

## V. SOCIAL AND ECONOMIC IMPACT ANALYSIS

### A. INTRODUCTION

Many small communities and people in eastern Oregon are dependent upon the Malheur National Forest for their economic, recreational, and social way-of-life. Population levels, economic well-being, lifestyles, attitudes, beliefs, values, and social organization are all related to Forest activities to a certain extent. In fact, many of the issues, concerns, and opportunities which the planning process must address reflect the importance of the Forest to both local and regional publics. Economic and social consequences resulting from the implementation of land management planning decisions are considered during the evaluation of alternatives.

Economic impact analysis is a means by which relevant Forest management decisions are evaluated with regards to their impacts on employment, personal income, and local government revenues within an area defined as the "Forest influence zone." Social analysis, in turn, evaluates the polarizing or cohesive effects arising in different community types within the Forest influence zone in response to land management planning decisions. This section provides an overview and description of the economic and social impact analysis performed during the evaluation of alternatives.

### B. OVERVIEW - FOREST INFLUENCE ZONE

The Forest zone of influence was established early in the planning process (1981). As detailed in the Draft Environmental Impact Statement (1986), Grant and Harney Counties were considered as the Forest zone of influence. Some respondents to the Draft Environmental Impact Statement suggested that the Forest zone of influence should be expanded to include adjacent counties (e.g. Baker, Umatilla, Wallowa, etc.). After reconsidering the criteria which were used in determining the zone of influence, such as the historical timber sale purchase patterns, Grant and Harney Counties remain the primary zone of influence of the Malheur National Forest, therefore, the Forest zone of influence will not be changed in this Final Environmental Impact Statement. In future planning cycles, the Forest zone of influence will be re-evaluated and revised, if necessary, to reflect any changes in long term socioeconomic patterns.

The zone of influence of the Malheur National Forest is an area of magnificent scenery, remote small communities, and a rural western lifestyle found in few parts of the country today. Grant and northern Harney counties are located in the Blue Mountains of Eastern Oregon and cover an area of over 6,500 square miles. They are over 5 hours by car from Portland, Oregon, and 3 hours from Boise, Idaho, the two nearest metropolitan areas.

The population of the area under consideration is about 15,000. The largest towns are Burns, John Day, Hines, and Prairie City with 1980 populations of 3,579, 2,012, 1,632, and 1,106 respectively. Other communities in the area are hamlets of several hundred or fewer people, and these are separated from each other by rather large distances. The nearest interstate highway, the nearest railroad passenger service, and the nearest airport with scheduled air service are over an hour away. The nearest scheduled bus service is located in Burns and Baker, each about an hour from John Day.

Over 60 percent of Grant County's population lives in the John Day Valley, within a 15-mile radius of John Day. This is the area in which the major lumber mills are located and is considered the trade center for the county. Similarly, over 60 percent of Harney County's population resides within a 10-mile radius surrounding the county's largest community, Burns.

Population growth has been generally slow but steady. Severe fluctuations have occurred in the past. These fluctuations often parallel the health and viability of the national timber market. Population projections for the area indicate a future growth rate averaging less than 2 percent per year.

The economy is heavily resource-based with logging and ranching as the principal industries. Federal, State, and local government also are major employers in the area. More than half of the area under consideration is publicly owned and the majority of that is National Forest. Thus, the Malheur National Forest resource use and assignment decisions can have a major effect on the economic well-being of the area.

#### **1. Communities and Lifestyles**

There are 11 incorporated communities within the zone of influence in Grant and Harney counties. The largest of these are Burns (population 3,579) and John Day (population 2,012).

Institutions and establishments normally associated with small, western, intermountain ranching and logging communities are in evidence. Most of the towns have a post office, cafe, bar, grocery store, service station, farm implement dealership, elementary school, and several churches. Many have several of the above establishments.

Each town's post office, grocery store, cafe, or bar (or a combination of the above) serves as more than a dispensary of mail, food, and drink, but also as a social center and meeting place for some of the citizens in the area.

Several of the larger communities have, in addition to the already-mentioned establishments, such specialized institutions as police stations, government offices, high schools, libraries, museums, nursing homes, professional offices, motels, and a variety of other business establishments. However, since the largest town has only about 3,000 people, there are few urban amenities.

Community structure in most of the towns in the county, especially the smaller ones, is generally cohesive, traditional, conservative, family-oriented, and based on primary groups. Usually each community is small enough that most residents know each other. Informal social control is strong, and law enforcement is minimal and needed infrequently. Community life often approximates that of a folk culture, with face-to-face contacts and personal interaction the dominant way of conducting personal and business transactions. Different occupational and socioeconomic groups exist and their members interact with each other, especially in the larger communities.

The number of people belonging to racial and cultural minorities in the two counties is small. The major exception to the predominantly Caucasian population is the tribe of Harney Valley Northern Paiute Indians living on a reservation north of and in the community of Burns. These people are descendants of Native Americans who have lived in the region for centuries and who traditionally hunted, gathered food, created tools, and lived in much of the Forest area. While fewer of the local Paiutes continue these practices than they did in the past, such activities are symbolic of their heritage and are of considerable importance to them.

Other tribes located along the Columbia River and in Central Oregon (Middle Oregon, Walla Walla, Umatilla, and Cayuse tribes) also traveled through and used portions of the Forest. Their interests in the Forest remain similar to those described for the Paiute Tribe.

Since the mid-1850's there have been various treaties, executive orders, statutes, court decisions, and commission adjudications which grant certain rights and privileges to American Indian citizens. These rights include such things as hunting, fishing, and gathering roots and berries. Certain sites on the Forest are also important for spiritual and religious reasons. Since much of the cultural and religious practices are related to sites known only to certain individuals, site disturbance is of concern to these groups.

The American Indian Religious Freedom Act ensures that the right to practice traditional religions and gain access to religious sites will not be infringed upon. It does not convey exclusive use nor does it grant free use of Forest products. Protection of these rights and management of the Forest remain in a delicate balance and are of concern to Forest managers and the various tribes.

As members of local communities and residents of the area, these people also share many of the same interests in, concerns about, and ties to the Forest as other local residents.

**2. Attitudes, Beliefs, and Values** The people of the area retain many of the social values which characterized the early American West. These values include an affinity to the outdoors, independence, and freedom from control and regulation. These deep-rooted values were forged during an era of abundance and unrestricted use of natural resources. These values and the economic history of the area have a strong bearing on local attitudes towards the use and assignment of the public lands and natural resources.

At times, the Forest Service may be seen as a relative newcomer to the area, interfering with past practices, promoting change, and brandishing the power of the Federal Government. At other times, the National Forests are seen as great assets to the area.

Many newcomers to the area share many of the values held by native residents. This is reinforced by the employment opportunities that are generally limited to occupations in the agricultural and timber industries. Newcomers with professional occupations, and others not moving to the area for employment in these industries, value the small town, rural lifestyles and values present here.

Others, "nontraditional immigrants," generally reject the commodity-production oriented philosophy toward the use of the Forest's resources held by the local majority. They tend to value these resources primarily for what they provide in nonconsumptive attributes, rather than in terms of consumptive goods.

As the local majority and power structure, the native residents tend to stress the concept that Forest activities should be primarily influenced by the needs and desires of the local majority. The opposing view holds that the management of the Forest should be more responsive to national needs and values. These views tend to reflect the means of influence with which each group is familiar and successful.

Local disagreements about practices and resource management stemming from deeply held beliefs and values will continue in the future. How disruptive those disagreements will be will depend on the advocates' ability to find a common ground for agreement, compromise, and mutual understanding.

All points of view are represented by local residents and there is more commonality than is often perceived. It is just as wrong to place all resident natives or members of specific occupational groups on the extreme production/commodity end of the scale as it is to place all "nontraditional immigrants" on the extreme preservationist end of the land-use scale.

In general, the local communities--while adjusting to change--are cohesive, sharing a common consciousness of hard work, independence, control over one's life, and an intimate relationship with the outdoors.

### 3. Economic Setting

The principal private-sector industries in Grant and Harney counties are timber, livestock, and retail trade. These three sectors account for approximately 50 percent of total area employment. The other major sector of the economy is government (local, State, and Federal) accounting for 35 percent of the area's employment.

### 4. Timber Industry

The lumber and wood-products sector is a major contributor to the economic well-being of the area, providing about 15 to 20 percent of total area employment. Many local businesses derive a large portion of their sales from timber-industry employees and their families.

The timber industry is subject to severe fluctuations in the timber market. Events during the 1980's serve to illustrate the local economic hardships which can occur as a result of depressed timber markets, excess inventories, and high interest rates. In the early part of the decade, unemployment rates in Grant and Harney counties were high primarily due to the depressed timber market, at times reaching 20%. More recent unemployment rates have ranged from 5.3 percent (Harney county average for June, 1988) to 18 percent (Grant County average for March, 1988), and unemployment rates have continued to drop for the last two years, due to the strong timber market.

A major factor affecting stability of the lumber and wood-products work force in Grant County is the abundance of ponderosa pine on the Forest. Pine lumber is not closely tied to the housing market and does not have to compete with the dimension-type lumber imported from Canada. The supply of ponderosa pine from the Forest is important to the continued economic viability of many local mills.

Information pertaining to local mill capacities and historical cut-and-sold volumes is presented in the Timber Demand section of Chapter II of the Forest Plan, Summary of the Analysis of the Management Situation

#### **5. Livestock Industry**

Livestock grazing on the Forest is a long-established use. Area ranches provide a steady, year-round demand for many of the basic goods and services offered by local businesses.

Nationally during the past 10 years, a steady trend toward fewer ranches and lower agricultural employment, in conjunction with increasing herd sizes on the remaining ranches, has occurred. However, in Grant and Harney counties, approximately one-half of all ranches are less than 200 head of cattle in size. The small operations prevalent in the Forest zone of influence are more susceptible to downward trends in the livestock industry. Consequently, some smaller operations are being purchased by larger, more efficient operations.

At the present time, the livestock-producing sector accounts for approximately 15 percent of total area employment and 10 percent of total wage and salary income.

The agricultural industry, primarily ranching, has a stabilizing influence on local communities. The effects of the ranching sector on the local economies may be found more in terms of social stability and local leadership than in terms of significant economic benefits.

#### **6. Retail Trade**

The retail trade sector provides year-round employment equal to that in lumber and wood products (15 percent). To some extent, it is broader based than normally found elsewhere. None of the communities is large enough to support a large discount chain, so many independent merchants are required to provide goods and services. Total sales and profits in this sector are highly dependent on the other sectors of the local economy.

#### **7. Government**

The largest segment of the area's economy is government (local, State, and Federal), accounting for about 35 percent of area employment and income. At the present time, future levels of Federal government expenditures and employment are highly unpredictable, with reductions in both being a distinct possibility. Declines in the government sector could have a significant impact on the area's economy.

The Forest plays an important role in terms of the fiscal health of Grant County. Malheur National Forest 25 Percent Fund payments account for 35 to 40 percent of Grant County's total budget.

Malheur National Forest payments to Harney County are much less significant, comprising approximately 5 percent of that county's total budget.

#### **8. External Influences**

While activities on the Forest do not directly impact the daily lives of people beyond the Forest's zone of influence, they are important to them for various reasons. There are three activity-oriented groups in particular which are likely to be impacted by management decisions. These activity groups are firewood gatherers, big-game hunters, and recreationists.

Certainly, these activity groups also include local residents; however, they represent the main types of activities on the Forest engaged in by people from other areas. Nonlocal firewood gatherers come principally from the Vale/Ontario (Oregon) and Nampa/Caldwell/Boise (Idaho) population centers, approximately 180 miles distant. Nonlocal hunters tend to come to the Forest from the Willamette Valley (Oregon). This is particularly true of mule deer hunters.

Recreationists can be divided into three groups: dispersed Non-Motorized recreationists, dispersed Motorized recreationists, and wilderness advocates. Motorized recreationists tend to be local residents. The other two categories include almost half local residents and about half other Oregon residents, with only a few visiting from southeast Washington and California and even fewer from other states.

### C. Economic Impact Analysis

Input-output analysis was used to help evaluate the employment and income impacts within the regional economy of Grant and Harney counties associated with the proposed output and activity levels for each of the land management planning alternatives. The impacts were estimated for the first decade based on timber and range outputs for each alternative. The quantitative employment and personal income impacts were qualitatively augmented with an assessment of the social consequences which could accompany implementation of each alternative.

The IMPLAN model (Alward et al., 1983) was used to perform the economic impact analysis for the Draft and Final Environmental Impact Statements. IMPLAN is an input-output model software program available for microcomputers. The IMPLAN model will not be discussed in detail here. For more information on IMPLAN, the reader is referred to the Micro IMPLAN Software Manual (March 1989).

Economic input-output (I-O) analysis is based upon the interdependence of the production and consumption sectors of the economy for the area being studied. Industries must purchase inputs from other industries, as well as from primary sources (i.e., natural resources), for use in the production of outputs which are sold either to other industries or to final consumers. A set of Input-Output accounts can be thought of as a "picture" of an impact area's economic structure at one point in time. The structure is represented as a mathematical transactions matrix of buyers and sellers in the economy. For the analysis conducted for the Malheur, the data from calendar year 1982 was most representative of the existing situation.

The proposed output levels associated with each alternative are represented as changes in the current levels of final demand for the outputs in the IMPLAN model. The resulting production requirements needed to satisfy the changes in final demand and the flow of industrial inputs and outputs can then be traced by the Input-Output accounts to determine impacts on the different industries composing the regional economy. Through mathematical matrix manipulations, the estimated direct, indirect, and induced impacts can be evaluated. The impacts concerning most people in the local economy are changes in employment and personal income.

Also of interest are changes in the amount of payments to counties in lieu of taxes resulting from implementation of an alternative. The IMPLAN Input-Output model was not used to analyze changes in county payments. The process used will be discussed after the following brief review of the data and information used to construct and calibrate the Forest Input-Output model.

**1. IMPLAN Data Base** The IMPLAN model has a data base consisting of (1) a national-level technology matrix, and (2) a file of estimated activity levels for total gross output, six final demand components, three final payment indicators, and employment estimates for 466 industrial/business sectors (Alward et al., 1985). The national level technology matrix is based on a 1972 Department of Commerce Input-Output model converted to an "industry by industry" basis and updated to 1982. Unreported data were estimated using an economic growth modeling procedure (Stone et al., 1962).

**2. National Data Reduction to Impact Area** The county-level information is based on a 1982 data set constructed by Engineering Economics Associates of Berkeley, California. Utilizing the national technology matrix and control totals for the two counties, a data reduction method was employed to develop the input-output table for the economic impact area. The method used exploits the property of "openness" displayed by smaller regional economies when compared to the national economy (Richardson, 1972). Smaller regional economies exhibit much greater tendencies to import and export goods and services than the national economy; therefore, they are more "open" than the national economy. Assuming trade balances are the principal difference between national and regional purchase patterns (i.e., industry production functions are identical, but regional imports and exports make local inter-industry transactions different), the supply-demand pool technique for data reduction was adopted (Schaffer et al., 1969).

Comparisons indicated the Forest's IMPLAN model did a reasonably good job of reflecting the "picture" of the county economy as it was in 1982. The local economy has changed since then, but employment and income predictions based on the 1982 Input-Output model still can give a reliable comparison. For example, shifts in unit productivity within the timber industry have occurred through technological advances and more efficient operations. In the woods products industry this has led to approximately a 30 to 40 percent lower requirement in workforce for the same level of production. Other employment sectors are also undergoing similar adjustments, but to a lesser extent. Given these changes, the range of employment and income effects attributable to the various alternatives based on the provision of timber and range outputs can still be considered valid, but should be used only for comparative purposes.

**3. Final Demand Expenditures** For each alternative, the Input-Output model was used to translate proposed changes in timber and range output levels from recent average levels of production into changes in employment and personal income for the Grant and Harney region as a whole.

An intermediate step in the process was to equate changes in the respective resource outputs to changes in final demand expenditures by sector. Final demand expenditures are different from the values used in the Present Net Value efficiency analysis. The Present Net Value efficiency analysis examines only the market value of the raw material leaving the Forest. For timber outputs, market values are the stumpage values. Final demand expenditures represent dollars spent by the ultimate consumer at the point of final consumption. The point of final consumption is the sector from which the ultimate consumer purchases a product or the sector beyond which the output is exported from the region. For example, the point of final consumption for an output of timber might be in the new construction sector because the timber is used in construction of a house which a consumer may purchase. However, if the timber is exported following processing at the sawmill, the point of final consumption is the sawmills sector.

By identifying the final consumption point, transactions of all industries involved in processing the output are considered. For more detail regarding how final demand expenditures are calculated, refer to the Micro IMPLAN Software Manual (March 1989).

For purposes of assessing the potential economic impacts which may result from the implementation of an alternative, output levels for timber and range were tracked. The outputs were selected because they reflect the primary differences in the resource production levels between the alternatives, and they also have the most significance to the local economy.

#### **4. Returns to the Local Government and U.S. Treasury**

Predicted returns to the U S Treasury and local governments were calculated for each alternative. The returns illustrate the potential impacts of Forest management decisions on both the Federal government receipts collected as a result of revenue-producing programs on the Forest and the resultant change in revenues passed on to local governments.

Returns to the U S Treasury were calculated by deriving the revenue of income-producing programs on the Forest which correspond to Forest Service Manual 6531 12b "Annual Collections Statement," of the National Forest Fund. Cash returns to the U S Treasury from the Malheur National Forest are generated by timber, recreation, range, mineral and energy leases, and special-use receipts. Returns to local governments are calculated as 25 percent of the returns to the U S. Treasury funds. The funds are paid to the State of Oregon and then disbursed to local county governments based on the percentage of Forest acres located within each county. Returns to local counties are often referred to as payments in lieu of property taxes, since the U S. Government as a landowner does not pay local property taxes.

The projections of the revenues for each alternative were based on their respective proposed output and activity levels for the programs. The stumpage receipts, which account for over 99 percent of total returns to the government, are based on FORPLAN harvest scheduling solutions for each alternative.

#### **D. FINDINGS FROM THE ECONOMIC IMPACT ANALYSIS**

Chapters II and IV of the Final Environmental Impact Statement present details of the anticipated socioeconomic impacts associated with implementation of each alternative. Table II-5 displays the estimated relative impacts associated with each alternative for the first decade with regards to jobs, personal income, total returns to the U S Treasury, and payments to counties in lieu of taxes. In this section, a brief narrative of the findings is presented.

In reviewing these results it should be remembered that they represent only the effects of changes in the timber and range outputs. Thus employment and other economic outputs cannot be compared directly with statistics from other sources.

The modeling of economic impacts was based on proposed changes in resource output levels between the respective alternatives and the output levels upon which the current economy is based. Output levels in two resource areas, timber and range, were used to determine the relative impacts on employment and personal incomes within Grant and Harney counties' regional economy. Table B-14 displays recent average output levels for each resource and total jobs and income response coefficients that would result from an output change of one unit for each resource.

Since publication of the Draft Environmental Impact Statement and Proposed Forest Plan (1987), recent output levels for timber harvests have changed. In the economic impact analysis for this Final Environmental Impact Statement and Plan, the 10-year period has been updated from 1977-86 to 1980-89. As a result, higher average output levels for the ten year period (1980-89) than presented in the Draft Environmental Impact Statement result in changes in employment projections for all alternatives.

**TABLE B-14**  
**EMPLOYMENT AND INCOME RESPONSE COEFFICIENTS BY RESOURCE**

Resource Name	Output Units	Current	Employment	Income
		Output Levels <sup>1/</sup>	Response No. of Jobs	Response \$MM
Timber	MMBF	219	7.6	0.251
Range	MAUMS	117	0.5	0.008

<sup>1/</sup>Average outputs during the 10-year period of 1980-89

In general, alternatives which emphasize commodity outputs tend to produce the most jobs, income, returns to the U.S. Treasury, and payments to local governments. Timber receipts are the greatest source of returns to the U.S. Treasury and payments to local governments. The relative economic impacts estimated for each alternative will not be discussed here; see Chapters II and IV of the Final Environmental Impact Statement for specific estimates.

#### **E. SOCIAL IMPACT ANALYSIS**

Social impact analysis has been identified in laws governing Forest management as a required component of National Forest planning and decision making. The National Environmental Policy Act of 1969 and the National Forest Management Act of 1976 both require managers to display and consider the social effects of alternative actions before choosing a course of action.

These two laws and others, such as the Multiple-Use Sustained Yield Act of 1960, have formalized a policy of maximizing net public benefit, in other words, providing the "greatest good for the greatest number in the long run." To achieve this, proposed actions and output levels are considered at national, regional, and Forest levels in terms of cost efficiency, environmental effects, and economic and social impacts.

More than the legal requirements compel land managers to assess the social impacts of their decisions. The National Forest is not an island isolated from the larger social and political world. Increasingly, a manager's decisions must stand up to a barrage of challenge from members of this social and political environment. Forest users are increasingly demanding a voice in the decision making process. This is appropriate because the outcomes of these decisions affect the quality of their lives.

Each of these individuals has a personal stake in the Forest based on the lifestyle choices of that individual. That stake, or interest, reflects the attitudes, beliefs, values, and expectations a person has about the Forest and its management. These deeply held feelings affect an individual's sense of personal freedom, self-sufficiency, and sense of control about the future.

People will spend considerable time and energy defending what they like to do in the way they like to do it. When their preferences are threatened by another segment of the community, or another segment seems to benefit by their loss, groups within a community oppose each other and become polarized. Social well-being in the community is undercut as resources are used in opposition rather than cohesion.

In addition, an alternative that threatens individual freedom of choice and undercuts social well-being has little chance of being implemented, no matter how scientifically sound or economically desirable the alternative may be. It is a prudent manager, then, who attempts to assess the social impacts of the alternatives under consideration and uses that assessment as one variable in the decision making process.

## 1. Social Effects

Essentially, the process of estimating social effects consisted of delineating and categorizing different Forest user or activity/interest groups. Current directives require decision makers to select appropriate variables to consider the effects of each alternative on four categories: (1) jobs/lifestyle; (2) attitudes, beliefs, and values; (3) social organization; and (4) population (Forest Service Manual 1973 3). The input-output model, IMPLAN, described previously was used to determine changes in variables (1) jobs/lifestyle and (4) population.

Category (2)--attitudes, beliefs, and values--includes the feelings, preferences, and expectations people have for the Forest. A measurable and appropriate variable for this category is "opportunities foregone." A foregone opportunity means that implementation of a particular alternative will cancel future opportunities to engage in activities that are incompatible with that alternative. Category (3), social organization, is concerned with social institutions and community cohesion. Community cohesion is described as the degree of unity and cooperation within a community in achieving its goals and the regard and respect people hold for their community and each other. Conversely, it is the degree of polarization among various groups within a community. Management alternatives that polarize groups undercut social well-being. A measurable and appropriate variable for this category is the degree of "community cohesion."

## 2. Methods and Procedures

The methodology used for social impact assessment required a panel of judges to review a set of issues and determine how a set of local activity/interest groups would feel about these issues. This was done for the issues in general as a philosophical base for each group, and then for the alternatives to compare to the established base.

The panel consisted of five members selected from among Malheur National Forest employees in the Forest's zone of influence. An attempt was made to represent all local community areas and an array of ideologies, rural and town residents, and length of residence. As much as possible, members were selected who actually are members of the selected activity/interest groups (e.g., local government, environmental interest, etc.)

The activity/interest groups analyzed included: firewood gathering, ranching, local government, timber harvest and related activities, business and retail, Non-Motorized dispersed recreationists, wilderness advocates, motorized hunters, and people who engage in Native American cultural activities.

The panel members narrowed the planning issues, concerns, and opportunities down to the six most important issues. This was done because more than six issues would be too cumbersome to analyze successfully. The issues analyzed were timber harvest and intensive management, protection of riparian areas, production of salmon and steelhead, optimal big-game habitat, road construction and density, and protection of old-growth habitat.

The panelists then reviewed the issues and estimated the current position (pro, con, or neutral) that specific activity/interest groups would take on each issue. These responses were tabulated and the results provided a base estimate of the amount of community cohesion existing in the Forest's zone of influence.

The alternatives were then reviewed and the position that each activity/interest group would take on each alternative was estimated. These responses were compared to the base estimate of community cohesion and the degree of change was noted for each alternative. In other words, the results of this analysis indicated whether an alternative was likely to increase or decrease polarization in the Forest's zone of influence.

The second phase of the analysis determined the distribution of effects of the alternatives. Three factors were used to estimate these effects: scope, intensity, and duration.

Scope is an estimation of the loss of future opportunities to engage in an activity. (For instance, by roading some currently unroaded areas, wilderness advocates lose 25 percent of their opportunity for future wilderness designation.)

Intensity indicates how much the loss will be felt by the group. (As wilderness experiences are more readily available elsewhere in northeast Oregon, the intensity of loss decreases.)

Duration indicates the difficulty of recovering the loss if it were desired to do so. (If an area is roaded and logged, it would take over 100 years to come close to providing a wilderness environment again given today's technology and budget history.)

Identification of opportunities foregone provides a supplement to the community cohesion analysis by explaining further why the groups take a stand on a certain issue or alternative. The method of estimating these variables was identical to the community cohesion analysis. The result was a relative ranking among the alternatives and information about distribution of the impacts.

**3. Social Impacts**  
**Summary**

Social impacts are defined within the context of individual choice. The variables most directly tied to economic impacts of the alternatives (jobs and population) reflect the individual's lifestyle through choice of employment and decision to live in the area. The context of choice in the Forest's zone of influence is further measured by community cohesion and opportunities foregone. The alternative which has the least negative impact on economic variables, results in an increase or the least decrease in community cohesion, and has the fewest opportunities foregone is the alternative which best resolves the social aspect of the social and economic planning topic

