing National Forest System lands. Courts have routinely held that the Forest Service has wide discretion in deciding the proper mix of uses within any area of National Forest System lands. In the words of the Ninth Circuit Court of Appeals, the agency's authority pursuant to the MUSYA "breathes discretion at every pore." (Perkins v. Bergland, 608 F.2d 803, 806 (9th Cir.1979)).

The NFMA reaffirmed multiple-use and sustained-yield as the guiding principles for land management planning of National Forest System lands (16 U.S.C. 1600, 1604). Together with other applicable laws, the NFMA authorizes the Secretary of Agriculture to promulgate regulations governing the administration and management of the National Forest Transportation System (16 U.S.C. 1608) and other such regulations as the Secretary determines necessary and desirable to carry out the provisions of the NFMA (16 U.S.C. 1613). These laws complement the long-standing authority of the Secretary to regulate the occupancy and use of the National Forest System (16 U.S.C. 551).

January 5, 2001

SUMMARY OF RESULTS OF THE FINAL REGULATORY FLEXIBILITY ANALYSIS

The Department of Agriculture is promulgating a rule for roadless area conservation that does not impose regulations on small entities. The rule would not suspend or modify any existing permit, contract, or other legal instrument authorizing the occupancy and use of National Forest System land[3]. The rule could affect future opportunities for small entities, but the agency cannot predict at any given time what authorized uses a small entity might want to pursue on National Forest System lands.

Data are limited for linking the final rule to effects on small businesses. The agency does not typically collect information about the size of businesses that seek permission to operate on National Forest System lands. The agency sought information to the extent possible by specifically requesting additional information in the initial regulatory flexibility analysis.

The rulemaking has the potential to affect a subset of small businesses that may seek opportunities on National Forest System lands in the future. The primary effect of the rule on small businesses, when finalized, is the potential to affect the future supply of commodity outputs or commercial opportunities for businesses. The change in resource availability is expected to be small across most regions in the country. Therefore, future business opportunities are not likely to be reduced to any great extent in comparison to continuation of current management policies. The effects may be more pronounced in the Intermountain and Alaska Regions, and effects in Alaska but may increase in the longer-term.

Small businesses in the wood products sector most likely to be affected are logging and sawmill operations. Reductions in the harvest of softwood sawtimber, particularly in the western U.S., are most likely to affect small businesses, since these sectors are dominated by small business. With the exception of the Intermountain Region (Utah, Nevada, western Wyoming, and southern Idaho), reductions in harvest are estimated to range from less than one percent to four percent. The reduction in the Intermountain Region is estimated to be nine percent. Harvest will be reduced about 18% on the Tongass National Forest in the next few years, but in the longer term, harvest could be reduced by over 60%. (See appendix A for a description of Forest Service regions.)

Small businesses in the mining sector most likely to be affected are businesses that are involved in the exploration and development of leasable minerals. The Roadless Rule will affect exploration and development for leasable minerals in inventoried roadless areas in the future where road construction is required, except on areas that are already under lease.

The potential effects on small businesses involved in livestock grazing and the collection of non-timber forest products are expected to be negligible. There will be fewer roads available for their use in the future under the Rule, but the number of miles that would have been built in the next five years and remained open for use is minor compared to the entire National Forest System road system.

Special use authorizations on National Forest System land could be affected by the rule, if road access is required. Most of the special uses potentially affected are dominated by large businesses, such as businesses in communication, electric services, gas production and distribution, and resort development. Small businesses with outfitter and guide permits are

[3] Because the roadless rule does not directly regulate small entities, the Forest Service does not believe the Regulatory Flexibility Act applies to this rule.

expected to benefit from the final rule, since these businesses are often dependent on providing services to recreationists interested in remote recreation activities that are often found in inventoried roadless areas.

The effect of the rulemaking on small governmental jurisdictions is tied to possible reductions in commodity outputs in cases where some portion of federal receipts is returned to the states for distribution to counties, and to changes in the jurisdiction's economic base from changes in employment and business opportunities related to National Forest System outputs and management. Payments to states from timber receipts will be unaffected by the Roadless Rule because the "Secure Rural Schools and Community Self-Determination Act of 2000" was signed into law on October 30. This legislation allows counties to select a payment based on historic payment levels rather than payments based on current receipts. However, this legislation does not affect revenue sharing of federal receipts from mineral leasing on national grasslands and from public domain lands of the national forests. Therefore, the Roadless Rule may result in a reduction in those receipts in the future, which would affect revenues shared with states and counties.

The Agency has also chosen to pursue funds to assist communities undergoing economic transition resulting from implementation of the Roadless Rule. Such assistance could include financial assistance to stimulate community-led transition programs and projects, support to attract public and private interests in implementing local transition projects, coordination with other Federal and State agencies, and assisting local, State, Tribal, and Federal partners to work with the most affected communities. The Forest Service will pursue a six-year economic transition program. The Economic Adjustment Program will be used to fund or support projects that will be specific to the needs of individual communities and important to the national forest or grassland. The Forest Service anticipates requesting $72.5 million in support of these activities between fiscal years 2001 and 2006.

ECONOMIC EFFECTS OF THE ROADLESS RULE ON SMALL ENTITIES

The roadless rule has the potential to affect small businesses through reductions in resource supply that affect future business opportunities. The rule would not suspend or modify any existing permit, contract, or other legal instrument authorizing the occupancy and use of National Forest System land. The agency cannot predict at any given time what authorized uses a small business might want to pursue on National Forest System lands. However, given the types of economic effects that are likely to result from the final rule, it is reasonable to assume that the industry sectors that should be evaluated for potential effects include those engaged in timber harvest (logging and manufacturing), mining, collection of non-timber special products, road construction, and a variety of recreation and other special uses. Small governmental jurisdictions (including governments of cities, counties, towns, townships, villages, school districts, or special districts with a population of less than 50,000) that receive revenue from federal mineral leasing receipts could also be affected in the future.

This analysis discusses the potential impacts of the Roadless Rule using Standard Industrial Classification (SIC) codes where pertinent. The 1987 SIC system has been replaced by the 1997 North American Industry Classification System (NAICS). However, the data on number of firms used in this analysis were collected in 1996, and therefore are still described by SIC codes.

The Agency solicited comments from small entities in the initial regulatory flexibility analysis. Specifically, the Agency asked for information on whether the proposed rule would affect any

small businesses or small governmental jurisdictions. If so, data were solicited on describing such impacts. Although numerous comments were provided that indicated a concern about impacts on small entities, only a small proportion provided data documentation on their status as a small entity and the likely effects of the proposed rule. These comments are summarized in the document. However, in many cases, the Agency was unable to determine the potential effects quantitatively, based on these comments.

Impacts on the wood products sector, the mining sector, the livestock sector, the construction sector, and a variety of businesses that do not fit neatly into any particular sector are described. For each of these sectors, the following topics are included:

1) a description of the industrial sector,
2) the role of the national forests and grasslands within the sector,
3) a summary of the public comment related to that sector,
4) the agency's assessment of the public comment,
5) changes between the proposed and final rule, and
6) analysis of effects of the final rule, including an estimate of the number of entities affected, or reasons why the number of affected entities cannot be estimated.

Separate sections describe the range of alternatives considered for the Roadless Rule and alternatives considered to mitigate the effects on small entities.

DATA SOURCES ON SMALL BUSINESSES BY INDUSTRIAL SECTOR

A number of data sources are available to characterize the industrial structure of business sectors in the economy. The definition of "small business" is based on size standards of the Small Business Administration (SBA). For most industries, the determination is based on number of employees. For some industries, the determination is based on annual receipts or other variables. The number of firms by size class and the number of employees by firm size are based on 1996 data (Small Business Administration 1996). Industry sectors were characterized as large, small, or indeterminate based on definitions derived from a report on small business economic indicators (Small Business Administration 1998).

Small business-dominated industries (noted as "small" industry type) are industries in which a minimum of 60 percent of employment is in firms with fewer than 500 employees. Large business-dominated industries (noted as "large" industry type) are industries in which a minimum of 60 percent of employment is in firms with 500 or more employees. The remaining industries were classified as indeterminate. These determinations were based on employment data and employment firm size data from the Department of Commerce.

Data available on the number of small businesses by industrial sector were used to characterize the sector. However, little data exist to determine the number of small businesses that currently operate on National Forest System lands, or the number that would pursue business opportunities in the absence of the Roadless Rule. The more general data were used to draw inferences about whether the impacts are likely to disproportionately affect small businesses. For example, if most businesses within an affected sector are small businesses, it is reasonable to assume the effects of the Rule would primarily fall on small businesses.

THE WOOD PRODUCTS SECTOR

The National Forest System provides wood fiber to a variety of businesses in the wood products sector across the country. The small businesses most likely to be affected by changes in timber harvest on National Forest System lands include businesses classified under SIC codes 08 (forestry), 24 (logging, lumber and wood products), and 26 (paper and allied products). The direct effects of a reduction in timber harvest affect both loggers and primary processing facilities. Table 1 lists specific industry groups that could be affected by a change in National Forest System timber harvest, and the SBA standard for determining what qualifies as a small business.

Table 1. Industry sectors most likely to be affected by changes in timber harvest from the national forests and grasslands, by Standard Industrial Code (SIC) (1996 data).

SIC Code	Industry	Number of Small Businesses	Percent Small Businesses	Number of Small Business Employees	Percent Employment in Small Businesses	SBA Standard for "Small Business"
800	Forestry	2,388	99%	15,611	73%	Annual Receipts < $5 million
830	Forest Nurseries	98	95%	NA	NA	Annual Receipts < $5 million
850	Forestry Services	1,140	99%	9,742	75%	Annual Receipts < $5 million
2410	Logging	14,247	99%	80,637	93%	< 500 employees
2420	Sawmills & Planing Mills	5,478	98%	113,526	68%	< 500 employees
2610	Pulp Mills	27	37%	793	5%	< 750 employees
2620	Paper Mills	126	68%	11,056	8%	< 750 employees
2630	Paperboard Mills	53	52%	3,122	6%	< 750 employees

NA: data not available
Percent employment for pulp, paper, and paper board mills is based on employment in firms of under 500 employees. These three sectors have been designated as large industry types.

The Role of Timber Production from the National Forest System in the U.S. Wood Products Sector

Timber-related manufacturing (SIC codes 08, 24 and 26) accounted for slightly more than 1 percent of total U.S. gross domestic product (GDP) in 1996. Total employment related to forest products increased about 5% between 1992 and 1996 (Table 2). Gains in employment were primarily in the eastern U.S., which accounts for over 75% of total wood products jobs. The contribution of National Forest System harvest to wood products employment declined 50% between 1992 and 1996, accounting for only 3% of all wood products jobs in 1996. Even at constant harvest levels from the National Forest System, as total production increases on other lands, the share of jobs from National Forest System harvest will continue to decline.

The role of the National Forest System in supplying timber has declined markedly in the last decade. Harvest declined from 12 billion board feet in 1989 to 2.9 million board feet in 1999. The impact of the reduced harvest was felt primarily in the markets related to softwood sawtimber harvest. Production from National Forest System lands accounted for 27% of the nation's softwood lumber production in 1989, falling to 5% in the late 1990s. The reduction in

national forest harvest has been offset by increased harvest on other public and private lands (primarily on private lands in the southern U.S.) and imports from Canada.

Table 2. Employment in the wood products sector in the total U.S. and associated with National Forest System timber harvest, 1992 and 1996.

Region[1] (FS Region)	Total Wood Products Sector Jobs, 1992	NFS Related Wood Products Sector Jobs, 1992	Total Wood Products Sector Jobs, 1996	NFS Related Wood Products Sector Jobs, 1996
North (R9)	350,358	6,079	375,987	5,032
South (R8)	396,868	8,628	414,752	6,865
Rocky Mountain (R1, R2, R3, R4)	56,637	14,675	62,535	4,163
Pacific Coast (R5, R6, R10)	176,194	29,668	172,762	11,724
U.S. Total	980,057	59,050	1,026,035	29,426

1 Data from the Resources Planning Act Assessment was available for groups of regions rather than each individual FS region

In addition, significant changes have occurred in the timber industry as a result of fluctuation in wood product prices, changes in international markets and technology, and industry restructuring. Prior to the development of oriented strand board (OSB) and other engineered wood products, such as I-joists, the large, old growth timber harvested on National Forests was in high demand. There will likely continue to be niche markets for high-quality products from large trees, but other types of wood must be sold in an increasingly competitive market (Martin and Darr 1997).

As a result of changes in harvest levels, compliance with environmental laws, and an increasing emphasis on harvest for forest health purposes, the product mix on national forests is increasingly made up of more pulp-type material (less sawtimber) and the sawtimber that is harvested is smaller in average diameter. The current product mix from the national forests results in higher unit costs and lower bid prices.

Summary of Public Comments

Numerous public comments were received regarding effects on the wood products sector. The comments addressed the following issues regarding impacts on small businesses:

1) Definition of the baseline for timber production from the National Forest System.
2) Estimation of the harvest effects within inventoried roadless areas.
3) Long-run impacts on harvest and the suitable base for timber.
4) Incorrect or missing information.

The baseline (the average of historic harvest levels between fiscal years 1996 and 1999) was considered inappropriate by some respondents. Several alternatives were suggested, including using the sum of forest plan Allowable Sales Quantity (ASQ) or using a longer historic trend. The primary concern was that the baseline was too low and would therefore underestimate effects.

Similar concerns were raised about projected harvest effects. It was suggested that planned sales from the forest plans should be the basis for the future effects, rather than more recent

data on planned offer. These respondents believed the planned offer in the next 5 years has been affected by a number of factors, such as the interim suspension on road construction, and would underestimate plans to harvest timber in inventoried roadless areas.

The analysis for the proposed rule did not attempt to quantitatively estimate long-term impacts on timber harvest from inventoried roadless areas, or estimate potential impacts on suitable acres for timber harvest. Some respondents believe that the lack of information made it impossible to determine the longer-run impacts, which they believe could be larger than the estimated short-run effects.

Finally, a number of respondents provided corrections or additional information about the location of processing facilities. For example, additional sawmills were identified in Utah. Several respondents indicated that the proposed rule would negatively affect their businesses, or possibly result in business closure.

Agency Assessment of Public Comments

The baseline for the analysis was chosen to reflect the most likely harvest levels in the near future. The agency believes harvest data from the last few years are more likely indicators of harvest in the near future than the alternatives suggested by public comment. Allowable sales quantities from forest plans are an upper limit for the planning period and not a proposal for sale offerings or an assigned target. Market conditions and budget appropriations are important factors in determining sales offer levels. Many existing forest plans are out of date and in need of revision. Using a longer historic trend in developing the harvest baseline would include years of much higher harvest levels than the Agency anticipates in the near future.

Much of this concern was directed at recognizing the impacts resulting from major declines in federal timber harvest in the last decade. Although the roadless rule and interim road suspension on road construction are not responsible for those declines, the agency does recognize that the declines in federal harvest of the last decade contributed to small business closures, and have left some small businesses in a marginal financial condition. Even if the effects of the Roadless Rule are minor by themselves, the cumulative effect taken in combinations with events of the previous decade may magnify their importance.

The agency chose to collect data from the national forests and grasslands on planned offer volumes in inventoried roadless areas as the most reliable data for estimating potential harvest effects. Forest plan data on planned offer within inventoried roadless areas are out of date on many forests.

Long-term effects on timber offer levels are difficult to estimate. In the Final Environmental Impact Statement (USDA Forest Service 2000), long-term harvest levels on inventoried roadless areas are estimated, but there is considerable uncertainty about the range of potential effects. Using input-output models to project more than a few years into the future is problematic because of continual changes in variables such as technology, substitutes, and factor prices that change the sector outlook.

A number of responses provided corrected information on the location of wood processing facilities and the number of small businesses within a state. The new data were taken into consideration in the analysis of effects. The analysis also used input from agency personnel in validating and updating information.

Changes between Proposed and Final Rule

The final Roadless Rule would place more restrictions on timber harvest in inventoried roadless areas by allowing timber harvest that does not require road construction or reconstruction for clearly defined, limited purposes. Therefore, the supply constraints of the final rule are somewhat greater than those described for the proposed rule in the lower 48 states.

The proposed rule would have deferred a decision on whether or not the prohibitions should be applied to the Tongass National Forest until April 2004. This would have allowed an adjustment period for the timber program in Southeast Alaska to occur under the provisions of the 1999 Record of Decision for the Tongass Land and Resource Management Plan Revision, but would not have assured long-term protection of the Forest's unique ecological values and characteristics. The final rule adopts a mitigation measure that provides that the prohibitions in the final rule do not apply to road construction, reconstruction, and the cutting, sale, or removal of timber from inventoried roadless areas on the Tongass where a notice of availability for a draft environmental impact statement for such activities has been published in the Federal Register by the publication date of this rule. This mitigation measure still allows an adjustment period for the timber program in Southeast Alaska, but will also assure long-term protection of the Forest's unique ecological vales and characteristics.

Effects on Small Businesses

The Roadless Rule would reduce proposed timber harvest in inventoried roadless areas. The impacts on small businesses will depend on the relative importance of timber supply from National Forest System lands, the reduction from inventoried roadless areas, and the availability of substitute sources of timber. The annual harvest impacts of the Roadless Rule were estimated for each national forest planning to offer timber from inventoried roadless areas, and compared to the forest's total projected harvest to determine the proportion of the timber program that could be affected by the Roadless Rule.

In the absence of the roadless rule, the volume planned for offer in inventoried roadless areas would be part of each forest's total planned timber offer. The amount of volume actually offered for sale is likely to be less than planned offer for several reasons related to on-site analysis undertaken for preparing timber sales. Changes in planned offer can occur for various reasons, such as the need to mitigate for environmental concerns, and settlement of appeals and litigation. Once the final volume to be offered is determined, bids are taken on the offered volume. Not all volume for sale is purchased, so the sold volume is often less than offer volume.

The data on planned offer from inventoried roadless areas look out into the next five years. For purposes of analysis, the five-year planned offer volume was converted to an average annual offer volume. Volume sold can be harvested over a period of 3 to 4 years after the sale. Therefore, the conversion to average annual accounts for the multi-year effect of sales.

To estimate a likely annual harvest volume from inventoried roadless areas, a two-step process was used to adjust average annual planned offer volumes. First, an adjustment was made to account for differences between planned offer and actual offer. No data are available that directly address this difference. A comparison of offer targets to offer accomplishments by national forest was examined. On average, accomplishments were 85% of targets. One drawback of this data is that salvage volumes are included that inflate accomplishments, since

salvage is not included in offer targets. Data comparing volume sold in inventoried roadless areas from 1993 to 1999 to planned offer volumes in inventoried roadless areas in the next five years were also examined. Nationally, average planned offer volume in the next five years was twice the average volume sold between 1993 and 1999.

A factor of 30% was used to adjust planned offer volumes in the lower 48 states. An adjustment of 15% was considered too low, and 50% would double count the adjustment between offer and sold volume that occurred in the second step of the adjustment process. An adjustment factor of 10% was used on the Tongass to be consistent with recent analysis done in evaluating market demand for Tongass Timber (USDA Forest Service 1999).

The second step in the adjustment process addresses the difference between volume offered and volume sold. This adjustment was straightforward, based on the TSPIRS data for offer and sold between 1996 and 1999. The average percent difference between volume offered and volume sold was applied by national forest.

The projected total harvest from the National Forest System is based on the average of harvest volumes between fiscal years 1996 and 1999. Averaging over several years accounts for annual fluctuations in harvest volumes. The harvest volumes in fiscal years 1996 through 1999 are based on data compiled for the Timber Sales Program Information Reporting System (TSPIRS). The projected National Forest System harvest, the projected harvest from inventoried roadless areas, and the affected harvest volume are provided by Forest Service region in Table 3.

The Roadless Rule would only allow limited timber harvest that does not require road construction or reconstruction in inventoried roadless areas. The estimated average annual reduction in harvest volume from inventoried roadless areas is about 72 million board feet in the next five years. In the longer term, harvest reductions on the Tongass could increase to about 77 million board feet per year, depending on market conditions and the availability of harvest volume from other parts of the forest. (All harvest volume from inventoried roadless areas in Region 10 is from the Tongass).

Table 3. Projected Average Annual Harvest Levels for the NFS, for Inventoried Roadless Areas, and Estimated Reductions in Harvest Volume in Inventoried Roadless Areas from the Roadless Rule (million board feet).

FS Region	Total Projected NFS Harvest	Total Projected Harvest in Inventoried Roadless Areas	Estimated Reduction in Harvest Volume from Roadless Rule
Northern (R1)	320	11.0	4.4
Rocky Mountain (R2)	143	5.7	5.3
Southwestern (R3)	77	0.4	0.3
Intermountain (R4)	199	23.8	17.1
Pacific Southwest (R5)	492	4.2	3.1
Pacific Northwest (R6)	694	10.9	8.0
Southern (R8)	663	3.8	3.3
Eastern (R9)	596	10.3	8.3
Alaska (R10)	125	76.6	22.7
National	**3,308**	**146.7**	**72.4**

Totals may not be exact due to rounding.

The effects are small compared to total harvest volume, with the exception of Region 4, where about 9% of the total harvest volume could be affected, and Region 10, where about 18% of total harvest could be affected in the short-term. In the longer term, about 60% of harvest could be affected after allowed sales are completed.

These effects are not evenly distributed across forests within the regions. Therefore, those national forests that planned to offer 5 million board feet of timber or more in the next 5 years for which harvest would require road construction or reconstruction in inventoried roadless areas were identified. Harvest reductions on those national forests are more likely to have effects on businesses that operate on national forests, including small businesses.

Estimated harvest volumes are less than planned offer, as described above. Table 4 lists the national forests that planned to offer at least 5 million board feet, the average annual harvest volume from inventoried roadless areas that would be affected, and the reduced harvest in inventoried roadless areas as a proportion of the forest's average total harvest between 1996 and 1999. Effects on small businesses are most likely on those forests where harvest in inventoried roadless areas as a significant portion of the total timber program, and where little substitute volume exists. The most obvious areas for concern are businesses that are associated with the Shoshone (WY), Dixie (UT), Fishlake (UT), Manti-LaSal (UT) and Tongass (AK) National Forests.

Table 4. National Forest Administrative Units With the Largest Potential Effects on Projected Timber Harvest from the Roadless Rule.

Region	National Forest Administrative Unit	Reduction in Average Annual Harvest from Inventoried Roadless Areas (MMBF)	Reduced Harvest in Inventoried Roadless Areas as a Percent of Total Forest Harvest Volume
Northern (R1)	Idaho Panhandle	2.7	4%
Rocky Mountain (R2)	Medicine Bow/Routt	1.2	9%
	Shoshone	1.5	27%
	White River	1.1	9%
Intermountain (R4)	Caribou	0.8	9%
	Dixie	3.9	26%
	Fishlake	2.5	39%
	Manti-LaSal	2.7	45%
	Payette	5.4	12%
Pacific Southwest (R5)	Shasta-Trinity	2.0	4%
Pacific Northwest (R6)	Okanagon	1.4	9%
	Rogue River	1.5	8%
Southern (R8)	Ozark/St. Francis	2.4	5%
Eastern (R9)	Chequamegon/Nicolet	2.3	2%
	Superior	3.3	5%
Alaska (R10) (longer term)	Tongass	22.7 (76.6)	18% (62%)

The harvest reductions indicate the potential for reduced supplies to small businesses that operate on the National Forest System. It is difficult to predict to what extent those reduced supplies will affect small businesses as compared to large businesses. The Forest Service

does not have an estimate of the number of small businesses that operate on national forests and grasslands for timber harvest operations, since the Agency has no need to collect information on the size of business except when determining if a business qualifies as a small business. A list of qualifying businesses is available for that purpose, but not every business on the list operates on the national forests. Also, the effects are based on future harvest effects, and therefore it is not possible to predict what businesses would have bid on sales offered in inventoried roadless areas.

Based on the wood products sector data, it can be assumed that the majority of businesses affected by reduced offer volumes would be small businesses, since they dominate the sector. However, it cannot be estimated what proportion of all small businesses engaged in the wood products industry would be affected, since not all operate on national forests and grasslands. Effects are more likely in the western states, where national forests account for a significant portion of the timber resources, and in Alaska.

Comments from the Utah Forest Products Association indicated that there are 14 small family-owned sawmills in Utah that depend on harvest from the national forests. They believe that 11 of those mills would be put out of business as a result of the harvest reductions. The assumptions used by the Association about the effects on harvest volumes resulted in a larger reduction in volume than estimated by the Agency analysis (shown in Table 4). Therefore, the effects estimated in this analysis would indicate less of an effect than projected by the Association.

A recent study on the Wyoming timber market indicated that small processors in Wyoming who have relied on steady volumes from the national forests are having to reach further for timber supply and have to compete with larger companies for private resources (Rideout and Hessein 2000). Further reductions from the Roadless Rule will likely create further adverse effects for those businesses. However, the study also concluded that the trend towards industry consolidation and fewer mills is likely to occur regardless of the Roadless Rule.

In Alaska, all of the businesses engaged in harvest and primary processing from the Tongass National Forest are small businesses. After the transition period, there are likely to be significant reductions in the timber program on the Tongass. As mentioned previously, the long-term effects are difficult to predict. Mill closures are likely as miles deplete their stockpiles of volume under contract and face increasing competition for a smaller timber supply. The timber industry is already undergoing a significant transition in southeast Alaska, and the Roadless Rule will become an additional factor in that transition.

The Forest Service Small Business Timber Set-Aside Program

Since 1971, the Forest Service has made a percentage of National Forest System sawtimber sale volume available for purchase by small businesses (businesses that employ, together with affiliates, less than 500 persons). Under the Small Business Timber Set-Aside Program, the Forest Service determines a “fair proportion” of sawtimber volume to be made available for small businesses in each national forest market area (36 CFR 223.103).

The small business market share is based on the percentage of sawtimber purchased and harvested by small businesses in the previous 5-year period. The small business share does not guarantee a specific volume of sawtimber. The program is based on a proportional share of the market because of fluctuations in the availability of timber. The small business share is recalculated every 5 years, or if a structural change occurs. A structural change occurs when a

small or large business that purchased at least 10 percent of the total sawlog volume either discontinues operation or changes size status by growth or purchase of manufacturing capacity. The next scheduled recalculation of set-aside shares will be completed in 2000, and will go into effect in 2001.

Independent of the Small Business Timber Set-Aside Program, the Forest Service operates the Special SalvageTimber Sale Program jointly with the SBA. This program makes a portion of the additional volume of timber prepared under special salvage sale funds available for harvest by small loggers or forest product firms. For this program, the SBA established a small business standard of no more than 25 employees.

The percentage of volume set aside for small businesses would not be affected by the rule. However, the total volume available for offer on some national forests is likely to be less in some locations, as demonstrated by Table 4. The National Forest System is particularly important in providing softwood sawtimber to small businesses in the western U.S. In the eastern U.S., the National Forest System is the source of some high quality hardwood sawtimber, as well as softwoods and pulp products. In Southeast Alaska, timber harvest from the Tongass is the primary source of wood fiber for the processing facilities in the region. All of the businesses in Southeast Alaska engaged in timber harvest and processing of Tongass timber are small businesses. Therefore, there is no set-aside program for the Tongass.

Table 5 shows the same list of national forests as shown in Table 4, with the historic percentage of harvest volume that has been sawtimber (averaged between 1996 and 1999), since sawtimber volume is a key component of calculating the set-aside for small businesses. Also shown is the percent of total sawtimber sales volume guaranteed to small businesses on those national forests. The final column in Table 5 shows the annual amount of potentially affected sawtimber volume that would have been part of the set-aside volume. This figure is the product of the percent of sawtimber volume, the percent guaranteed to small businesses, and the estimated annual harvest reduction in Table 4.

The information in Table 5 indicates that the effects on volume available as part of the small business set-aside program are likely to be concentrated on the Dixie, Fishlake, Manti-Lasal, and Payette National Forests. Impacts are not likely to be as great on the Shoshone, since a smaller proportion of the timber volume is sawtimber.

Potential Substitution Effects

The harvest effects do not account for any potential substitute harvest from other ownerships. Between 1990 and 1995 NFS harvest levels declined 41% nationally, while total U.S. harvest increased 1% (Appendix Table A1). In Regions 8 and 9, harvest on other ownerships more than offset declines on NFS lands. The contribution of NFS harvest is extremely small in the eastern U.S., since private lands are the dominant source of wood fiber. In the western U.S., increased harvest on nonindustrial private ownerships provided some substitute harvest to offset declines on all other ownerships. The data indicate there is some potential for substitution in those regions, although these opportunities probably occur primarily in Regions 1, 4, 5, and 6. Little substitute volume is likely to exist in Regions 2, 3, and 10. Several comments raised questions about the sustainability of production from private lands in Utah and other western states. Inventory data on privately owned timber resources are available, but it is often difficult to predict under what circumstances nonindustrial private forest owners will be willing to sell timber.

Although the potential for substitute supplies is higher in the eastern U.S., small businesses would have to compete with large businesses for access to supply on other ownerships. The advantage of the set-aside program on National Forest System lands would not be available.

Table 5. National Forest Administrative Units with the largest potential timber harvest effects from prohibitions in the final rule.

Region	National Forest Administrative Unit	Average Percent of Total Harvest Volume from Sawtimber	Percent of Sawtimber Sales Volume Guaranteed to Small Businesses	Estimated Annual Harvest Reduction for Small Business Set-Aside (million board feet)
Northern (R1)	Idaho Panhandle	90%	37%	0.90
Rocky Mountain (R2)	Medicine Bow/Routt	72%	40%	0.35
	Shoshone	25%	80%	0.26
	White River	60%	53%	0.35
Intermountain (R4)	Caribou	80%	57%	0.50
	Dixie	85%	33%	1.09
	Fishlake	90%	80%	1.15
	Manti-LaSal	77%	80%	1.66
	Payette	90%	51%	2.20
Pacific Southwest (R5)	Shasta-Trinity	56%	30%	0.12
Pacific Northwest (R6)	Okanagon	72%	30%	0.30
	Rogue River	88%	60%	0.79
Southern (R8)	Ozark/St. Francis	66%	77%	0.25
Eastern (R9)	Chequmegon/ Nicolet	11%	80%	0.20
	Superior	10%	59%	0.19
	White Mountain	32%	80%	0.18

Effects on Small Governmental Jurisdictions

A number of communities have strong ties to timber harvest from the National Forest System. Businesses within these communities are an important part of the local economy, and harvest from the national forests is a source of revenue through payments to states.

Summary of Public Comments

Comments about the effects of the Roadless Rule on local communities focused on three topics: 1) loss of jobs within the communities, 2) effects on businesses both directly and indirectly impacted by changes in timber harvest, and 3) changes in payments to states that affect funding for schools and roads.

Comments were received from numerous local officials, such as county commissioners and mayors expressing concerns about the potential reduction in funds for schools and roads. This concern was often linked to the effects of declining payments to states that many communities have faced over the last decade. Even in those areas where supplemental payments have been made, those payments will expire soon. Comments were also received about communities that should be on the list of potentially affected communities, but were not.

The effects on businesses within these communities were also of concern, since those businesses are an important part of the economic infrastructure. As several respondents noted,

the loss of jobs can result in loss of population and businesses, and higher unemployment rates within communities. These changes can be economically and socially difficult for a community if alternative business opportunities are limited. Some people believed the job impacts were underestimated.

There were also comments about the benefits of reducing timber harvest. Some respondents believe that alternative businesses would be attracted to communities where roadless areas have been protected.

Agency Response

Historically, 25% of timber sale receipts generated from the national forests and grasslands have been returned to the states and counties to spend on schools and roads. The decline of timber harvests from the National Forest System in the last decade has resulted in significant declines in the payments to states from timber receipts. On October 30, the President signed the "Secure Rural Schools and Community Self-Determination Act of 2000," which allows counties to choose between receiving 25% payments under the current formula and receiving payments based on historic payment levels. As a result of this new legislation, changes in timber harvest related to the Roadless Rule will not cause any further reductions in payments to states through 2006. In fact, many communities will see increases in payments to states, although those increases are not related to the Roadless Rule.

The list of communities potentially affected by harvest reductions was updated based on public comments and internal agency review. Some communities that have been recognized as timber-dependent (such as John Day, Oregon) are not on the list, because the relevant national forest has no plans to enter inventoried roadless areas as part of their timber program or can undertake stewardship purpose harvest without roads. Therefore, although these communities have been affected by declines in national forest harvest in the past, the Roadless Rule will not cause additional impacts during the next 5 years.

The potential effects on small businesses are described in the previous section. Estimates of job effects were based on changes in timber harvest level. In addition to direct timber jobs, total job impacts were also estimated (USDA Forest Service 2000). As discussed in the previous section, it is possible that reductions in harvest associated with the Roadless Rule may have a greater impact if marginal producers are driven out of business.

Changes between Proposed and Final Rule

The Roadless Rule would place more restrictions on timber harvest in inventoried roadless areas by allowing only limited timber harvest that does not require road construction or reconstruction. Compared to the proposed rule, timber harvest reductions are about 13 million board feet per year greater in the lower 48 states. The proposed rule allowed decisions about the Tongass to be delayed until 2004, and there was no requirement to implement prohibitions. Therefore, harvest effects were uncertain. The final rule implements prohibitions immediately, but allows sales for which a notice of availability for a draft environmental impact statement has been published in the Federal Register by the publication date of the rule to be completed. As a result, the Tongass timber program will have a transition period. After those allowed sales are completed, harvest from inventoried roadless areas will be infrequent.

Economic Effects of the Rule

Small governmental jurisdictions will not experience reductions in payments to states related to timber receipts because of the new legislation described previously. Therefore, the primary concern related to changes in timber harvest is the effects on local economies from job loss and business losses. Communities have differing abilities to adapt to such changes.

Forces beyond their control substantially affect both communities and industry. For communities, the effect is cumulative. The community has little influence on the business decisions made by firms operating in their area, while the firms have little influence on macroeconomic forces that influence their operations. As such, rural communities often find themselves vulnerable to boom/bust cycles, commodity price fluctuations, and global, national, and regional recessions (DeVilbiss 1992). Among the economic factors that affect the relationship between a community and local wood products firms are alternative sources of supply, geographic isolation (proximity to larger labor markets), inter-mill competition for timber supply, inter-community competition for jobs, international markets, and changing technology.

Even if current managers could provide an even flow of timber sale volume, the industry has changed to such an extent that it can no longer be assumed that local mills will be the successful bidder for agency timber sales, nor that local communities will receive logging and processing jobs as a result of those sales. In today's market, the destination of federal timber is generally unpredictable as processors reach far to supply their mills. Log sorting yards and high efficiency mills disperse logs differently, directing logs to their most profitable use. As a result, it is difficult to predict which communities are most likely to be affected by changes in timber harvest from National Forest System lands.

Potentially Affected Communities

The effects of the alternatives on national, and to a large extent regional, social and economic systems are minor, with the possible exception of timber harvest on the Tongass and a few locations in the Intermountain Region. None of the alternatives are likely to have measurable impacts against the broader social and economic conditions and trends observable at these scales. However, the effects of the alternatives are not distributed evenly across the U.S.

A subset of national forests was identified that is likely to experience the greatest timber-related impacts on local communities in the next 5 years, based on planned offer volumes described previously. A total of 61 administrative units planned to offer timber from inventoried roadless areas.

Of those 61 administrative units, any units that either a) planned to offer 5 or more million board feet in the next 5 years that required road construction, or b) the average annual planned offer within inventoried roadless areas was greater than 10% of the total forest average annual offer between 1996 and 1999 were considered. Using these criteria, a total of 30 administrative units were identified.

Table 6 contains a list of the 30 administrative units considered most likely to be impacted. The list of communities is based on several sources described below, and may not reflect the most current circumstances. Some communities that could be affected may not be represented on this list, and this list may include communities that will not be affected.

The starting point for the list of communities was a list of timber dependent communities compiled by the Forest Service in 1987. The criteria for being on that list was that forest products employment in a community was at least 10% of total employment and that local wood

processing firms used at least 50% National Forest System timber. This list is dated, given the major declines in the timber program since that time. A second source was an analysis of communities in the Interior Columbia Basin (USDA Forest Service and USDI Bureau of Land Management 1998) that estimated employment specialization ratios for 423 communities. Communities from the 1987 list that were rated as having no or low wood product specialization were removed from the initial list. Communities from the Interior Columbia Basin with high to very high timber specialization and with ties to the selected list of forests (part of the forest is in the county) were added to the list.

This combined community list was then refined. If the community's county is classified, based on Economic Research Service (ERS) County Typology (USDA Economic Research Service 1995), as metropolitan or urban and next to a metropolitan area, the community was removed. These metropolitan and urban counties and associated communities are likely to be resilient, i.e. able to adapt to external social and economic changes. This result was then combined with the list of communities potentially affected by the Forest Service's interim roads suspension. This information added communities, particularly in the eastern U.S. where a limited number of communities were identified in 1987. Communities that currently have softwood sawmills based on a recent report (Spelter and McKeever 1999) or other primary wood products manufacturing facilities identified by public comment or agency input were also added to the list. No communities were identified as being potentially impacted for six national forests that met the criteria for planned timber offer (Lincoln, Rogue River, Willamette, George Washington/Jefferson, Ozark/St. Francis and White Mountain).

The timber data are not specific to any particular inventoried roadless area, so it is not possible to link the planned offer to production sites in local communities. In fact, even with that information, it is not certain that local mills or communities would gain the jobs from volume harvested, as discussed previously. With increased haul distances, the effects of reduced volume may occur in communities at considerable distance from the forest. In some states there are a limited number of sawmills. These mills likely draw volume from a wide radius around the state and from neighboring states.

The analysis of community effects is based on county resilience to external shocks. It is founded on the premise that large populations and diverse economies can more readily adapt to changing social and economic conditions. The Shannon-Weaver Diversity Index (Inventory and Monitoring Institute 2000) is used to identify diverse economies, and population density is the indicator of large populations. Additional information from the ERS County Typology (USDA 1995) is used to assess urbanization of the counties and the importance of several economic components of counties (farming, mining, manufacturing, government and services) and a sixth non-specialized type. The ERS classification scheme also identifies 5 overlapping rural policy-relevant types; retirement-destination, federal lands, persistent poverty, commuting and transfers-dependent.

The county resilience measure needs to be placed in perspective. This process compares a county to other counties in the Bureau of Economic Analysis (BEA) region (DOC Bureau of Economic Analysis 1999) in which it occurs. Comparison within a BEA region provides a local analysis that is more locally relevant than comparing counties nation-wide. The BEA regions selected are those containing components of the 34 national forests.

Counties with diversity indices less than the average of all counties in the BEA region and with population densities less than the average are designated as low in resiliency. Counties that have higher than average population densities and diversity indices are designated high in

resiliency. Where the population and diversity indices split, a medium designation is assigned. Finally, if a community is in a county with a population of less than 5 people per square mile, it is specified as low in resiliency. A low, medium or high resiliency has no positive or negative connotation. It means that communities located in counties that are less resilient will have more difficulty adapting to policy shifts such as decreases in timber harvest levels.

The ERS typology is then used to provide an indication of additional considerations that may lessen or contribute to county resiliency. It should be remembered that those communities classified as metropolitan or urban next to metropolitan areas are not included on the list of potentially affected communities. This is not to say that individuals or businesses in these communities will not be affected, but the inherent diversity of larger economies and populations will allow these communities to more readily adapt to the effects of the alternatives.

Table 6 displays results of the resilience determination and the direct timber jobs affected by the Roadless Rule. The Rule will not alter overall population trends so that component of resiliency is not affected. The Rule will affect timber harvest and associated employment in some of these communities. Change in employment is another important factor affecting socioeconomic resiliency. Although a change in jobs within one industry or one firm in an industry may have minimal impact on overall employment diversity, it is assumed that decreases in employment will have negative effects on employment diversity and increases in jobs will have a positive effect.

The direct jobs displayed in Table 6 are direct timber jobs associated with reduced harvest on the 30 administrative units. These job effects would be spread over a number of communities, depending on the location of the sales and the type of product harvested.

Although it is not possible to identify which communities may be affected, it is reasonable to discuss the types of effects given general community ties to national forest resources and resilience to social and economic change. A note of caution is advisable for interpreting Table 6. The current resiliency rate of a county does not suggest that timber jobs or the lack of timber jobs is the basis for a county's resiliency rating. The interpretation is that the communities identified in Table 6 with existing ties to national forest timber would adapt more easily to timber supply changes if the county's resilience is higher.

Table 6. Resilience of Counties Containing Communities Potentially Affected by the Roadless Rule in the Next 5 Years.

Region	National Forest Administrative Unit	Direct Jobs	Potentially Affected Communities[a]	County	County Resilience
Northern (1)	Clearwater	7	Kamiah, ID[a]	Idaho, ID	Low
			Kooskia, ID[a]	Idaho, ID	Low
			Orofino, ID[a]	Clearwater, ID	Low
			Pierce, ID	Clearwater, ID	Low
			Weippe, ID[a]	Clearwater, ID	Low
	Helena	6	Townsend, MT	Broadwater, MT	Low
	Idaho Panhandle	23	Bonner's Ferry, ID[a]	Boundary, ID	Medium
			Clark Fork, ID	Bonner, ID	Medium
			Hope, ID	Bonner, ID	Medium
			Moyie Springs, ID[a]	Boundary, ID	Medium
			Oldtown, ID	Bonner, ID	Medium
			Pinehurst, ID	Shoshone, ID	Low
			Plummer, ID[a]	Benewah, ID	Low
			Princeton, ID[a]	Latah, ID	Medium

Region	National Forest Administrative Unit	Direct Jobs	Potentially Affected Communities[a]	County	County Resilience
			Priest River, ID[a]	Bonner, ID	Medium
			Sandpoint, ID	Bonner, ID	Medium
			St Maries, ID[a]	Benewah, ID	Low
			Thompson Falls, MT	Sanders, MT	Low
Rocky Mountain (2)	Bighorn	2	Sheridan, WY[a]	Sheridan, WY	High
	Medicine Bow/ Routt	7	Saratoga, WY[a]	Carbon, WY	Low
			Olathe, CO[a]	Montrose, CO	Medium
	Shoshone	9	Cody, WY[a]	Park, WY	Low
	White River	6	Saratoga, WY[a]	Carbon, WY	Low
			Olathe, CO[a]	Montrose, CO	Medium
Southwestern (3)	Lincoln	1	None Identified		
Intermountain (4)	Ashley	4	LaPoint, UT	Uintah, UT	Medium
			Vernal, UT	Uintah, UT	Medium
	Boise	2	Cascade, ID[a]	Valley, ID	Low
			Council, ID	Adams, ID	Low
			Emmett, ID	Gem, ID	Medium
			Horseshoe Bend, ID	Boise, ID	Low
			Montour, ID	Gem, ID	Medium
			Sweet, ID	Gem, ID	Medium
	Caribou	5	Ovid, ID[a]	Bear Lake, ID	High
	Dixie	19	Escalante, UT[a]	Garfield, UT	Low
			Panguitch, UT	Garfield, UT	Low
	Fishlake	15	Beaver, UT[a]	Beaver, UT	Low
			Bicknell, UT[a]	Wayne, UT	Low
			Lyman, UT[a]	Wayne, UT	Low
			Sigurd, UT[a]	Sevier, UT	Medium
	Manti-Lasal	17	Gunnison, UT*	Sanpete, UT	Low
			Old La Sal, UT[a]	San Juan, UT	Low
			Wellington, UT*	Carbon, UT	Low
	Payette	36	Cambridge, ID	Washington, ID	Medium
			Casade, ID[a]	Adams, ID	Low
			Council, ID	Adams, ID	Low
			Emmett, ID	Gem, ID	Medium
			New Meadows, ID[a]	Adams, ID	Low
	Uinta	4	Fairview, UT[a]	Sanpete, UT	Low
			Heber City, UT[a]	Wasatch, UT	Medium
Pacific Southwest (5)	Klamath	5	Happy Camp, CA	Siskiyou, CA	Low
			Yreka, CA	Siskiyou, CA	Low
	Shasta-Trinity	14	Burney, CA[a]	Siskiyou, CA	Low
			Hayfork, CA	Siskiyou, CA	Low
			Weed-Mt.Shasta-McCloud, CA[a]	Siskiyou, CA	Low
			Weaverville-Douglas City, CA[a]	Trinity, CA	Low
	Six Rivers	2	Burnt Ranch-Willow Creek, CA	Humboldt, CA	Low
Pacific Northwest (6)	Okanogan	13	Omak, WA[a]	Okanogan, WA	Low
			Oroville, WA[a]	Okanogan, WA	Low
			Pateros, WA	Okanogan, WA	Low
			Twisp, WA	Okanogan, WA	Low
			Winthrop, WA	Okanogan, WA	Low
	Rogue River	14	None Identified		
	Siskiyou	5	Brookings, OR[a]	Curry, OR	Low
			Glendale, OR[a]	Douglas, OR	Medium
			Gold Beach, OR	Curry, OR	Low
			Powers, OR	Coos, OR	High

Region	National Forest Administrative Unit	Direct Jobs	Potentially Affected Communities[a]	County	County Resilience
	Willamette	36	None Identified		
Southern (8)	George Washington/ Jefferson	3	None Identified		
	Ozark/St. Francis	17	None identified		
Eastern (9)	Chequamegon/ Nicolet	18	None identified		
	Monongahela	8	Marlinton, WV[a]	Pocahontas, WV	Low
			Richwood, WV[a]	Nicholas, WV	Medium
			Webster Springs, WV[a]	Webster, WV	Low
	Superior	19	Grand Marais, MN[a]	Cook, MN	Low
			Isabella MN	Lake, MN	Low
			Two Harbors, MN[a]	Lake, MN	Low
			Tofte, MN	Cook, MN	Low
	White Mountain	4	None Identified		
Alaska (10)	Tongass	114	Coffman Cove, AK	Unorganized	Low
	(long-term)	(269)	Craig, AK	Unorganized	Low
			Hoonah, AK*	Unorganized	Low
			Ketcihkan, AK*	Ketchikan-Gateway	Low
			Klawock, AK*	Unorganized	Low
			Metlkatla, AK*	Unorganized	Low
			Petersburg, AK*	Unorganized	Low
			Thorne Bay, AK	Sitka	Low
			Wrangell, AK*	Unorganized	Low

[a] Community has an operating sawmill

Very few of the counties listed in Table 6 have high resilience. Although the wood products sector is not necessarily a key component of the economy of these communities, those communities within counties of low resilience will have more trouble adapting to changes in employment in any sector.

THE ENERGY AND NON-ENERGY MINERALS SECTOR

Businesses categorized in SIC codes 10 (metal mining), 12 (coal mining), 13 (oil and gas extraction), and 14 (nonmetallic minerals) conduct operations on National Forest System lands. All mining industries, except mining services, have a size standard of 500 employees to be categorized as a small business. Mining services are categorized based on whether average annual receipts exceed $5 million.

Table 7 lists the number and percent of small business firms and the number and percent of employees in small businesses for selected mining sectors. There are many small businesses in these sectors, but employment in most of these sectors is dominated by large businesses, with the exception of sand and gravel.

Data on businesses in mining services are available by number of employees, but not by number of firms with receipts less than $5 million per year. Data on the number of firms employing less than 20 people were used to derive a rough estimate of the percentage of small businesses in these sectors (Table 8). This measure will potentially underestimate the number of small businesses in this sector. However, the data indicate that most businesses in the sector are small, although most employment is still concentrated in large businesses.

The role of national forests and grasslands in the energy and non-energy mineral sector

Numerous energy and non-energy mineral commodities are removed from national forests and grasslands, including those commodities listed in Table 9. Other minerals outputs from the National Forest System include crushed stone, sand and gravel, dimension stone, perlite, pumice, quartz crystals, molybdenum, helium, sulfur, carbon dioxide, and geothermal energy.

Minerals on National Forest System lands are generally categorized as locatable, leasable, or salable. Various statutes dictate the disposition of the minerals within these categories. Locatable minerals are metallic and nonmetallic minerals (e.g. gold, silver, zinc, copper, lead, and platinum) subject to appropriation under the General Mining Law of 1872 (17 Stat. 91). This law affords U.S. citizens a right to prospect for, claim, and develop these minerals on public domain and certain other federal lands. These lands are open to location of mining claims unless otherwise withdrawn. All valuable mineral deposits on lands open to mineral entry are considered locatable unless they are determined to be leasable or salable. Exploration and development of locatable mineral resources are non-discretionary activities.

Leasable minerals are those minerals that can be appropriated according to one of several mineral leasing acts. They include energy resources, such as oil, gas, coal, and geothermal. They also include minerals important for their sodium or potassium content, and deposits of base and precious metals on lands acquired under the Weeks Law (PL 61-435) and the Bankhead Jones Farm Tenant Act (PL 75-210). The Bureau of Land Management has the authority to dispose of leasable mineral resources in National Forest System lands, generally subject to Forest Service concurrence.

Table 7. Industry sectors most likely to be affected by the Roadless Rule, by SIC code (1996 data).

SIC Code	Industry	Number of Small Businesses	Percent Small Businesses	Number of Small Business Employees	Percent Employment in Small Businesses
1000	Metal Mining	578	92%	10,891	21%
1020	Copper Ores	24	77%	1,085	8%
1030	Lead & Zinc Ores	14	70%	106	4%
1040	Gold & Silver Ores	274	94%	5,847	30%
1200	Coal Mining	1,450	96%	36,098	36%
1222	Bituminous Coal Underground Mining	480	92%	14,029	28%
1310	Crude Petroleum and Natural Gas	7,042	99%	47,644	37%
1410	Dimension Stone	200	99%	na	na
1440	Sand & Gravel	1,954	96%	22,337	70%
1475	Phosphate Rock	10	50%	307	7%

Na = not available

Table 8. Mining Service Sectors most likely to be affected by the Roadless Rule, by SIC Code (1996 data).

SIC Code	Industry	Number of Small Businesses with < 20 employees	Percent of All Businesses	Number of Small Business Employees in Firms with < 20	Percent Employment in Small Businesses with <20
1080	Metal Mining Services	118	81%	450	16%
1240	Coal Mining Services	235	76%	na	na
1380	Oil and Gas Field Services	6,961	86%	27,655	16%
1480	Nonmetallic Mineral Services	109	86%	522	31%

na = not available

Salable minerals are common varieties of sand, stone, gravel, pumice, pumicite, cinders, and clay. These are generally of widespread occurrence, relatively low unit value and used primarily in construction and landscaping. Their designation as a resource is dependent on their potential for development and their value, which depends chiefly on proximity to the market and availability of transportation. Disposal of salable minerals is at the sole discretion of the Forest Service.

Table 9. Production of selected mineral commodities from National Forest System Lands In 1999.

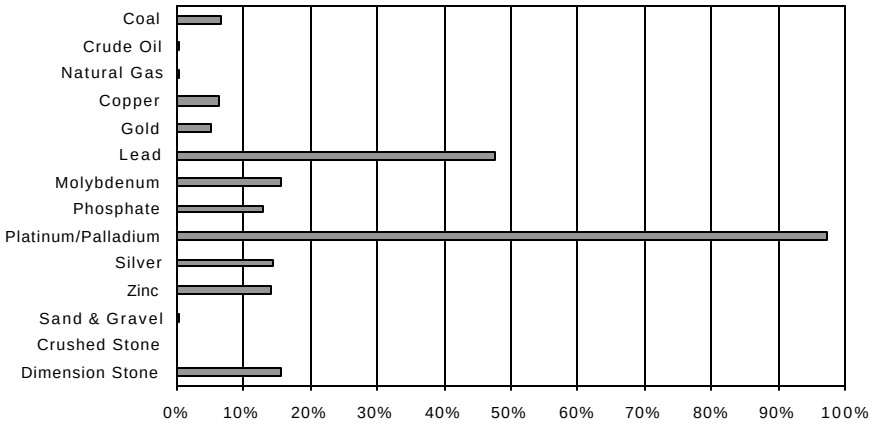
Precious Metals (troy ounces)	
Gold	558,238
Silver	9,787,684
Platinum	95,000
Palladium	315,000
Base Metals (short tons)	
Copper	105,935
Lead	319,869
Zinc	147,713
Energy Minerals	
Oil (million barrels)	8.5
Natural Gas (billion cubic feet)	76.4
Coal (short tons)	69.4
Industrial Minerals (short tons)	
Limestone	1,388,962
Mica	135,585
Phosphate	4,852,617

Source: USDA, Forest Service, "Production Report for FS Leases," November 2, 1999; company annual reports, various dates; Securities and Exchange Commission, 10-K and 10-Q reports included in the EDGAR database, http://www.sec.gov/cgi-bin/srch-edgar; personal communications with companies.

Production from national forests and grasslands accounts for a large share of total U.S. mine production for some of these commodities. For example, the Stillwater Mine on the Custer National Forest is the only U.S. mine producing platinum and palladium as primary products. In addition, the Riley Ridge area on the Bridger-Teton National Forest provides a significant share of the country's helium (which is extracted from helium-rich natural gas). National Forest System production can be very important to local markets even when the share of total supply is small. This is particularly true of mineral materials, such as sand and gravel, where National Forest System supply may be the only source within a reasonable shipping distance. Figure 1 shows, for selected commodities, the percentage of U.S. mine production that came from National Forest System lands in 1998. This proportion has fluctuated over time, as operators responded to changes in market prices and technology.

An input-output model called IMPLAN was used to estimate the number of jobs and the amount of income attributable to minerals production on National Forest System lands (Table 10). Total economic impacts generated from the IMPLAN analysis are the aggregation of three types of effects. The direct impacts are the effects on the initial sector (e.g., mining) experiencing a change in output. Indirect effects are the impacts on those industries that provide goods and services to the initial sector, and induced impacts are the effects associated with the expenditure of household income generated by the direct and indirect effects of the output changes.

Figure 1. 1998 Minerals Production from National Forest System Lands as a Percentage of Total U.S. Production



Sources: 1. USDA Forest Service, "Common Variety Mineral Materials Report-FY 1998," 1999.
_____, "Production Report for FS Leases," November 2, 1998.
2. U.S. Geological Survey, *Mineral Commodity Summaries*, various years, and *Mineral Industry Surveys*, various months.
3. U.S. Department of Energy, Energy Information Administration, *Annual Energy Review 1998*, July 1999.
4. Company annual reports, various dates.
5. Securities and Exchange Commission, 10-K and 10-Q reports included in the EDGAR database, http://www.sec.gov/cgi-bin/srch-edgar.

In the absence of the Roadless Rule, forest plan and other leasing, licenses, permits, or sales decisions would be implemented and mineral operations would be approved under existing authorities. Mineral activity on National Forest System lands will continue to depend upon such

factors as market conditions, environmental regulations, tax policies, technological advances, and mineral potential. Despite higher interest in some commodities (e.g., coal bed methane), the total number of energy and non-energy operations processed by the Forest Service declined about 24% from 1997 to 1999.

Within the next 5 years, several new metal mines on National Forest System lands should begin producing, and some existing metal mines will expand their output. Thus, the amount of copper, gold, silver, platinum, and palladium produced from National Forest System lands is likely to increase over current levels. Over the longer run, however, the overall interest in exploring for and developing metal deposits domestically is likely to continue to decline unless prices for certain commodities increase substantially and mining companies perceive a significant improvement in the regulatory and policy framework. Eventually, the lack of exploration activity will result in a drop in metals production and associated decreases in jobs and income.

Table 10. Employment and Labor Income Attributable to 1999 Minerals Production from National Forest System Lands.

Sector	Number of Jobs		Labor Income	
	Direct (number)	Total (number)	Direct (million $)	Total (million $)
Agriculture	0	681	0.0	12.3
Mining	5,902	9,139	374.5	594.4
Construction	0	1,126	0.0	39.5
Manufacturing	2,619	5,999	241.9	411.9
Transportation, Communications, Public Utilities	0	1,904	0.0	96.3
Trade	0	7,574	0.0	185.2
Finance, Insurance, Real Estate	0	2,590	0.0	93.6
Services	0	10,980	0.0	337.1
Government	0	434	0.0	23.9
Total	**8,521**	**40,427**	**616.4**	**1,794.2**

Source: Input-output model developed using IMPLAN Professional Version 2.0 software, Minnesota IMPLAN Group Inc., 2000.

The Energy Information Administration (EIA) forecasts that coal and natural gas production in the U.S. will rise steadily through 2000, while the downward trend in domestic crude oil output is not expected to be reversed until 2010 (U.S. Department of Energy 1999). Activity levels on National Forest System lands should correlate fairly well with EIA's forecasts. National forests and grasslands where coal and natural gas production are the dominant energy activities are likely to fare better from an economic standpoint (i.e., jobs, income, payments to states and counties) than those where the emphasis is on crude oil.

Coal production is expected to increase in the western U.S., especially in areas such as the Powder River Basin where low-sulfur coal can be surface mined at relatively low cost (Bonskowski 1999). Western coal reserves are primarily found in federal ownership. Federal coal production is concentrated in Colorado, Montana, Utah, and Wyoming, with smaller

amounts of production in Alabama, Kentucky, New Mexico, North Dakota, Oklahoma, and Washington.

In 1998, coal production from federal leases on National Forest System lands accounted for almost 7% of total national production, and about 22% of production from federal leases. (USDA Forest Service 1999 and U.S. Department of Interior 1998). Based on forest-level information on planned projects in the next 5 years, there is industry interest in expanding current operations in Colorado and Utah to replace reserves as they become depleted. With continuing declines in coal prices, the longer-term outlook is more difficult to predict. Although production is expected to increase, productivity increases are still expected to result in further reductions in direct jobs associated with coal mining (U.S. Department of Energy 1999).

The U.S. has considerable reserves of oil and gas. Despite recent price increases for crude oil, total U.S. production of crude oil is expected to continue to decline through 2010. Increased prices for natural gas are expected to lead to increases in production of natural gas (U.S. Department of Energy 1999). Federal leases are an important source of oil and gas, but most of the production is from off-shore leases. Production from National Forest System lands accounts for 0.4% of total U.S. oil and gas production.

Interest in natural gas development may increase on national forests and grasslands, in response to increasing prices and increasing demands. Although much of the increased development is expected to be off-shore, a number of national forests and grasslands either have current leases, or have applications for permits to explore for natural gas. Therefore, increased activity in this area is likely. Increased activity for crude oil is not expected, given the outlook for crude oil.

Industry interest in phosphate remains high. The majority of phosphate production occurs in the eastern U.S., but production in the western U.S. has increased, and is expected to make up an increasing share of total production in the future (Jasinski 1999). The majority of western phosphate production occurs on the Caribou National Forest in Idaho, accounting for about 12% of national production. Southeastern Idaho has extensive phosphate reserves.

Phosphate mining is expected to continue to expand on the Caribou in southeastern Idaho. Operators of current mines all have plans to expand existing operations in various stages of NEPA analysis. These operators also own processing facilities the production of phosphate-based fertilizers or elemental phosphorus. Current production levels are expected to be maintained or possibly increase in the near future.

Summary of Public Comment

Comments on the mining sector addressed a number of topics:

1) The proposed rule lacked clarity about the degree of access allowed to existing claims and leases, and treatment of locatable resources under the General Mining Act of 1872.
2) The potential impacts on small businesses in the exploration and other mining service sectors were not addressed.
3) The Draft Environmental Impact Statement lacked an analysis of the economic impacts on mining, particularly for leasable minerals.
4) The Draft Environmental Impact Statement underestimated the economic impacts by establishing a low baseline.
5) Access to state inholdings for mineral development would be adversely affected.

6) The proposed rule would limit exploration and development of undiscovered resources with potentially high values.

A number of respondents commented on the lack of clarity about access to existing claims and leases. In addition, some believed the proposed rule would illegally limit access guaranteed under the General Mining Law of 1872.

Few comments were received specifically regarding the initial regulatory flexibility analysis. However, those comments noted that the analysis did not adequately address potential impacts on firms involved in exploration and development, which are believed to be primarily small businesses.

The lack of analysis in the Draft Environmental Impact Statement was a concern in terms of not adequately assessing the potential impacts on mining. This concern was raised about assessing impacts associated with current operations, since some current operations were planning to expand into inventoried roadless areas where reserves are known to exist. Other concerns were raised about the lack of information about undiscovered resources and the economic consequences of precluding future access. Many respondents believed that the road prohibitions would effectively eliminate any future exploration and development in inventoried roadless areas.

Several comments raised an issue about the description of current industry interest on National Forest System lands. They believed that there is no correlation between declining mineral prices and investment in mineral exploration and development in the U.S. They attribute the decline to higher environmental and permitting costs in the U.S. that makes investment more attractive elsewhere. Concerns were raised about the potential impacts on national security, particularly for minerals of strategic importance and that have large impacts on the balance of trade.

Several states raised concerns about access to state inholdings for mineral development. Some states have received mineral rights on portions of National Forest System lands as part of land exchanges. Restrictions on road construction in inventoried roadless areas could affect the economic development of these resources.

Agency Response to Public Comment

The final Rule and FEIS clarified the questions about access to existing leases and claims, and access for exploration and development as allowed under the General Mining Law of 1872. For locatable minerals (governed by the General Mining Law of 1872) the construction and reconstruction of roads reasonable and necessary for exploration and development would be allowed. Access to state inholdings would be treated as an existing right.

The Final Regulatory Flexibility Analysis includes data on small businesses in sectors providing mining exploration and other mining services (Table 8).

The analysis in the FEIS (USDA Forest Service 2000) included an expanded analysis of the potential economic effects of the Roadless Rule, particularly in regard to leasable minerals. Input from the public comment was used, as well as additional information provided by national forests and grasslands. The DEIS described existing information about undiscovered resources for a number of mineral commodities, but much of that data was misinterpreted by respondents to be an estimate of resources within inventoried roadless areas. Additional discussion was

added to the FEIS to qualify the data on undiscovered resources and the potential for those resources occurring within inventoried roadless areas.

Changes Between Proposed Rule and Final Rule

The final rule includes a limited exception for mineral leasing. Existing leases are not subject to the prohibitions. The exception adopted in the final rule allows road construction in conjunction with the continuation, extension, or renewal of a mineral lease for which road construction and reconstruction is permissible, on lands that were under lease by the Secretary of Interior as of the publication date of the rule. Additionally, new leases can be issued on these same lands if they are issued immediately upon expiration of the existing lease. This exception will reduce economic impacts on current operators, by avoiding the possibility of increasing the costs of production or precluding future development on the lease if restrictions had been applied at the time of lease extension or renewal.

Economic Effects of the Rule on the Minerals Sector

Mineral activity on National Forest System lands will continue to depend upon such factors as market conditions, environmental regulations, tax policies, technological advances, and mineral potential. For locatable minerals, the construction and reconstruction of roads reasonable and necessary for exploration and development would be allowed under the General Mining Law of 1872.

For leasable minerals, the Rule would not affect road construction and reconstruction providing access to and development within existing lease boundaries during the current lease term or in the future. The Rule would prevent expansion of existing lease areas into adjacent inventoried roadless areas, it road construction or reconstruction is required.

Where reserves are known to occur in inventoried roadless areas, the road prohibition is likely to preclude future development, except in situations where development can occur without road construction. The economic effects of precluding development depend on the availability of alternate resources in areas that may be available for leasing (either on other National Forest System lands or on other ownerships). Since mineral deposits tend to be concentrated in some geographic areas, it is likely that the impacts on mining jobs and income would also be concentrated in a few areas. The most immediate economic effects are associated with current proposals to expand existing leases into adjacent inventoried roadless areas for phosphate and coal mining (USDA Forest Service 2000).

Phosphate. Phosphate mining on the National Forest System currently occurs only on the Caribou-Targhee National Forest in southeastern Idaho. There are eight Known Phosphate Lease Areas[4] (KPLAs) in southeastern Idaho, totalling over 81,000 acres. About 48% of those acres are on National Forest System lands administered according to the Caribou National Forest Land and Resource Management Plan.

Currently, the Caribou-Targhee National Forest has 46 phosphate leases affecting 23,843 acres, accounting for almost 60% if the KPLA lands on the forest. Approximately 6,282 of those

[4] A Known Phosphate Lease Area is land known to contain phosphate deposits and is classified by the USGS as subject to competitive leasing.

acres are within inventoried roadless areas. However, these areas include leases on areas that have already been developed and contain no more minable phosphate rock. An additional 7,939 acres of inventoried roadless areas are within KPLAs, and are not currently leased. About 873 million tons of phosphate resources are estimated to occur within these unleased areas. There are other inventoried roadless areas containing phosphate resources in other states, but no estimates of the resources within inventoried roadless areas are available, and there has been no demonstrated industry interest in those areas.

Three mines are currently operating on the Caribou-Targhee National Forest, with a fourth operation scheduled to begin soon. One of the active mines is operating partially within an inventoried roadless area, and accounts for about half of the phosphate rock production in Idaho. Future production at this site depends on an Interior Board of Land Appeals decision on a lease that was issued within an inventoried roadless area, and approval of expansion into a contiguous area that is not within an inventoried roadless area. The lease appeal is not related to the lease being within an inventoried roadless area. If production is allowed to go forward at either or both sites, then no short-term effects are expected related to phosphate mining on the Caribou.

If production is not allowed to go forward at either site, then production will likely be interrupted. The operator would not have sufficient time for the required permitting and construction necessary to develop substitute reserves before reserves at the existing operation are depleted. Other mine operators in southeast Idaho are not likely to have sufficient excess capacity to provide substitute production in the short-term. The potential interruption in supply is not related to imposing a road prohibition, but a road prohibition could constrain future options for developing substitute reserves. Therefore, the economic impacts of interrupting the production of 3 million tons of phosphate rock per year (the estimated current production level) were estimated to illustrate the level of impacts that could occur if the Roadless Rule precludes future development of reserves within inventoried roadless areas (Table 15). An interruption in supply is also likely to affect jobs at the production facility that is owned by the mine operator. Those impacts are not included in the table, because the impact analysis was limited to effects from primary processing.

Over the long term, phosphate leasing potential on National Forest System outside of inventoried roadless areas and non-National Forest System lands is generally limited to small areas that are contiguous to existing leases or deposits with a low development potential. Over 1,000 acres in inventoried roadless areas on the Caribou have been formally applied for through Lease Modifications, Exploration Licenses, and Prospecting Permits. Most of the applications would be significantly affected by road prohibitions.

Coal. There are approximately 2.5 million acres of coal-bearing rocks within inventoried roadless areas. About 93% of those acres are in the Rocky Mountain area. Coal mining from inventoried roadless areas is not extensive, but two national forests have active coal mining either within or contiguous to inventoried roadless areas, all using underground mining methods. The Grand Mesa-Uncompaghre-Gunnison National Forest in Colorado consented to lease approximately 500 acres in an inventoried roadless area in March 2000. In addition, the forest received an application for coal lease modification encompassing approximately 300 acres in an inventoried roadless area. A total of 47,400 acres of inventoried roadless acres are not currently leased on the forest. Coal resources are estimated to range from 237 million to 1.3 million tons of coal within those areas.

On the Grand Mesa-Uncompaghre-Gunnison National Forest in Colorado, one coal mine operator is interested in expansion into a contiguous inventoried roadless area. Although the mine is an underground operation, expansion may require road access for exploration and development drilling, and construction of ventilation shafts. The mine currently produces about 7 million tons per year. The operator will need access to new reserves to maintain production levels in two to five years. If production cannot be expanded into inventoried roadless areas, the mine could close when current reserves are exhausted, which could occur in the next two to five years. The potential effects on jobs and labor income of reducing production by 7 million tons per year are shown in Table 15. Company estimates indicate that about 200 million tons of coal could be recovered from the inventoried roadless area. The impacts of a closure would be concentrated in the local communities where the workers reside.

Two other operating mines on the Grand Mesa-Uncompaghre-Gunnison could also be affected by the Roadless Rule. The recent consent to lease 500 acres was conditioned on the outcome of the Roadless Rule. If road construction or reconstruction is necessary for mining that tract, development would likely be restricted or precluded. Similar conditions exist for the proposed coal lease modification. No data were available on when current reserves may be depleted for these mines. Together, the two mines are currently producing about 9 million tons per year, emply 368 people with a combined annual payroll of $22.5 million. If future expansion of these operations is precluded by the road prohibition, and no alternative sources of production are economically attractive, then these mines could be closed after current reserves under lease are mined.

The Manti-LaSal National Forest in Utah also has active underground coal mining. Three potential coal tracts remain on the Wasatch Plateau that total 36,200 acres and contain recoverable reserves of about 185 million tons of high-BTU bituminous coal. None of these tracts are currently leased. Approximately 40% of those reserves are in inventoried roadless areas. One tract would require full development of an undergound mine (e.g. transportation and portal facilities) in an inventoried roadless areas; surface development of another could be done outside any inventoried roadless area. The third tract could be developed from an adjacent underground mine. However, development of the three tracts would depend on the ability to conduct both pre-lease exploration drilling and post-lease development drilling. Included in the recoverable reserve estimate are about 22 million tons of recoverable coal reserves in inventoried roadless areas that were transferred to the State of Utah School and Institutional Trust Lands Administration (SITLA) under the Utah Schools and Land Exchange Act of 1998 (Public Law 105-335). These reserves would be considered to have outstanding rights, and therefore be excepted from the prohibitions. The rights to the coal would revert to federal ownership once the SITLA portion is recovered.

Two of the potential tracts on the Manti-LaSal have relatively small recoverable reserves, but the third tract has an estimated 135 million tons of minable reserves, of which 50 million tons is within inventoried roadless areas. This tract would require development facilities in an inventoried roadless area, which may preclude development of the entire tract. Access to coal owned by the State of Utah would be guaranteed, as would access to any privately held rights. Information provided by one company indicated that reserves within one of the tracts are privately held, which would also be treated as an outstanding right and therefore excepted from the prohibitions. Development of tracts without outstanding rights or existing leases may occur, but complying with the prohibitions would likely increase costs, and lower the bonus bids. A reduction in bonus bids reduces returns to the U.S. Treasury, and the share of receipts to the states.

Table 15. Potential Annual Economic Impacts of the Roadless Rule on Selected Mineral Commodities and National Forests and Grasslands.

Commodity	National Forest/ Grassland	Labor Income (millions of 1999$)		Employment (number of jobs)		Payments to States
		Direct	Total	Direct	Total	(millions of 1999$)
Coal	Grand Mesa, Uncompahgre, & Gunnison	25.8	89.3	361	2119	2.1
Phosphate	Caribou	10.4	38.5	185	976	1.3
Total		36.2	127.8	546	3095	3.4

Note: The Payments to States estimates are based upon 1999 prices for coal and phosphate. Impacts could occur within two to five years, depending on depletion of reserves at existing operations.

Oil and Gas. Most inventoried roadless areas with oil and gas potential are in the Rocky Mountain area (Forest Service Regions 1, 2, 3, and 4). The exception is the Los Padres National Forest in California. Because of the downturn in the domestic oil and gas industry, the amount of National Forest System land under oil and gas lease dropped from about 35 million acres in the mid-1980s to about 5 million acres today. As mentioned previously, increasing prices and demand for natural gas has increased interest, particularly in development of coal-bed methane on National Forest System lands. Current interest is focused on the Powder River Basin of Wyoming and Montana. Other areas, including the Dakota Prairie Grasslands, may also have coal-bed methane resources.

Oil and gas lease sales are scheduled on a regular basis for lands where there is interest in leasing and where environmental analyses have been completed. Since 1992, more than 30 environmental impact statements have been completed for National Forest System lands where there is current industry interest. The Records of Decision for these analyses did concur with some leasing in inventoried roadless areas. Some of these decisions allow leasing under standard lease terms, while others would be available with stipulations, such as no surface occupancy (USDA Forest Service 2000b).

The Roadless Rule would have no effect on areas currently under lease. The Roadless Rule contains an exception that would allow road construction or reconstruction on those lease areas for the continuation, extension, or renewal of a mineral lease. New leases could also be issued upon expiration of an existing lease, and the exception would still apply. Data from the national forests and grasslands were used to estimate that about 759,000 acres of inventoried roadless areas that are considered to have high oil and gas potential are already under lease.

Salable minerals. For salable minerals, the Roadless Rule would reduce the supply of and demand for mineral materials (e.g., crushed stone) used in building roads on National Forest System lands. The most likely reason for developing salable deposits in inventoried roadless areas for agency administrative use is in support of road building in those areas or for road maintenance in nearby areas. However, there could be impacts on Agency, State and local governments and on commercial businesses that would propose development of such sites, even though transportation costs could be substantial. These effects would be highly localized, primarily in areas where substitute deposits are scarce on National Forest System lands outside of inventoried roadless area or other lands. Nationally, the contribution of NFS lands to total U.S. production of sand and gravel supply is about 1 percent (see Figure 1).

For both locatable and leasable minerals, there may also be impacts associated with potential increases in costs of permitting and environmental mitigation of activities within inventoried roadless areas. This could affect future exploration and development for locatable minerals. Most proposed activities, particularly if they are proposed within an inventoried roadless area, are already subject to intense scrutiny through preparation of environmental impact statements. However, it is possible that in some cases, the requirements for environmental analysis may increase, mitigation requirements may increase, and the processing time may increase.

Over the long term, higher costs and longer processing times might cause some portion of the mineral resources in inventoried roadless areas to become uneconomic. If that occurred, the level of development would be reduced, resulting in fewer mining-related jobs, less income, and a reduction in U.S. Treasury receipts and some payments to states and counties. The effects on payments to states will vary as described previously. There is not enough information available, however, to quantitatively estimate the degree to which jobs, income, and revenue would be reduced by increased costs.

Undiscovered Resources. The final rule would likely have a greater impact on the development of undiscovered, rather than discovered resources in inventoried roadless areas if costs increase. Companies may absorb increases in planning costs for on-going development activities because the initial investment has already been made. However, cost changes would be a factor in deciding whether to invest in exploration for undiscovered resources.

The U.S. Geological Survey (USGS) has conducted assessments of undiscovered deposits of numerous mineral resources. Based on knowledge of the geologic environment and a comparison with known deposits having similar geologic attributes, the USGS has estimated the amount of undiscovered mineral resources for areas that seem conducive to the existence of such deposit types. These areas are referred to as permissive tracts for metallic minerals and as provinces for oil and gas resources. The estimates were provided in the form of probability distributions, which describe the likelihood of existence of varying amounts of mineral resources in the tract or province. Significant resources are estimated to exist within some of these permissive tracts and provinces (USDA Forest Service 2000). There is considerable uncertainty in estimating the portion of undiscovered resources that could underlie inventoried roadless areas. An analysis using more recent estimates of undiscovered oil and gas resources in the Rocky Mountains indicated that between 3.5 and 23.1 trillion cubic feet of technically recoverable gas resources might underlie inventoried roadless areas, with a mean estimate of 11.3 trillion cubic feet. Between 119 million and 1.2 billion barrels of oil are estimated to underlie inventoried roadless areas in the same area, with a mean estimate of 550 million barrels (Advanced Resources International 2000).

The number of small entities potentially affected by the Roadless Rule cannot be estimated. Although a large proportion of the businesses in the mining sector are small businesses, no estimate is available of the number currently operating on national forests and grasslands, since the Agency does not collect information on the size of these businesses. Companies that commented on specific operations (including comments from coal and phosphate companies) did not indicate whether they qualified as small businesses. Given the scale of the operations described for both the coal and phosphate examples, these companies are not likely to qualify as small businesses. However, there are likely to be small businesses involved in the mining service sector that could be affected by declines in production.

A reduction in future exploration in inventoried roadless areas is likely to affect small firms. However, the agency cannot predict the number of firms that may seek permission to explore in

the future, and that have no alternative exploration options outside of inventoried roadless areas.

Economic Effects on Small Governmental Jurisdictions

Mineral activities on National Forest System lands generated about $104 million in receipts to the U.S. Treasury in 1999, most of which are attributable to royalty payments on leasable minerals production. A portion of the U.S. Treasury receipts is returned to states and counties to be used for schools and roads. States receive 50% of leasable receipts on public domain lands, except in Alaska, where the State receives 90%. This same 50% share applies when the surface is managed as a national grassland, but the mineral estate is determined to be public domain. On acquired lands of the national forests, the states receive 25% of receipts, with the requirement that the funds be used for the benefit of the counties where the national forest is located. Where the mineral estate underlying a national grassland is acquired, 25% of leasable receipts are returned to the counties in which the grassland is located. States also receive 25% of receipts from salable minerals, and those funds are passed down to the counties in which the national forest is located.

Estimated receipts and payments to states/counties for Fiscal Year 1999 are shown in Table 12. Although receipts from leasable minerals are generally not as important to most states and counties as receipts from timber sales, the distribution of receipts indicates that in the Rocky Mountain and Intermountain regions, these receipts are important sources of revenue.

The recently enacted legislation ("Secure Rural Schools and Community Self-Determination Act of 2000") will affect payments to states based on receipts from salable minerals and leasable minerals from acquired lands of the national forests. Payments to states based on receipts from leasable minerals on the national grasslands and from public domain lands of the national forests will continue to be determined by other statutes. Therefore, the potential effects of the Roadless Rule on mineral-based payments to states will vary, depending on the source of receipts.

Table 12. Fiscal Year 1999 U.S. Treasury Receipts and Payments to States/Counties From Mineral Activities on National Forest System Lands

Region	Total Receipts (million dollars)	Payments to States/Counties (million dollars)
Northern (1)	8.8	2.7
Rocky Mountain (2)	34.2	16.1
Southwestern (3)	6.0	2.6
Intermountain (4)	40.0	20.0
Pacific Southwest (5)	2.4	1.1
Pacific Northwest (6)	0.1	0.0
Southern (8)	6.4	1.7
Eastern (9)	6.4	1.8
Alaska (10)	0.1	0.0
Total	**104.4**	**45.9**

Source: USDA Forest Service, "Financial Report Details," November 2, 1999, and "Statement of Receipts – Actual," December 27, 1999.

Even though it accounts for a relatively small share of U.S. Gross Domestic Product and employment, the mining industry can be very important to local economies. Of the more than 3000 counties in the lower 48 states, mining earnings exceed 15 percent of total earnings in 109 counties. A disproportionate number of the mining-dependent counties are within or close to national forests. Of the 796 U.S. counties containing NFS lands, 67 have mining earnings greater than 15 percent of total earnings. These 67 counties are geographically dispersed throughout the lower 48 states (Table 13).

Mining earnings in the 67 counties tend to be concentrated in one segment of the industry. For example, there are 33 counties where coal mining accounts for more than 15 percent of total earnings. Another 20 counties rely on metal mining, 6 counties are dependent on oil and gas extraction, 3 counties on other nonmetallic mining, and 1 county is dependent on mineral materials mining for more than 15 percent of total earnings. The most mining-dependent national forest county is Eureka County, Nevada, where 87 percent of total earnings are derived from metal mining.

The contribution of production from the national forests and grasslands to mining earnings in these counties can vary widely. For example, earnings from leasable minerals in Caribou County ID are largely dependent on phosphate mining on the Caribou National Forest. The counties associated with the Monongahela National Forest depend on coal mining, although no coal mining occurs on the national forest. County-level characterization may miss some communities that have a high level of dependence on mining, even though the county does not. For example, no county in close proximity to the Little Missouri National Grassland in North Dakota has total mining earnings over 15%, but there are a number of communities that may be greatly influenced by oil and gas activities on the grasslands.

Counties with a heavy dependence on processing facilities are not included in this list, because processing is included in the manufacturing sector rather than the mining sector. In some cases, nearby processing facilities could be impacted by changes in levels of production from National Forest System lands.

The potential effects of the Roadless Rule would most likely occur in those counties where the mining dependence is primarily associated with leasable minerals, where National Forest System production provides a relatively significant contribution to total production, and inventoried roadless areas are likely to provide future production capacity. Existing mining activity is one indicator of likely future activity. Counties in the East are not likely to be affected because the area of inventoried roadless areas on eastern forests is relatively small, and most of the current production occurs outside of National Forest System lands. The main exception is lead mining on the Mark Twain National Forest, but there are no inventoried roadless areas that would affect future production.

The limited leasing exception for areas already under lease will mitigate some economic effects. This exception is most likely to be beneficial for oil and gas leases. About 759,000 acres of areas with high oil and gas potential are currently under lease within inventoried roadless areas. Most of these acres are within the Intermountain, Northern, and Rocky Mountain regions.

Because of the uncertainty about the effects of the road prohibitions and likelihood of development in inventoried roadless areas, a community list was not developed for each of the national forests and grasslands listed in Table 13. Agency personnel developed a list of potentially affected communities for those national forests where impacts are likely in the near future (Table 14). The Dakota Prairie National Grassland was also considered because of

public concerns about the potential effects on future oil and gas production, although the leasing exception is likely to significantly reduce any future effects. Several counties are listed that are not mining dependent, but the communities were considered to be potentially impacted. Some communities were added where processing or transportation facilities are located, if those communities were not part of a metropolitan area. Communities in Delta County CO were included because the coal transport facilities from mining are located in Delta County, even though mining occurs in Gunnison County. Communities such as Mandan ND and Pocatello ID were not included because they are within a metropolitan area.

The resilience of each of the counties in Table 14 was assessed, using the same procedures described previously for counties associated with potentially affected timber-dependent communities. The current resiliency rating may not be tied to economic activity related to mining. The tie is likely to be strongest for counties identified in Table 13 as mining-dependent (Gunnison, Carbon, and Emery counties). Most of the counties listed in Table 14 have low resiliency. Except for Sanpete, Stark, and William counties, these counties have a population density of five or fewer people per square mile. The potential impacts on these communities depend on the future role of inventoried roadless areas as a source of leasable mineral deposits. The information available indicates there is likely to be new development for coal and phosphate leasing, and possibly for oil and gas development. Lack of access to those areas could have negative social and economic impacts on these communities, including reductions in payments to states if substitute deposits are not available for development within the same counties.

Table 13. National Forest Counties that are also Mining-Dependent Counties

Region	National Forest Administrative Unit	Counties	Percent of Total Earnings From Mining
Northern (1)	Clearwater, Idaho Panhandle	Shoshone, ID	18.3
	Custer	Big Horn, MT	23.5
		Rosebud, MT	21.9
		Stillwater, MT	35.7
	Beaverhead-Deerlodge, Helena	Jefferson, MT	34.1
Rocky Mountain (2)	Arapaho-Roosevelt, Pike/San Isabel	Clear Creek, CO	25.6
	Black Hills	Lawrence, SD	22.1
	Black Hills, Thunder Basin	Crook, WY	15.3
		Weston, WY	22.7
	Grand Mesa, Uncompahgre, Gunnison		
	White River	Gunnison, CO	19.2
	Medicine Bow-Routt, White River	Moffat, CO	25.0
		Rio Blanco, CO	27.4
	Pike/San Isabel	Costilla, CO	25.2
Southwestern (3)	Apache-Sitgreaves	Greenlee, AZ	64.6
	Coronado, Tonto	Pinal, AZ	24.7
	Gila	Grant, NM	25.5
	Lincoln	Culberson, TX	47.5
		Eddy, NM	24.1
Intermountain (4)	Ashley	Sweetwater, WY	26.9
	Caribou	Caribou, ID	20.8
	Bridger-Teton, Shoshone (Region 2)	Sublette, WY	18.8
	Humboldt-Toiyabe	Eureka, NV	86.9
		Humboldt, NV	38.2
		Lander, NV	55.6
		Nye, NV	18.8
		White Pine, NV	30.3
	Humboldt-Toiyabe, Inyo (Region 5)	Mineral, NV	31.5
	Manti-La Sal	Carbon, UT	25.4
		Emery, UT	36.6
	Salmon-Challis, Sawtooth	Custer, ID	18.3
	Wasatch-Cache	Uinta, WY	19.9
Pacific Southwest (5)	Inyo	Esmeralda, NV	53.7
Southern (8)	Chattahoochee-Oconee	Twiggs, GA	60.7
	Daniel Boone	Bell, KY	18.6
		Breathitt, KY	15.5
		Harlan, KY	32.5
		Knott, KY	53.3
		Leslie, KY	47.9
		Perry, KY	16.1
	George Washington and Jefferson	Buchanan, VA	40.5
		Letcher, KY	30.5
		McDowell, WV	28.2
		Pike, KY	34.5
		Wyoming, WV	38.4
	National Forests in Alabama	Walker, AL	18.7
	National Forests/Grasslands in Texas	Hemphill, TX	17.2
		Jack, TX	17.1
		Leon, TX	26.0
Eastern (9)	Hoosier	Greene, IN	16.4
		Pike, IN	22.3
	Mark Twain	Iron, MO	22.6
		Reynolds, MO	20.4
	Monongahela	Barbour, WV	18.4
		Clay, WV	34.3

Region	National Forest Administrative Unit	Counties	Percent of Total Earnings From Mining
		Grant, WV	18.7
		Webster, WV	42.1
	Shawnee	Gallatin, IL	20.3
		Hardin, IL	20.8
		Livingston, KY	19.5
		Perry, IL	18.7
		Saline, IL	22.6
		Union, KY	40.5
		Webster, KY	42.9
	Superior	Lake, MN	20.1
	Wayne	Marshall, WV	17.3
		Meigs, OH	44.9
		Monroe, OH	22.0

Source: Vasievich, Mike, USDA Forest Service, "National Forest and Buffer Counties With Greater Than 15 Percent of All Sector Earnings From Mining," spreadsheet, February 6, 2000.

Table 14. Resilience of Counties Containing A Sample of Communities Potentially Affected by Prohibitions on Road Construction and Reconstruction on Leasable Mineral Exploration and Development in the Next Five Years.

Region	National Forest Administrative Unit	Potentially Affected Communities	County	County Resilience
Northern (1)	Dakota Prairie National Grasslands	Bowman, ND	Bowman, ND	Low
		Baker, MT	Fallon, MT	Low
		Watford City, ND	McKenzie, ND	Low
		Sidney, MT	Richland, MT	Medium
		Belfield, ND	Stark , ND	High
		Dickinson, ND	Stark, ND	High
		Williston, ND	Williams, ND	High
Rocky Mountain (2)	Grand Mesa-Uncompagrhe-Gunnison	Paonia	Delta, CO	Medium
		Hotchkiss	Delta, CO	Medium
		Somerset	Gunnison, CO	Low
Intermountain (4)	Caribou	Soda Springs, ID	Caribou, ID	Low
		Afton, WY	Lincoln, WY	Low
	Manti-Lasal	East Carbon, UT	Carbon, UT	Low
		Helper, UT	Carbon, UT	Low
		Price, UT	Carbon, UT	Low
		Scofield, UT	Carbon, UT	Low
		Welington, UT	Carbon, UT	Low
		Castle Dale, UT	Emery, UT	Low
		Cleveland, UT	Emery, UT	Low
		Elmo, UT	Emery, UT	Low
		Emery, UT	Emery, UT	Low
		Ferron, UT	Emery, UT	Low
		Huntington, UT	Emery, UT	Low
		Orangeville, UT	Emery, UT	Low
		Ephraim, UT	Sanpete, UT	Low
		Fairview, UT	Sanpete, UT	Low
		Manti, UT	Sanpete, UT	Low
		Mount Pleasant, UT	Sanpete, UT	Low
		Spring City, UT	Sanpete, UT	Low

THE LIVESTOCK GRAZING SECTOR

The livestock sector includes a number of SIC codes that could include ranching operations that use National Forest System lands for grazing. The most likely SIC codes for these businesses are SIC codes 212 (beef cattle, except feedlots), 219 (general livestock), 272 (horses and other equines), and 291 (general farms). Ranching operations that have permits on National Forest System lands are likely to meet the standard for a small business (receipts less than $500,000 per year).

The Role of National Forest System Lands in the Livestock Grazing Sector

Forest and rangelands in the United States provide forage and browse for over 100 million cattle and 8 million sheep (USDA Forest Service 2000). In the mid-1980s, permitted use on federal lands (primarily grazing on National Forest System and Bureau of Land Management lands) made up about 7% of beef cattle forage and about 2% of total feed consumed by beef cattle in the lower 48 states (Joyce 1989). Permitted use on National Forest System lands declined 11% between 1985 and 1998 (USDA Forest Service Range Management Staff).

In 1998, about 92 million acres of NFS lands were in grazing allotments, of which 84 million were actively used (USDA Forest Service Range Management Staff). Approximately 81% of Forest Service permittees run small to medium-sized family ranch operations specializing in beef cattle production. Cow-calf and cow-calf-yearling operations are the most common of these (Council for Agricultural Science and Technology 1996). On National Forest System lands, all areas that are suitable for grazing have already been placed in allotments, and the opportunity to expand is negligible.

In 1998, there were 8,395 grazing permittees using NFS lands, as compared with 9,126 in 1990. Although the number of grazing permittees has decreased over the last decade, this trend is affected more by the consolidation of permits than by declining use. The number of grazing permittees is expected to remain stable or decline slightly in the future, following recent trends.

Summary of Public Comment

Comments received expressed a variety of viewpoints regarding grazing in and near roadless areas. Most of these comments related to views on whether grazing is appropriate within inventoried roadless areas or on National Forest System lands in general. Comments that were more focused on potential impacts to current permittees raised concerns about maintaining access to allotments for range management and infrastructure maintenance.

Agency Response to Public Comment

The Roadless Rule would not affect existing access routes to grazing allotments. No existing roads or trails would be closed. No new road building would be allowed within inventoried roadless areas.

Changes between Proposed and Final Rule

None of the changes between the proposed and final rule would change the impacts on the livestock grazing sector.

Effects of the Rule on the Livestock Grazing Sector

Ranchers who depend on National Forest System lands for grazing are located primarily in the eleven western states (Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming). In those states, about 260 miles of roads are planned in inventoried roadless areas over the next five years for access to timber. Seventy-one miles of those roads would remain open after conclusion of harvest. An additional 422 miles of roads are planned in those states for other purposes in the next five years, but no data was available on the proportion of those roads that would remain open after the proposed activity was concluded.

There are no data on the percent of grazing allotments that fall within inventoried roadless areas. No road construction or reconstruction projects were planned in the next five years for range management purposes in inventoried roadless areas. Ranchers can use roads built for other purposes, but it cannot be determined whether planned road building would occur in locations that would allow improved access to grazing allotments. The Roadless Rule would prohibit the 260 miles of roads associated with timber harvest and another 201 miles of roads associated with other projects. It is possible that those miles left open and available for other uses could increase access to existing grazing allotments, as well as increasing forage production after timber harvest. However, new roads would also increase the threat of introducing invasive species, which negatively affect forage quality and quantity.

Since the Roadless Rule is not expected to affect existing grazing allotments or permitted use, and is likely to have minimal impacts on future opportunities for grazing, no significant effect on ranching businesses operating on national forests and grasslands is expected.

NON-TIMBER FOREST PRODUCTS

Non-timber forest products include five broad categories: wild food plants, such as mushrooms, fruits, nuts, and berries; medicinal plants and fungi; floral greenery and horticultural stocks; plants, lichens, and fungi used for fiber and dyes; and other chemical plant extracts such as oils and resins (Weigand and others 1999). Businesses engaged in collection of these products are difficult to classify using SIC codes. Many of the collectors are individuals, in some cases workers who migrate regionally as products become available for harvest. Many of the products are traded in local markets; there is also considerable production that is exported. Large companies such as pharmaceutical firms are also involved in the industry. The size, structure, and dynamics of the sector for non-timber forest products remain poorly understood (von Hagen and Fight 1999).

Non-timber forest products have gained increasing commercial importance since the mid-1980s. The non-timber forest products industry provides economic opportunities for producers, buyers, dealers, and for those who add value to them by manufacturing them into products such as medicinals. Roughly 1,400 plant species found in the United States are traded for commercial purposes (Gucinski and Furniss 2000). The market for herbal products in the United States was about $2.5 billion in 1996, and has been growing at a rate of 13 to 15 percent annually (von Hagen and Fight 1999). Over 50% of the 25 top selling botanicals in the United States come from native plant species.

Mosses and lichens, which are harvested extensively from public forestlands and are exported to worldwide markets, were valued at more than $14 million in 1995. In 1992, the wild edible

mushroom industry contributed over $41 million to the regional economy of the Pacific Northwest, employing over 11,000 people full or part time (von Hagen and Fight 1999). By 1995, harvests of Christmas boughs in the Pacific Northwest had reached nearly 20 million pounds annually.

The Role of National Forest System Lands in Non-Timber Forest Products

Although the Forest Service administers permits for collection of these products, data are generally not collected on the quantity of products. The role of National Forest System lands as a source for these products varies regionally, but is particularly important in the Pacific Northwest and in the northern Rocky Mountains. [5] In fiscal year 1998, NFS lands generated almost $3 million in revenue from the sale of, or the sale of permits and leases to collect, non-timber forest products (USDA Forest Service 1999). Growing markets for non-timber forest products make it safe to assume that demand for these products will continue to increase in the coming years, increasing harvest pressure on National Forest System lands.

Summary of Public Comment

Comments were received about the importance of non-timber forest products as a storehouse for future knowledge for botanical and medicinal applications. The need for access was raised, with one respondent proposing that allowance be made for building trails and low level roads to access these products. Some respondents believed that existing routes of access would be closed by the Roadless Rule.

Agency Response to Public Comment

The Roadless Rule would not close current access routes used for the collection of non-timber forest products. Trails will still be allowed in inventoried roadless areas. Allowing the construction of roads would not be consistent with the purposes of the rule, and therefore was not considered. Generally, roads are not built for access to non-timber forest products. Collectors use the existing road system, or rely on unroaded access (including off-highway vehicles).

Changes between Proposed Rule and Final Rule

No changes were made between the proposed and final rule that change the effects related to non-timber forest products.

Effects of the Rule on Non-Timber Forest Products

The Roadless Rule would not alter current access conditions for the harvest of non-timber forest products, and would therefore have no impact on existing harvest opportunities. No road construction or reconstruction is planned in the next 5 years to improve access to non-timber forest products. Road construction for other purposes may be beneficial to providing access to new areas. Therefore, the prohibition on road construction and reconstruction could limit future opportunities to harvest non-timber forest products in inventoried roadless areas for those people who lack off-highway vehicles and can only engage in non-timber forest product harvest

[5] James Weigand, U.S. Department of Agriculture Forest Service, Region 5, personal communication, February 2000).

along existing roads, for example elderly people or people gathering firewood. The increased restriction on timber harvest could reduce the potential for species that thrive in disturbed areas left by timber harvest. However, timber harvest could also reduce the potential for species that require undisturbed areas and could introduce non-native invasive species that compete with important non-timber forest product species.

The amount of new road construction that is likely to occur in inventoried roadless areas in the next five years is minor compared to the existing road system. Therefore, although a variety of both beneficial and adverse effects are associated with new road construction, the overall effect for non-timber forest products is likely to be minor. The consequences are not expected to be significant either for benefiting or harming small businesses engaged in this activity.

SPECIAL USES

Special use authorizations on National Forest System lands include a variety of uses. These uses include a number of industrial sectors, with examples shown in Table 15. As in most sectors, small businesses account for most of the total firms, but employment varies by sector.

Table 15. Industrial Sectors Likely to Be Operating under Non-Recreation Special Use Authorizations on National Forest System lands (1996 data).

SIC Code	Industry	Number of Small Businesses	Percent Small Businesses	Number of Small Business Employees	Percent Employment in Small Businesses	SBA Standard for "Small Business"
4810	Telephone Communication	6,639	99%	87,460	6%	< 1500 employees
4820	Telegraph & Other Communication	411	98%	4,076	70%	< $5 million in annual receipts
4832	Radio Broadcasting Stations	5,724	99%	91,080	77%	< $5 million in annual receipts
4833	Television Broadcasting Services	1,081	93%	35,752	30%	< 10.5 million in annual receipts
4910	Electric Services	1,414	92%	68,513	18%	< 4 million megawatt hours
4920	Gas Production & Distribution	640	86%	10,489	8%	< $5 million in annual receipts

The Role of National Forest System Lands in Special Uses

The Forest Service administers about 46,500 non-recreation special use authorizations for over 80 different types of uses. The more common of these special uses include communication sites, utility corridors (oil/gas pipelines, fiber optic, telephone lines, and power lines), linear irrigation facilities (pipelines, ditches, and canals), and public and private roads. Revenue generated from non-recreation special uses has been increasing. Between 1996 and 1998, receipts to the National Forest Fund from non-recreation special uses increased from $4.3 million to $8.7 million. The approval of non-recreation special use permits is based on direction in land management plans and other current policy direction.

Recreation special uses include authorizations for recreation residences, campgrounds, ski resorts, lodges, outfitter and guide services, marinas, and other resorts. Recreation special uses account for more than 26,000 special use authorizations. The largest number of permits is for recreation residences (14,504), followed by outfitter and guide permits (5,777). Many of these uses are difficult to match to any particular industrial sector. Demand for recreation special use permits is expected to increase in the future. Receipts from recreation special uses were almost $37 million in 1998.

Recreation special uses on the NFS are important to many local businesses and generate economic activities in many adjacent communities. Outfitters and guides provide services to a wide variety of recreation participants. Hunting, fishing, hiking, horseback riding, rafting, off-highway vehicle tours are examples of the types of activities. Demand for most of these activities is expected to increase in the future. Although hunting participation is expected to decline, big game hunting in particular is expected to increase. The availability of undeveloped lands is essential for many outfitter and guide businesses (Adams 2000).

The winter resort special permits on national forests include most of the downhill skiing capacity in the Western U.S. The number of ski areas has decreased since 1985, primarily through the closure of small ski areas. Most downhill skiing capacity has increased through expansion of existing resorts. New ski developments are unlikely, since development requires a high capital investment, and a lengthy approval process. For example, every large ski area in the Rocky Mountain Region has expanded in the last 10 years, but no new developments have been proposed (personal communication Ed Ryberg, Region 2).

According to ski industry reports, the number of ski resorts went from 700 in 1986 to 519 in 1996. Resort consolidation is expected to continue, with ownership of resorts concentrated in fewer companies. Downhill skiing participation has been relatively flat in the last few years. Annual variations are often related to weather conditions. For example, in the 1998/1999 season, the overall decline in number of skiers was linked to weather conditions. Future demand for downhill skiing depends largely on whether the participant base is expanded. White males have historically made up the majority of customers, and they are declining as a demographic group relative to the total U.S. population (Gardner 1999).

Summary of Public Comments

Comments were received that raised concerns that the proposed rule would interfere with the building, maintenance, or operation of existing water holding and delivery systems and electrical facilities, as well as prevent future development. Comments also addressed ski area special use permits, asking for clarification about the effects of the proposed rule or expressing support to exempt or not exempt particular ski area developments or expansions currently under consideration.

A number of commenters expressed the opinion that the protection of roadless areas would be beneficial for outfitter and guide permit holders. A study on the role of inventoried roadless areas in supporting outfitter and guide operators in Montana was submitted as part of the public comment.

Agency Response to Public Comments

The agency has clarified the access rights of current special use permit holders to access existing facilities. Similarly, the effects of the rule on ski area operations have been clarified.

The information provided about outfitter and guide services and other special use authorizations was taken into account in the analysis.

Changes between Proposed Rule and Final Rule

The final rule does not differ from the proposed rule in any way that would affect special use authorizations. The final rule clarifies the intent of the rule and the rights of access.

Effects of the Rule on Special Uses

Authorized use and occupancy of National Forest System lands, including roads associated with these uses, would continue as provided within the authorization in all inventoried roadless areas throughout the term of their authorization. Upon expiration, re-authorization and proposals for new roads or uses would be evaluated and authorized in compliance with existing rules, regulations, and Agency policies.

Potential effects on non-recreation special uses in inventoried roadless areas would be limited. These uses may be authorized in inventoried roadless areas if they could be accommodated without road access. All or part of the more common types of uses could occur without road construction, but likely at a higher cost. In some circumstances, the cost to construct, operate, and maintain a facility without a road would make the use and occupancy economically and/or technically infeasible.

Special use authorization data are very limited regarding road building beyond the next 5 years. Within the next 5 years, fewer than 20 non-recreation special uses projects may be affected by the prohibition on road construction. An estimated 35 miles of roads would be constructed or reconstructed in association with those projects.

Designation of major utility corridors is generally incorporated into land management plans. A review of the Western Regional Corridor Study (Clayton and others 1992) is a valuable resource used by the Forest Service and Bureau of Land Management for making reasonably foreseeable estimates of utility corridor needs. The study indicates that two proposed corridors in the West potentially could be affected by the Roadless Rule. However, at this time, it is unknown if those corridors would be precluded from consideration for authorization in an inventoried roadless areas, since it is unknown whether road construction or reconstruction would be necessary for implementation of the project.

Current uses and occupancies authorized in inventoried roadless areas would not be affected. Since fewer than 20 proposed uses over the next five years are proposed, most involving small development and uses, it is reasonable to conclude that the effects on businesses, individuals, and communities would be minimal.

The recreation special use most likely to be impacted is future ski area development in inventoried roadless areas. If historic trends continue, future increases in ski area capacity are most likely to occur through expansion of existing areas. Such expansion is not prohibited within existing permit boundaries. However, expansion beyond existing permit boundaries, and new ski developments are not likely to be allowed under the prohibitions unless a decision to approve them is made prior to rule implementation or expansion does not require road construction. The likelihood of such proposals being approved even in the absence of the Roadless Rule is difficult to predict, given the complex procedures and increased public interest in these projects. Also, many ski areas have developed into four-season resorts, reducing their

dependence on winter sports, and providing year-round economic activity in local communities. The winter resort industry has undergone considerable consolidation in the last two decades. Large corporations manage most downhill ski areas on National Forest System lands. Therefore, small businesses are not likely to be affected.

Protection of inventoried roadless areas is likely to be beneficial for those outfitter and guide special use permittees that provide opportunities in undeveloped settings. According to a recent study in Montana, 77% of the 306 wildland outfitters in the state use roadless areas (Adams 2000). Non-resident recreationists may be more likely to use these services, so increases in use could generate additional external revenue for local communities.

MOTORIZED RECREATION

The agency received numerous comments regarding motorized recreation in inventoried roadless areas, particularly regarding the use of off-highway vehicles in inventoried roadless areas. Much of the comment expressed opinions about whether off-highway vehicles should be allowed in inventoried roadless areas, and questioned whether the Roadless Rule would restrict access.

In addition to more general questions of access and the suitability of uses within inventoried roadless areas, comments were received that raised concerns about the effects of potential restrictions on off-highway vehicle use on small businesses that either sell such vehicles, or depend on these uses for their livelihood by providing other services (e.g. hotels and restaurants).

The Roadless Rule would not affect current access routes for off-highway vehicle use. No existing roads or trails would be closed. New roads could not be built into these areas, which would limit road access into these areas in the future. However, the number of miles of roads proposed to be built and in the absence of the Rule is small compared to the entire road system on the national forests and grasslands. Therefore, no economic impacts on small businesses or small governmental jurisdication are expected as a result of implementing the Roadless Rule.

THE CONSTRUCTION SECTOR

Road construction, reconstruction, maintenance, and decommissioning activities provide opportunities for small businesses on National Forest System lands. Road construction activities most likely fall into SIC code 1600 (heavy construction). Small businesses are categorized as businesses with annual revenues of less than $17 million. The data indicated that firms with less than 500 employees account for 99% of all firms and 73% of all employment, but data were not available on the number of firms by receipts.

Summary of Public Comments

No comments were received that specifically addressed impacts on small businesses related to road construction activities. More likely, general concerns about reductions in timber harvest and mineral exploration and development include concerns about businesses associated with the construction component of these operations.

Agency Response to Public Comment

A number of activities, such as timber harvest and mineral development, require road construction or reconstruction. The impacts described by resource area do not include potential impacts to the construction sector. Therefore, the potential impacts on construction jobs were estimated separately, based on data from the national forests and grasslands on the miles of roads that would be required to implement planned projects in inventoried roadless areas.

Changes Between Proposed and Final Rule

The exceptions in the final rule for Federal Aid Highways and mineral leasing could result in more miles of roads being built in some inventoried roadless areas than would have occurred under the proposed rule. Six miles of road construction would be allowed on the Chugach National Forest under the mitigation for Federal Aid Highways. The exception for existing mineral lease areas may result in additional road building in the future. The provisions for the Tongass National Forest will reduce total road miles built in the near term compared to the proposed rule.

Economic Effects of the Rule on the Construction Sector

Users of the national forests and grasslands depend on road access for both commercial and amenity uses. Road construction and reconstruction activities generate about 20 total jobs per million dollars expended on roads. About 10 of those jobs are direct jobs, while the remaining are indirect and induced effects. The cost of road construction varies widely, depending on the type of road, intended use, environmental conditions, and other factors. Roads to access timber sales are most likely to be local roads. Average costs to construct local roads range from $50,000 to $60,000 per mile, while average reconstruction costs vary from $8,000 to $16,000 per mile. Temporary road construction costs were estimated to vary between $5,000 and $10,000 per mile. Costs are higher in Alaska, where temporary road construction is estimated to cost $120,000 per mile, and permanent road construction is estimated to cost $140,000 per mile.

Under current policies, road construction and reconstruction needed to implement planned projects is assumed to go forward. A total of 537 miles of roads were projected in association with non-timber projects over the next five years. It is unlikely that all planned projects will go forward, so that the total number of miles will be less than 537.

A total of 623 miles were projected in association with planned timber offer over the next five years. Although there is not a direct correlation between harvest volume and road miles, the same process used to adjust planned offer volumes for harvest was also applied to road miles to get an estimate of miles likely to be constructed and reconstructed for estimated timber harvest. Using this process, total timber roads were estimated to be 403 miles over the next 5 years. Of that total, 226 would be new construction, 62 would be reconstruction, and 116 miles would be temporary roads. Table 16 displays the miles of road construction and reconstruction planned in inventoried roadless areas that would be prohibited by the Roadless Rule on an annual average basis. Under the Roadless Rule, none of the roads planned for timber harvest would be built, and a portion of the roads planned for other projects may be prohibited. Of the 537 miles of roads planned for non-timber projects over the next five years, up to 244 miles may be prohibited.

Table 16. Average Annual Jobs Affected by Prohibitions on Road Construction and Reconstruction in Inventoried Roadless Areas.

Region	Average Annual Prohibited Miles for Non-Timber Projects	Average Annual Prohibited Miles for Timber Harvest	Range of Direct Jobs Affected	Range of Total Jobs Affected
Northern (R1)	3	7	2-3	5-7
Rocky Mountain (R2)	9	7	5-7	11-14
Southwestern (R3)	1	0	1	1-2
Intermountain (R4)	19	14	10-12	19-25
Pacific Southwest (R5)	6	1	3-4	7-8
Pacific Northwest (R6)	2	2	2	4-5
Southern (R8)	2	3	1-2	3-4
Eastern (R9)	2	6	2-3	4-5
Alaska (R10)	4	12	17	34
National	49	52	43-51	88-104

The Roadless Rule could potentially affect 43 to 51 direct construction jobs in the next 5 years. After the Tongass transition period has ended, impacts in Southeast Alaska could increase as the timber program and associated road building declines further on the Tongass. In most regions, the number of miles of road construction and reconstruction is small compared to potential heavy construction activities in the economy.

Construction has been an economic sector showing job growth. Between 1992 and 1997, total employment in the construction industries increased by 20% (U.S. Department of Commerce 2000). It is unlikely that the final rule will have significant effects on small businesses engaged in road building activities, given the small number of road miles being affected and the opportunities for similar activities in other parts of the economy. Also, the Forest Service's emphasis on road maintenance and road decommissioning may provide alternative opportunities for small businesses.

CONSIDERATION OF ALTERNATIVES AND THEIR EFFECTS ON SMALL ENTITIES

ALTERNATIVES TO THE ROADLESS RULE

The Forest Service considered a range of alternatives for meeting the purpose of the proposed action. These alternatives are fully described in Chapter 2 of the FEIS (USDA Forest Service 2000b). A subset of the range of alternatives that were considered most appropriate for meeting the purpose and need of the proposed action were then analyzed in more detail.

Two groups of alternatives were addressed in the FEIS: 1) alternatives for prohibiting activities in inventoried roadless areas; and 2) alternatives for implementing prohibitions on the Tongass National Forest. The Roadless Rule is a combination of prohibition alternatives and mitigation measures analyzed in the FEIS.

Prohibitions refer to the activities or uses that would not be allowed to occur in inventoried roadless areas. Four prohibition alternatives were considered:

1) No action; No Prohibitions;
2) Prohibit road construction and reconstruction within inventoried roadless areas;
3) Prohibit road construction, reconstruction, and timber harvest except for stewardship purpose within inventoried roadless areas; and
4) Prohibit road construction, reconstruction, and all timber cutting within inventoried roadless areas.

Three social and economic mitigation measures were considered that could be applied to any of the prohibition alternatives. The responsible official may authorize road construction or reconstruction in any inventoried roadless areas when:

- Reconstruction is needed to implement road safety improvement projects on roads determined to be hazardous on the basis of accident experience or accident potential;
- The Secretary of Agriculture determines that a Federal Aid Highway project authorized pursuant to Title 23 of the United States Code is in the public interest or is consistent with the purposes for which the land was reserved or acquired, and no other feasible alternative exists; or
- A road is needed for prospective mineral leasing activities in inventoried roadless areas.

Four alternatives were considered specifically for the Tongass National Forest:

1) Alternative selected for the rest of National Forest System lands would apply to the Tongass (Tongass Not Exempt);
2) Alternative selected for the rest of National Forest System lands would not apply to the Tongass (Tongass Exempt);
3) No Alternative selected at this time, determine whether road construction should be prohibited in inventoried roadless areas on the Tongass as part of the 5-Year Plan Review (Tongass Deferred);
4) Prohibit road construction and reconstruction in Old Growth, Semi-Remote Recreation, Remote Recreation, and LUD II Prescriptions within inventoried roadless areas on the Tongass (Tongass Selected Areas).

In addition, a potential mitigation was considered in conjunction with applying the Tongass Not Exempt Alternative, in which the selected prohibition alternative would be applied to the Tongass in April 2004.

Comparison of Alternatives

The focus of the Roadless Rule is the protection of inventoried roadless areas on the National Forest System. The alternatives are likely to have varying impacts on future opportunities for conducting business on the National Forest System.

The entities likely to be economically affected by the alternatives are the same as those described in the previous sections. The economic effects would be of the same nature, though not of the same scope or extent. Table 17 summarizes the timber-related job effects from the three prohibition alternatives and the Final Rule. It is reasonable to assume that those

alternatives with larger job losses will also have larger effects on timber-related small businesses and on local communities.

The No Action Alternative (continuation of current management policies) would be likely to result in a higher level of commodity outputs and other uses requiring road construction. As a result, small businesses engaged in timber harvest, mineral production, and a variety of special uses would likely be less affected under the No Action Alternative than the Final Rule.

Table 17. Comparison of Timber-Related Job Effects from the Prohibition Alternatives and Final Rule

	Reduced Timber Jobs from Prohibition on Road Construction and Reconstruction	Reduced Timber Jobs from Prohibition on Road Construction and Reconstruction and Commodity Timber Harvest	Reduced Timber Jobs from Prohibition on Road Construction and Reconstruction and all Timber Harvest	Reduced Timber Jobs from Final Rule
Northern (R1)	35	41	103	41
Rocky Mountain (R2)	23	31	33	31
Southwestern (R3)	2	3	3	3
Intermountain (R4)	96	105	146	105
Pacific Southwest (R5)	6	22	30	22
Pacific Northwest (R6)	32	70	96	70
Southern (R8)	17	25	29	25
Eastern (R9)	32	52	64	52
Alaska (R10)	364	383	383	114
National	**607**	**730**	**886**	**461**

The prohibition alternative that prohibits road construction and reconstruction would affect fewer timber-related small entities than the alternatives that added prohibitions on timber harvest. The restriction on timber harvest in the Roadless Rule would still allow some harvest, so the impacts are not as great on timber-related businesses as they could be if a total prohibition on timber harvest was chosen. The harvest effects in Region 10 (all occurring on the Tongass National Forest) would be increase after the allowed sales have been completed under the provision of the rule. Effects on other sectors, such as mining and special uses, would be fairly similar across all prohibition alternatives, since the additional limitations on timber harvest are likely to have minimal additional effects on other uses of the national forests.

The prohibition alternatives are expected to have positive impacts on small businesses that depend on roadless areas, such as outfitters and guides, and hunting and fishing businesses. These types of businesses often depend on remote recreation opportunities. The Roadless Rule would protect the land base for remote recreation opportunities and maintain business opportunities that require such areas. For these businesses, the Rule will have a more positive economic impact than the No Action Alternative would.

In sum, the alternative that was chosen will have more of a negative impact on some, but not all, of the small entities than the alternatives that were considered and rejected. However, for the reasons set forth at the beginning of this document, the alternative chosen is the one that best meets the purpose and need of the rule, namely to conserve and protect the increasingly

important values and benefits of roadless areas. These values and benefits include the protection of watersheds that provide clean drinking water, biological strongholds for populations of threatened and endangered species, opportunities for dispersed recreation, and a bulwark against the spread of non-native invasive plant species.

Furthermore, as described below, the Agency has decided to pursue several mitigation measures that will address concerns of small entities. First, the final rule provides a transition period for the Tongass National Forest. Second, the rule provides an exception for Federal Aid Highway projects in certain circumstances. Third, a mineral exception has been included that allow future road construction and reconstruction on existing mineral leases. Fourth, the Agency has chosen to pursue funding to assist communities most affected by the Rule. Finally, the recently enacted "Secure Rural Schools and Community Self-Determination Act of 2000" will offset any reductions in payments to states associated with reduced timber harvest.

Mitigation Measures for Small Entities

The agency considered several mitigation measures that would lessen the impacts on small entities.

First, the final rule adopts a mitigation measure that provides that the prohibitions in the final rule do not apply to road construction, reconstruction, and the cutting, sale, or removal of timber from inventoried roadless areas on the Tongass where a notice of availability for a draft environmental impact statement for such activities has been published in the Federal Register prior to the publication date of this rule. The Southeast Alaska economy is in a transition from dependence on long-term Forest Service timber sale contracts to competitive bid timber sales. About two-thirds of the timber volume planned for offer on the Tongass over the next 5 years is in inventoried roadless areas. Therefore, the effect of applying prohibitions on the Tongass would result in a greater loss in timber-related jobs and income than any other region, and those effects would be concentrated in small communities in southeast Alaska. This mitigation measure still allows an adjustment period for the timber program in Southeast Alaska, but will also assure long-term protection of the Forest's unique ecological values and characteristics.

Second, the Roadless Rule includes the mitigation measures for Federal Aid Highways and for road reconstruction for road safety. These measures may provide opportunities for small businesses in the construction sector.

Third, the final rule includes a limited exception for mineral leasing. Existing leases are not subject to the prohibitions. The exception adopted in the final rule allows road construction in conjunction with the continuation, extension, or renewal of a mineral lease for which road construction and reconstruction is permissible, on lands that were under lease by the Secretary of Interior as of the publication date of the rule. Additionally, new leases can be issued on these same lands if they are issued immediately upon expiration of the existing lease. This exception will reduce economic impacts on current operators, by avoiding the possibility of increasing the costs of production or precluding future development on the lease if restrictions had been applied at the time of lease extension or renewal.

Fourth, the Agency has chosen to pursue funds to assist communities undergoing economic transition resulting from implementation of the Roadless Rule independently of Rule implementation. The Agency's success in securing appropriations for these purposes would

have a direct bearing on its ability to implement these programs. Such assistance could include the following:

- Provide financial assistance to stimulate community-led transition programs and projects in communities most affect by changes in Roadless Area management;
- Through financial support and action plans, attract public and private interest, both financial and technical, to aid in successfully implementing local transition projects and plans by coordinating with other federal and state agencies; or
- Assist local, State, Tribal and Federal partners to work with communities most affected by the final roadless area decision.

The Forest Service will pursue a six-year economic transition program. Forest Service staff will be available to assist communities dealing with economic transitions resulting from the Roadless Rule. The Economic Adjustment Program will be used to fund or support projects that that can include feasibility studies, market assessment, technology transfer, leadership development, grant writing, worker training, tourism, business assistance, entrepreneurial development, watershed restoration, and many other activities that would be unique and specific to the needs of an individual community and important to the national forest or grassland. The Forest Service anticipates requesting $72.5 million in support of these activities between fiscal years 2001 and 2006.

Finally, impacts on small governmental jurisdictions that receive federal receipts through the payments to states legislation will be lessened as a result of the new legislation. On October 30, the President signed the “Secure Rural Schools and Community Self-Determination Act of 2000,” which allows counties to choose between receiving 25% payments under the current formula and receiving payments based on historic payment levels. As a result of this new legislation, changes in timber harvest related to the Roadless Rule will not cause any further reductions in payments to states through 2006. In fact, many communities will see increases in payments to states, although those increases are not related to the Roadless Rule.

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APPENDIX A

Description of Forest Service Regions

Region	States in Region
R1 (Northern)	Montana, northern Idaho, North Dakota, northwest South Dakota
R2 (Rocky Mountain)	Colorado, South Dakota, eastern Wyoming
R3 (Southwestern)	Arizona, New Mexico
R4 (Intermountain)	Utah, southern Idaho, Nevada, southwestern Wyoming
R5 (Pacific Southwest)	California, Hawaii
R6 (Pacific Northwest)	Oregon, Washington
R8 (Southern)	Southern States, including Texas and Oklahoma, Puerto Rico
R9 (Eastern)	Lake States, Northeast, Midwest, Maryland, and West Virginia,
R10 (Alaska)	Alaska

Appendix Table A1. Timber Harvest Substitution between 1990 and 1995, by RPA Assessment Region and Ownership (million board feet)

	Pacific Northwest	Pacific Southwest	Rocky Mountain	North	South	Total United States
Forest Industry						
1990	6,006	2,358	1,156	4,365	13,015	26,899
1995	5,505	1,686	1,041	5,519	15,184	28,935
Percent Change	-0.08	-0.29	-0.10	0.26	0.17	0.08
Farmer and Other Private						
1990	2,538	517	1,149	11,784	24,822	40,809
1995	3,085	833	1,619	10,979	27,999	44,515
Percent Change	0.22	0.61	0.41	-0.07	0.13	0.09
National Forest						
1990	4,002	1,661	2,166	1,061	1,643	10,533
1995	1,335	638	1,168	1,224	1,857	6,221
Percent Change	-0.67	-0.62	-0.46	0.15	0.13	-0.41
Other Government						
1990	2,407	92	743	1,977	1,223	6,442
1995	1,335	90	591	2,860	1,039	5,913
Percent Change	-0.45	-0.03	-.20	0.45	0.15	-0.08
All Ownerships						
1990	14,953	4,628	5,214	19,186	40,703	84,683
1995	11,258	3,246	4,418	20,581	46,079	85,583
Percent Change	-0.25	-0.30	-0.15	0.07	0.13	0.01