

3.11. Society, Culture & Economy

The Tahoe National Forest Region (TNF Region) encompasses more area than the TNF itself. For the purposes of this EIS, the TNF Region consists of all or part of Five California counties. These counties are Nevada, Placer, Plumas, Yuba and Sierra. Information on TNF Region’s society, culture, and economy is organized using these five counties.

In the *western portion* of the TNF Region, people orient themselves to the Sacramento area for work and to the TNF for recreation activities. In the *eastern portion* of the TNF Region, residents focus on Reno, Sparks, and Carson City in Nevada for work and the nearby Tahoe National Forest for recreation.

Population and Demographics

Historical Background

People have lived in the TNF Region for thousands of years. Americans of European ancestry came to the TNF Region during the latter half of the nineteenth century. They introduced a different culture and outlook toward the Forest. The area attracted settlers who transformed the foothills with European agricultural practices and intense, but localized, resource extraction. Gold discovery in 1848 brought thousands of miners to the TNF Region. When gold supplies diminished, many people left the region. Economic activity shifted to extensive renewable resource extraction, principally timber, and agriculture.

People in the TNF Region today derive their livelihood and well-being in diverse ways. The Forest is used for traditional cultural subsistence, scientific and educational exploration, logging, mining, and recreating on the weekends, and telecommuting from a home in the woods during the work week. People in the TNF Region are as diverse as their activities and their reasons for living in the region.

Current Population and Growth Trends

The Sierra Nevada Region counties contain an estimated 400,000 people (Table 3.11-1). The population of the Sierra Nevada Region is changing in terms of numbers of people, age and ethnic composition, incomes, occupations, and leisure activities.

Table 3.11-1. Historic Population of Counties in the TNF Region (thousands of people)

County	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	Percent change, 1989-1999
Plumas	19.3	19.7	19.9	20.2	20.6	20.6	20.5	20.4	20.4	20.6	20.5	6.0
Sierra	3.2	3.3	3.3	3.3	3.3	3.4	3.4	3.4	3.4	3.4	3.2	-0.4
Nevada	74.1	78.5	80.4	82.2	83.6	84.9	85.9	86.8	87.7	88.8	89.6	21.0
Placer	161.0	172.8	178.4	184.1	189.4	194.1	199.6	206.3	212.4	217.9	225.9	40.3
Yuba	56.3	58.8	59.5	60.6	61.4	61.8	62.1	61.4	60.8	61.4	60.4	7.3
Total	313.9	341.5	350.5	358.3	364.7	371.5	378.3	384.7	392.1	399.6	399.6	27.3

City/County Population and Housing Estimates, 1990-1999. Sacramento, CA: State of California, Department of Finance

Approximately 57 percent of the TNF Region’s population lives in Placer County. Placer County has also seen the largest population growth in recent years with more than a 40 percent increase. The smallest

proportion of the TNF Region’s population lives in Sierra County with less than one percent of the population. The population of Sierra County has actually been declining in recent years.

California State agencies have projected population growth for the TNF Region’s counties. In the next decade, most counties are expected to grow at a faster rate than they did between 1989 and 1998. Population increases may affect how communities develop.

Ethnicity

The distribution of ethnic groups in the Sierra Nevada Region differs significantly from the State of California averages. The White, not Hispanic population in the TNF Region ranges from 69.7 to 93.2 percent compared to the State average of 51.5 percent. See Table 3.11-2. Yuba County has a Hispanic population of 13.3 percent, the other counties range from 4.9 to 8.7 percent compared to the State average of 29.9 percent. Yuba County matches the State average of Asian/Pacific Islander population of 11.1 percent while the other counties range .3 to 2.5 percent. The State average of Black Americans is 6.9 percent compared to the TNF Region’s range of .2 percent to 3.8 percent. The population of American Indians in the TNF Region is greater than the State Average ranging .8 to 3.0 percent compared to .6 for the State.

Table 3.11-2. Percent of TNF Region county populations by ethnicity, 1998

County	White, not Hispanic (percent)	Hispanic (percent)	Asian/ Pacific Islander (percent)	Black American (percent)	American Indian (percent)
Plumas	89.9	5.7	0.6	0.8	3.0
Sierra	92.0	5.8	0.3	0.2	1.8
Nevada	93.2	4.9	0.8	0.2	0.9
Placer	87.3	8.7	2.5	0.7	0.8
Yuba	69.7	13.3	11.1	3.8	2.1
State Average	51.5	29.9	11.1	6.9	0.6

As the population of the Sierra Nevada Region grows, the ethnic composition of its residents will change. The population of the TNF Region is expected to more than double over the next 50 years. At the same time, the number of Hispanic residents is projected to grow at a greater rate than the number of white residents. Proportions of other ethnic groups, except whites, are expected to remain essentially the same as in 1998 (Sierra Nevada Forest Plan Amendment FEIS 2001). See Table 3.11-3

Table 3.11-3. Projected populations of the TNF Region counties by ethnicity, 2040

County	White, not Hispanic (percent)	Hispanic (percent)	Asian/Pacific Islander (percent)	Black American (percent)	American Indian (percent)	Total Population (thousands)
Plumas	79.0	15.6	0.7	0.7	4.0	24.6
Sierra	90.3	8.5	0.2	0.1	0.9	3.5
Nevada	94.1	4.9	0.5	0.8	0.6	249.3
Placer	80.4	13.5	4.3	0.8	0.9	522.2
Yuba	45.4	22.0	28.2	3.0	1.4	109.8
State Average	44.4	34.9	13.3	6.4	0.6	
Total						909.4

Age Distribution of the Population

The largest percentages of elderly people (more than 65 years old) live in Plumas, Sierra and Nevada Counties. The largest percentages of young people (17 years old or younger) live in Placer and Yuba Counties as shown in Table 3.11-4 below (Sierra Nevada Forest Plan Amendment FEIS 2001).

Table 3.11-4. Percent of Population of TNF Region counties by age group, 1998

County	Age Groups					
	0-4	5-17	18-30	31-45	46-65	>65
Plumas	4.4	17.0	15.6	19.2	24.5	19.4
Sierra	3.0	17.6	14.3	19.5	26.7	19.0
Nevada	4.9	17.0	14.4	19.8	24.9	19.0
Placer	6.9	19.5	15.3	23.4	23.4	11.0
Yuba	9.1	24.5	17.5	22.5	16.6	9.8

Projections for 2010 indicate that absolute numbers of elderly people will rise, but the proportion of elderly people will remain constant or drop in all Counties. At the same time, the share of the population less than 17 years old is also projected to drop.

Table 3.11-5 shows that by 2040, the share of the population that is less than 17 years old will have increased. Elderly people will be a lower percentage of the population than they are currently. High birth rates and in-migration is expected to double populations between 1998 and 2040 in Placer County.

Table 3.11-5. Projected percent of population of TNF Region Counties by age group, 2040

County	0-4	5-17	18-30	31-45	46-65	>65	Percent Population Growth 1998-2040
Plumas	5.5	13.5	15.2	17.4	27.6	20.8	19.4
Sierra	4.3	10.6	13.4	15.7	31.3	24.7	2.1
Nevada	5.8	14.9	15.3	17.9	24.9	21.2	82.3
Placer	6.8	17.6	16.7	18.7	22.5	17.7	132.6
Yuba	9.3	21.7	19.2	17.4	18.9	13.4	76.7

Per Capita Income

Table 3.11-6 shows historical per capita incomes for residents of the Sierra Nevada Region, with adjustment for inflation, for the period 1972 to 1997 (Sierra Nevada Forest Plan Amendment FEIS 2001). In 1972, the Counties with the three highest per capita incomes were Sierra and Placer. The lowest income was in Yuba County. All Counties, however, have shown net gains for real income over the period, but the rate of gains has differed markedly. Incomes have grown fastest in Plumas and Nevada Counties over the last 25 years. Slowest income growth has been in Yuba County.

Table 3.11-6. Inflation-adjusted per capita incomes - Residents of TNF Region counties, 1972-1997

County	Thousands of 1995 Dollars						Percent Change 1972-1997
	1972	1977	1982	1987	1994	1997	
Plumas	15.1	16.1	15.4	18.2	19.3	21.2	40.5%
Sierra	15.7	15.9	14.7	18.2	18.5	19.8	26.5%
Nevada	14.9	16.9	15.9	19.6	20.8	21.8	46.0%
Placer	15.5	18.5	19.4	23.9	25.2	27.9	79.5%
Yuba	12.5	13.4	13.3	14.4	14.7	15.1	20.4%

Employment and Income: Affected Environment

Labor Force Trends

During the 1990s, the TNF Region experienced different trends in labor force development. The Gold Country and Carson Range subregions had the greatest growth in labor force, with a 15 percent increase in nine years. This growth occurred despite a statewide recession in California. These two subregions share parts of the Interstate 80 corridor, and lie in or near the Sacramento and Reno metropolitan areas.

Trends in workforce numbers have been negative in counties where the timber industry, ranching, or both have historically played a significant economic role. Of all counties in the Sierra Nevada Region, Sierra County has experienced the greatest reduction in workforce, down by 19 percent between 1990 and 1998.

Unemployment

In most Sierra Nevada counties and communities, unemployment rates between 1990 and 1998 were higher than average statewide unemployment rates. Exceptions to this trend were foothill communities in Nevada, and Placer counties (all of which are within commuting distance of Sacramento).

Unemployment data aggregated by county or by subregion do not show differences in unemployment between communities. In general, more remote communities at high elevations have higher unemployment rates than lower elevation communities in the same county.

Seasonal Employment

Many jobs related to recreation are seasonal. Rural residents often take several part-time jobs during a year. Peak employment months in the summer indicate the importance of summer recreational

employment. For most counties in the TNF Region, January and February are the lowest employment months of the year.

The ratio of employment in the lowest employment month to the highest employment month is an index of the relative magnitude of employment swings in a county. A ratio close to 1 indicates comparatively smaller fluctuations in employment than lower ratios. Table 3.11-7 provides information about the seasonality of employment in the counties in TNF Region. Nevada and Placer Counties experience slight changes in total employment over the course of a year. Plumas and Sierra Counties, where recreation and tourism are important to county economies, have the lowest ratios, and therefore the greatest swings in employment during a year.

Table 3.11-7 displays trends in the share of temporary jobs among all jobs between the period from 1989 through 1993 and the period from 1994 through 1998. A negative value in the change in share of employment indicates a relative increase in seasonal jobs between the two periods, and a positive value a decrease in the proportion of seasonal jobs. Sierra County, which lost the largest proportion of workforce in the 1990s, shows the highest change toward more permanent jobs. This trend may indicate that the jobs lost in Sierra County were seasonal jobs.

Table 3.11-7. Patterns and Trends in Seasonality of Employment in TNF Region Counties, 1989-1998

County	Average Lowest Employment Month, 1994-1998	Average Peak Employment Month, 1994-1998	Ratio Peak Month Employment to Low Month Employment, 1994-1998	Change in Share of Permanent Employment, 1989-1993 vs. 1994-1998
Plumas	January	September	0.80	+2.8
Sierra	January	August	0.82	+11.3
Nevada	April	August	0.96	-8.4
Placer	January	November	0.97	-15.7
Yuba	February	August	0.86	+4.8
Total - All California	January	August	0.96	-4.1

Sources: State of California Employment Development Department, Labor Market Information Division

Employment and Income: Environmental Consequences

Economic Impacts

The assessment of economic impacts attempts to identify potential effects that Forest Service management may have on local, county, and regional economic systems and on people using the natural resources that the TNF provides. In particular, would changes in the use of the National Forest for recreation and the amount of change in the designation of forest roads and trails be large enough or significant enough to cause measurable economic changes? Is the economy of the local area diverse enough and robust enough that the proposed changes would be insignificant or would they be felt in very specific segments of the local economy?

National Visitor Use Monitoring (NVUM)

The National Visitor Use Monitoring (NVUM) program provides reliable information about recreation visitors to National Forest System managed lands at the National, Regional, and Forest level. Information about the quantity and quality of recreation visits is required for LRMPs, Executive Order 12862 (Setting Customer Service Standards), and implementation of the National Recreation Agenda. To improve public service, the agency’s Strategic and Annual Performance Plans require measuring trends in user satisfaction and use levels. NVUM information assists Congress, Forest Service leaders, and program managers in making sound decisions that best serve the public and protect valuable natural resources by providing science based, reliable information about the type, quantity, quality and location of recreation use on public lands. The information collected is also important to external customers including state agencies and private industry. NVUM methodology and analysis is explained in detail in the research paper entitled *Forest Service National Visitor Use Monitoring Process: Research Method Documentation (2002)*. (www.fs.fed.us/recreation/programs/nvum).

The TNF participated in the NVUM project from October 2004 through September 2005. There were approximately 3,930,000 TNF visits during fiscal year 2005. The full TNF NVUM report is available on the web through the Natural Resource Information System (NRIS) Human Dimensions Module. http://fsweb.nris.fs.fed.us/products/Human_Dimensions_NVUM/HD-NVUM_12/index.shtml

Table 3.11-8 presents participation rates by activity for the Tahoe National Forest during the NVUM survey period. The “Total Activity Participation (%)” column of the table presents the participation rates by activity. Participation rates will exceed 100% since visitors can participate in multiple activities. The “Percent as Main Activity” column presents the participation rates in terms of primary activity.

Table 3.11-8. Activity Participation on Tahoe National Forest (NVUM FY2005 data)

Activity	Activity Emphasis for Road & Trail Use	Total Activity Participation (%)	Percent as Main Activity (%)
Snowmobiling	Motorized	7.6	7.2
Driving for Pleasure	Motorized	15.9	3.0
OHV Use	Motorized	3.9	1.6
Other Motorized Activity	Motorized	3.3	1.6
		Motorized Subtotal	13.4
Hiking / Walking	Non-motorized	32.4	15.7
Bicycling	Non-motorized	7.7	6.2
Other Non-motorized	Non-motorized	11.1	4.2
Cross country Skiing	Non-motorized	5.0	3.7
Backpacking	Non-motorized	0.7	0.4
Horseback Riding	Non-motorized	0.2	0.1
		Non-motorized Subtotal	20.5

Activity	Activity Emphasis for Road & Trail Use	Total Activity Participation (%)	Percent as Main Activity (%)
Downhill Skiing	Other	32.4	31.5
Fishing	Other	15.3	11.5
Viewing Natural Features	Other	53.6	6.0
Relaxing	Other	36.6	3.6
Motorized Water Activities	Other	6.2	2.0
Hunting	Other	2.2	1.6
Non-motorized Water	Other	3.1	1.7
Developed Camping	Other	5.6	1.2
Primitive Camping	Other	1.6	0.6
Picnicking	Other	9.3	0.6
Viewing Wildlife	Other	36.3	0.3
Sightseeing	Other	0.0	0.0
No Activity Reported	Other	2.5	2.5
Resort Use	Other	1.6	0.2
Visiting Historic Sites	Other	4.9	0.2
Nature Study	Other	3.7	0.1
Gathering Forest Products	Other	1.5	0.1
Nature Center Activities	Other	1.9	0.0
		Other Subtotal	63.7
		Total	104.5

The primary activity participation rates obtained from the NVUM 2005-2005 (Percent as Main Activity) displayed in Table 3.11-8 were used to estimate use by activity emphasis. The emphasis areas were grouped into those emphasizing non-motorized, motorized and other activities. Motorized activities were those that used motor vehicles on Forest Service roads and trails. Non-motorized activities still used the Forest’s roads and trails, but on foot or by non-motorized transportation such as cross country skis or bicycles. All other activities are all the other Forest based activities measured by the NVUM survey that didn’t utilize roads or trails to pursue their primary activity. Examples of “other” are downhill skiing, motorized water activities, etc. Motor vehicles may have been used to reach a destination or participate in the activity, but it was not the primary emphasis of the visit.

Table 3.11-8a displays the number of visits for these activities. The number of visits is based on the primary purpose for the visit (Percent as Main Activity) and the total number of visits of 3,931,709 reported in the TNF NVUM report. Users were determined to be either local or non-local based on the miles from the user’s residence to the Forest boundary. If the user reported living within 50 miles of the Forest boundary, they are considered local; if over 50 miles, they are considered non-local. It is critically important to distinguish between local and non-local spending as only non-locals bring new money and new economic stimulus into the local community. Local spending is already accounted for in the study area base data. It is impossible to predict how locals would have spent money if they didn’t have local recreation opportunities on the National Forest, but it’s a safe guess that much of that money would not have been lost to the local economy. People tend to substitute other local recreation activities or change the time or place for continuing the same activity rather than traveling long distances and incurring high

costs to do the same activity. Table 3.11-8a indicates that the most popular non-motorized use is hiking/walking, followed by bicycling. The most popular motorized use is snowmobiling, followed by driving for pleasure. Table 3.11-9 indicates that non-local visitors spend more per visit than local visitors primarily because of overnight lodging expenditures. Motorized day use expenditures are generally higher than for non-motorized activities, but non-local overnight visitors engaged in non-motorized activities generally expend more than non-local motorized users (except for snowmobiling). Snowmobilers spend the most per visit, especially non-local visitors.

Table 3.11-8a. Number of Party Trips by Activity

	Use (Party Trips)				
	Non-local Day Use	Non-local Overnight	Local Day use	Local Overnight	Non-Primary
Non-motorized					
Hiking/Walking	9,975	19,650	91,650	7,142	5,819
Bicycling	9,939	7,643	36,193	2,820	2,298
Other Non-motorized	2,669	5,178	24,518	1,910	1,557
Cross country Skiing	2,204	6,832	14,489	1,073	247
Backpacking	0	1,206	0	1,309	58
Horseback Riding	64	123	584	45	37
Motorized					
Snowmobiling	3,821	6,245	29,761	5,575	5,004
Driving for Pleasure	1,430	1,732	19,737	682	2,293
OHV Use	1,398	2,455	6,405	1,868	411
Other Motorized Activity	1,398	2,455	6,405	1,868	411

	Use (Party Trips)				
	Non-local Day Use	Non-local Overnight	Local Day use	Local Overnight	Non-Primary
Other					
Fishing	10,549	20,015	45,668	8,439	3,653
Hunting	635	2,809	7,849	3,090	400
Viewing Wildlife	200	463	841	146	297
Motorized Water Activities	1,747	3,069	8,006	2,335	513
Non-motorized Water	1,080	2,096	9,924	773	630
Downhill Skiing	17,513	41,280	105,076	33,624	9,058
Developed Camping	667	1,573	4,003	1,281	345
Primitive Camping	0	1,809	0	1,963	87
Resort Use	111	262	667	213	58
Picnicking	334	786	2,001	640	173
Viewing Natural Features	4,003	9,226	16,812	2,919	5,930
Visiting Historic Sites	111	262	667	213	58
Nature Center Activities	0	0	0	0	0
Nature Study	67	154	280	49	99
Relaxing	2,001	4,718	12,009	3,843	1,035
Gathering Forest Products	56	131	334	107	29
Sightseeing	0	0	0	0	0
No Activity Reported	1,390	3,276	8,339	2,669	719
Subtotal	59,710	140,745	358,260	114,643	30,643

Table 3.11-9. Expenditures (\$ per visit) by Activity

	Expenditures (\$ per visit)				
	Non-local Day Use	Non-local Overnight	Local Day use	Local Overnight	Non-Primary
Non-motorized					
Hiking/Walking	17.62	106.96	11.11	39.55	7.41
Bicycling	17.62	106.96	11.11	39.55	7.41
Other Non-motorized	17.62	106.96	11.11	39.55	7.41
Cross country Skiing	18.93	119.64	14.78	87.39	13.60
Backpacking	0.00	19.09	0.00	24.10	0.00
Horseback Riding	17.62	106.96	11.11	39.55	7.41
Motorized					
Snowmobiling	49.09	128.80	29.57	68.93	28.33
Driving for Pleasure	17.62	66.54	13.33	42.73	10.00
OHV Use	28.57	64.80	19.00	48.50	14.62
Other Motorized Activity	28.57	64.80	19.00	48.50	14.62

	Expenditures (\$ per visit)				
	Non-local Day Use	Non-local Overnight	Local Day use	Local Overnight	Non-Primary
Other					
Fishing	21.00	95.65	20.00	48.00	20.00
Hunting	38.10	116.32	30.00	79.47	25.50
Viewing Wildlife	20.80	82.59	10.80	53.75	10.00
Motorized Water Activities	18.52	70.36	15.00	49.20	12.41
Non-motorized Water	18.52	70.36	15.00	49.20	12.41
Downhill Skiing	36.36	117.93	25.24	89.13	27.89
Developed Camping	0.00	50.36	0.00	41.29	0.00
Primitive Camping	0.00	19.09	0.00	24.10	0.00
Resort Use	18.52	70.36	15.00	49.20	12.41
Picnicking	18.52	70.36	15.00	49.20	12.41
Viewing Natural Features	18.52	70.36	15.00	49.20	12.41
Visiting Historic Sites	18.52	70.36	15.00	49.20	12.41
Nature Center Activities	18.52	70.36	15.00	49.20	12.41
Nature Study	18.52	70.36	15.00	49.20	12.41
Relaxing	18.52	70.36	15.00	49.20	12.41
Gathering Forest Products	18.52	70.36	15.00	49.20	12.41
Sightseeing	18.52	70.36	15.00	49.20	12.41
No Activity Reported	18.52	70.36	15.00	49.20	12.41

Economic Effects

The employment and labor income effects stemming from current motorized and non-motorized activities occurring on the TNF were estimated. The economic effects of all other types of recreation combined on the TNF have also been reported for comparison purposes. Economic effects tied to motorized and non-motorized activities were estimated to address the economic impact issue tied directly to Travel Management. Also, the marginal economic effects (employment and labor income effects per 1,000 visits) of motorized and non-motorized use are provided. The marginal effects (also called “response coefficients”) are useful for performing sensitivity analyses of various management alternatives.

Economic Effects Analysis Procedures

Economic effects can be categorized as direct, indirect and induced. Direct effects are changes directly associated with spending by a recreation visitor. Indirect and induced effects are the multiplier effects resulting from subsequent rounds of spending in the local economy.

Input-output analysis was used to estimate the direct, indirect and induced employment and labor income effects stemming from motorized and non-motorized use. Input-output analysis (Hewings 1985) is a means of examining relationships within an economy both between businesses as well as between businesses and final consumers. It captures all monetary market transactions for consumption in a given

time period. The resulting mathematical representation allows one to examine the effect of a change in one or several economic activities on an entire economy. This examination is called impact analysis. Input-output analysis requires the identification of an economic impact area. The economic area, used for this jobs and income analysis, was five counties in Northern California and one in Nevada surrounding the TNF. The counties included in California are Nevada, Placer, Plumas, Sierra and Yuba, and Washoe County, Nevada.

The IMPLAN Pro input-output modeling system and 2006 IMPLAN data (the most recent data available) were used to develop the input-output model for this analysis (IMPLAN Professional 2004). IMPLAN translates changes in final demand for goods and services into resulting changes in economic effects, such as labor income and employment of the affected area's economy. For the economic impact area, employment and labor income estimates that were attributable to all current recreation use (wildlife and non-wildlife activities), motorized, non-motorized and other activities for the TNF were generated.

The expenditure and use information collected by the NVUM survey are crucial elements in the economic analysis. As reported earlier, the NVUM survey collects use and expenditure information for various activity types. The expenditure information is collected by twelve activity groups within four trip segments (non-local overnight trips, non-local day trips, local day trips and local overnight trips) (Stynes and White 2005; Stynes and White 2006). The reported spending for each of the spending categories is allocated to the appropriate industry within the IMPLAN model (the allocation process, also referred to as "bridging," was conducted by the USDA Forest Service, Planning Analysis Group in Fort Collins, CO). The bridged IMPLAN files were used to estimate economic effects (e.g., employment and labor income) related to changes in spending (i.e., changes in spending – technically referred to as changes in final demand - are caused by changes in use).

Estimated Economic Effects

Estimated economic effects (full and part-time jobs and labor income) are displayed in the following ways:

1. Direct, and indirect and induced employment and labor income response coefficients by activity type (jobs and labor income per 1,000 visits); and
2. Estimated employment and labor income by motorized and non-motorized activity types.

Response Coefficients by Activity Type

Table 3.11-10 displays the estimated employment and labor income response coefficients (employment and labor income per 1,000 visits) by local and non-local activity types. The response coefficients indicate the number of full and part-time jobs and dollars of labor income per thousand visits by activity type. The response coefficients are useful in: 1) understanding the economic effects tied to a given use level; 2) understanding projected employment effects for various use scenarios (sensitivity analysis); and 3) understanding the differences in employment effects by activity type. The response coefficients displayed in Table 3.11-10 along with the number of visits were used to estimate the economic effects for local and non-local use by activity type.

Analysis of information displayed in Table 3.11-10 indicates that economic effects tied to local visitation generate lower employment and labor income effects. This is a result of local visitors spending less per visit in comparison to non-local visitors (see Table 3.11-9). In addition, economic effects vary widely by motorized and non-motorized activity types. The lowest employment effect is tied to local hiking/walking, bicycling, other non-motorized and horseback riding activities (Note: the economic effects are identical for these categories since they share the same spending profile). The largest economic effect is associated with non-local cross country skiing, but is followed fairly closely by non-local snowmobiling. In general, economic effects vary by the amount of spending and by the type of activity, but it cannot be generalized that motorized or non-motorized activities contribute more or less to the local economy on a per visit basis. It is also important to be careful with the use of response coefficients. They reflect an economic structure that is a snapshot in time, that is, they are not applicable to visitation numbers that are dramatically different from current recreation levels. If recreation activities and/or visits were to change radically, there would be a structural shift in the economy as spending patterns changed and these response coefficients would no longer reflect underlying economic processes.

Table 3.11-10. Employment and Labor Income Response Coefficients by Activity Type

		Employment (Jobs per 1,000 Party-Trips)		Labor Income (2006 dollars) (\$ per 1,000 Party-Trips)	
		Direct Effects	Indirect & Induced Effects	Direct Effects	Indirect & Induced Effects
Non-motorized Use					
Hiking/ Walking, Bicycling, Horseback Riding, Other Non- motorized	Local Day	0	0	\$4,497	\$2,832
	Local Overnight	1	0	\$20,858	\$13,610
	Non-Local Day	0	0	\$9,840	\$5,375
	Non-Local Overnight	2	1	\$65,265	\$40,393
	NP	0	0	\$4,497	\$2,832
Backpacking	Local Day	0	0	\$0	\$0
	Local Overnight	1	0	\$18,864	\$14,050
	Non-Local Day	0	0	\$0	\$0
	Non-Local Overnight	1	0	\$25,717	\$15,671
	NP	1	0	\$19,864	\$14,050

		Employment (Jobs per 1,000 Party-Trips)		Labor Income (2006 dollars) (\$ per 1,000 Party-Trips)	
		Direct Effects	Indirect & Induced Effects	Direct Effects	Indirect & Induced Effects
Motorized Use					
OHV Use	Local Day	0	0	\$7,971	\$5,133
	Local Overnight	1	0	\$21,248	\$14,331
	Non-Local Day	0	0	\$12,531	\$8,069
	Non-Local Overnight	1	1	\$35,416	\$23,885
	NP	0	0	\$7,971	\$5,133
Driving	Local Day	0	0	\$4,960	\$3,036
	Local Overnight	1	0	\$27,264	\$16,878
	Non-Local Day	0	0	\$7,801	\$4,774
	Non-Local Overnight	2	1	\$45,447	\$28,134
	NP	0	0	\$4,960	\$3,036
Snowmobile	Local Day	1	0	\$14,256	\$9,080
	Local Overnight	2	1	\$50,348	\$31,460
	Non-Local Day	1	0	\$24,227	\$14,834
	Non-Local Overnight	3	1	83,919	\$52,436
	NP	1	0	\$14,256	\$9,080
Cross Country Ski	Local Day	0	0	\$8,287	\$5,318
	Local Overnight	2	1	\$54,525	\$34,350
	Non-Local Day	1	0	\$13,018	\$8,354
	Non-Local Overnight	4	1	\$90,881	\$57,253
	NP	0	0	\$8,287	\$5,318
All Other Use					
All Other Activities	Local Day	0	0	\$8,647	\$4,845
	Local Overnight	1	0	\$34,829	\$18,284
	Non-Local Day	0	0	\$14,606	\$7,711
	Non-Local Overnight	2	1	\$67,234	\$32,411
	NP	0	0	\$8,647	\$4,845

All Other Activities includes Developed Camping, Primitive Camping, Resort Use, Picnicking, Viewing Natural Features, Visiting Historic Sites, Nature Center Activities, Nature Study, Relaxing, Fishing, Hunting, Motorized Water Activities, Non-motorized Water, Downhill Skiing, Gathering Forest Products, Viewing Wildlife, Sightseeing, and No Activity Reported.

Motorized and Non-motorized Use

Table 3.11-11 displays the estimated employment and labor income effects for current use levels reported by NVUM for local and non-local non-motorized and motorized activities. Table 3.11-12 expresses these employment and labor income effects as a percent of total employment and income for each activity. In general, the estimated economic effects are a function of the number of visits and the dollars spent locally by the visitors. For example, non-local users typically spend more money per visit than local users. Also, activities that draw more users will be responsible for more economic activity in comparison to activities that draw fewer users, holding constant spending per visit. Given that the analysis is dependent on

visitation and expenditure estimates, any changes to these estimates affect the estimated jobs and labor income.

Table 3.11-11 indicates that approximately 217 total average annual jobs in the 5 county area (direct, indirect and induced, full-time, temporary, and part-time) and \$6.9 million total labor income (direct, indirect and induced) are attributable to non-motorized visitation on the TNF. The two largest activities are hiking/walking and cross country skiing. Together these activities account for about 12% of the jobs and 11% of the income generated from all of the activities analyzed. These activities account for about 147 jobs and provided \$4.6 million in labor income to the 5 county area.

Motorized activities were responsible for approximately 103 total jobs (direct, indirect and induced) and \$3.2 million total labor income (direct, indirect and induced). The two largest motorized uses are snowmobiling and driving for pleasure. These two activities contribute about 6.4% of the jobs from the activities in the table, and provide about 5.7% of the labor income. Together these two activities contribute 84 jobs and provide about \$2.6 million in labor income to the 5 county area.

“All Other Activities” (see Table 3.11-8 for a list) are significant economic contributors for the activities studied. They provide 952 jobs, or 75% of the jobs from the activities analyzed. Labor income is about \$34 million, or 77% of the income generated by these activities.

Table 3.11-12 shows that about 17% of the jobs provided from these activities are from non-motorized use, 8% from motorized use and 75% from “Other Activities.” The contributions to labor income are 16% non-motorized use, 7% motorized use and 77% from “Other Activities.”

Table 3.11-11. Employment and Labor Income Effects by Activity Type

	Employment (full & part-time jobs)		Labor Income (2008 dollars)	
	Direct	Indirect & Induced	Direct	Indirect & Induced
Non-Motorized Use				
Backpacking - Local	1	0	\$26,909	\$19,033
Non-local	1	0	\$32,105	\$19,564
Hiking/Walking - Local	21	9	\$581,556	\$369,257
Non-local	52	20	\$1,409,203	\$864,779
Horseback Riding - Local	0	0	3,704	\$2,352
Non-local	0	0	\$8,976	\$5,508
Bicycling - Local	8	3	\$229,659	\$145,821
Non-local	20	8	\$556,500	\$341,505
Cross country Skiing - Local	7	3	\$184,869	\$117,924
Non-local	25	10	\$672,460	\$423,983
Other Non-motorized - Local	6	2	\$155,575	\$98,782
Non-local	14	5	\$376,984	\$231,342
Total Non-motorized	155	61	\$4,238,500	\$2,639,849
Subtotal	217		\$6,878,349	

	Employment (full & part-time jobs)		Labor Income (2008 dollars)	
	Direct	Indirect & Induced	Direct	Indirect & Induced
Motorized Use				
OHV Use - Local	3	1	\$93,937	\$61,744
Non-local	4	2	\$108,139	\$72,378
Driving for Pleasure - Local	5	2	\$120,601	\$73,949
Non-local	4	1	\$93,027	\$57,508
Snowmobiling - Local	27	11	\$729,783	\$461,315
Non-local	25	9	\$638,280	\$397,622
Other Motorized Activity - Local	3	1	\$93,937	\$61,744
Non-local	4	2	108,139	\$72,378
Total Motorized	74	29	\$1,985,843	\$1,258,638
Subtotal	103		\$3,244,481	
All Other Use				
All Other Activities - Local	254	118	\$8,762,334	\$4,884,906
Non-local	403	176	\$13,557,831	\$6,960,639
Total Other	658	295	\$22,320,165	\$11,845,545
Subtotal	952		\$34,165,710	
Grand Total	887	385	\$28,544,508	\$15,744,032

Table 3.11-12. Percent of Total Employment and Labor Income Effects by Activity Type

	Employment (% of full & part-time jobs)		Labor Income (2008 dollars) (% of Total Income)	
	Direct	Indirect & Induced	Direct	Indirect & Induced
Non-Motorized Use				
Backpacking - Local	0.1%	0.0%	0.1%	0.0%
Non-local	0.1%	0.0%	0.1%	0.0%
Hiking/Walking - Local	1.6%	0.7%	1.3%	0.8%
Non-local	4.1%	1.6%	3.2%	2.0%
Horseback Riding - Local	0.0%	0.0%	0.0%	0.0%
Non-local	0.0%	0.0%	0.0%	0.0%
Bicycling - Local	0.6%	0.3%	0.5%	0.3%
Non-local	1.6%	0.6%	1.3%	0.8%
Cross country Skiing - Local	0.6%	0.2%	0.4%	0.3%
Non-local	2.0%	0.8%	1.5%	1.0%
Other Non-motorized - Local	0.4%	0.2%	0.4%	0.2%
Non-local	1.1%	0.4%	0.9%	0.5%
Total Non-motorized	12.2%	4.8%	9.6%	6.0%

	Employment (% of full & part-time jobs)		Labor Income (2008 dollars) (% of Total Income)	
	Direct	Indirect & Induced	Direct	Indirect & Induced
Motorized Use				
OHV Use - Local	0.3%	0.1%	0.2%	0.1%
Non-local	0.3%	0.1%	0.2%	0.2%
Driving for Pleasure - Local	0.4%	0.1%	0.3%	0.2%
Non-local	0.3%	0.1%	0.2%	0.1%
Snowmobiling - Local	2.1%	0.8%	1.6%	1.0%
Non-local	1.9%	0.7%	1.4%	0.9%
Other Motorized Activity - Local	0.3%	0.1%	0.2%	0.1%
Non-local	0.3%	0.1%	0.2%	0.2%
Total Motorized	5.8%	2.3%	4.5%	2.8%
All Other Use				
All Other Activities - Local	20.2%	9.4%	19.8%	11.0%
Non-local	31.7%	13.8%	30.6%	15.7%
Total Other	51.7%	23.2%	50.4%	26.7%
Totals	69.7%	30.3%	64.5%	35.5%
	100.0%		100.0%	

Table 3.11-13a. Total Employment and Labor Income Effects

		Employment Effects (full and part time jobs)	Labor Income (2008 dollars)
Total Non-Motorized Use	Local	60	1,935,441
	Non-Local	157	4,942,909
Total Motorized Use	Local	53	1,697,010
	Non-Local	50	1,547,471
Total All Other Use	Local	373	13,647,240
	Non-Local	579	20,418,470
Total	Local	487	17,279,691
	Non-Local	786	27,008,850
Total for Area		1,272	44,288,540

Table 3.11-13b. Percent of Total Area Employment and Total Area Labor Income Effects

		Employment Effects (full and part time jobs)	Labor Income (2008 dollars)
Total Non-Motorized Use	Local	0.018%	0.012%
	Non-Local	0.049%	0.033%
Total Motorized Use	Local	0.009%	0.006%
	Non-Local	0.009%	0.006%
Fishing	Local	0.006%	0.004%
	Non-Local	0.011%	0.008%
Hunting	Local	0.002%	0.001%
	Non-Local	0.001%	0.001%
Nature Related	Local	0.004%	0.002%
	Non-Local	0.011%	0.008%
Total All Other Use	Local	0.074%	0.060%
	Non-Local	0.107%	0.085%
	Total Use	0.138%	0.088%
Study Area Total		545,090	25,277,393,000

Table 3.11-13a and 3.11-13b show the relationship of jobs and income generated from all recreation activities studied compared to total jobs and income in the 5 county area. All of the recreation jobs together only account for about 0.14% of the total jobs in the area, and the income generated is about 0.09% of the total labor income in the area studied.

Predictions about changes in the amount of recreational use that may occur on the Forest are difficult to make and would be highly speculative. The Forest Service believes that under all action alternatives, levels of use would increase in the future by the same amount, although the use patterns may change. For example, even though the overall number of available roads and trails is reduced in all of the action alternatives, the same levels of use would simply become more concentrated in those available areas. However, motor vehicle use is already concentrated in some areas of the Forest, so this effect may not be realized either during implementation. However, at some point some users may not attain the experience they desire and would likely seek other areas off-forest. The point at which this would occur is speculative.

Seasonal closures on NFTS native surface (dirt) roads and motorized trails in Alternatives 4, 5 and 6 are likely to have some level of impact to the local economy. Yet, this effect, again, is nearly immeasurable in relationship to the overall economy in the area. Any potential effects would likely impact gas stations, convenience stores, and other retail stores in local communities.

Environmental Justice

Community clusters are used to display how implementation of could affect people across the Region. Community clusters are groups of communities that share a common economic history and environmental setting. The following factors form the basis for community clusters: watershed and basin boundaries;

courses of highways, and proximity to the TNF. Table 3.11-14 displays those community clusters used in this analysis.

Table 3.11-14. Community clusters used to analyze economic and social impacts on communities

Community Cluster	ZIP Code	Community	Community Population
Eastern Sierra & Plumas Cos.	96015	Chilcoot	470
	96118	Loyalton	1500
	96124	Calpine	286
	96126	Sierraville	355
	96135	Vinton	Not Available
Grass Valley/Nevada City	95945	Grass Valley	21,263
	95946	Penn Valley	7603
	95949	Grass Valley	20,973
	95959	Nevada City	16,670
	95960	North San Juan	228
	95975	Rough and Ready	1811
	96977	Smartville	807
West I-80 Corridor/Auburn	95603	Auburn	32,535
	95631	Foresthill	4626
	95658	Newcastle	5998
	95701	Alta	751
	95703	Applegate	1898
	95713	Colfax	7344
	95714	Dutch Flat	533
	95715	Emigrant Gap	36
	95717	Gold Run	79
	95722	Meadow Vista	3314
Yuba River	95910	Alleghany	Not Available
	95918	Browns Valley	1297
	95919	Brownsville	1013
	95922	Camptonville	1090
	95935	Dobbins	1502
	95936	Downieville	46
	95941	Forbsetown	517
	95944	Goodyears Bar	377
	95962	Oregon House	Not Available
	95972	Rackerby	260
	95981	Strawberry Valley	242
	96125	Sierra City	311

Community Cluster	ZIP Code	Community	Community Population
East I-80 Corridor	89511	Reno (Rural Washoe)	16,421
	95724	Norden	316
	95728	Soda Springs	96
	9611	Floriston	169
	96161	Truckee	9544
	96162	Truckee	199

Assumptions and Limitations

Diverse data sources were used to analyze impacts related to social issues. One particularly important source is data from the U.S. Census Bureau. These data provide details about economic and social characteristics of individual communities or community clusters in the TNF at a finer scale than the county level. Unfortunately, the data are 9 to 10 years old. This limitation may mean that economic and social conditions have changed in the intervening time. However, collecting new information is not essential to discern differences among alternatives or required for a reasoned choice among options.

Environmental Justice: Affected Environment

Race, Cultural Heritage, Employment, and Income

The Tahoe National Forest community clusters have larger white populations than communities located just outside the Region. Table 3.11-15 shows percentages of people by racial composition and by Hispanic cultural heritage in the community clusters. None of the racial and cultural minorities when combined comprise more than 10 percent of a cluster’s population in the TNF Region.

Table 3.11-15. Percentages of residents by race and Hispanic cultural heritage for Tahoe National Forest community clusters, 1990

Subregion and Community Cluster	White	Black	American Indian	Asian Pacific Islander	Other	Hispanic, All Races
Eastern Sierra & Plumas Cos.	96.0	0.0	2.8	0.0	1.2	4.7
Grass Valley / Nevada City	97.1	0.3	1.2	0.7	0.6	3.9
West I-80 Corridor / Auburn	95.7	0.4	1.5	1.4	1.0	4.7
Yuba River	91.8	1.1	4.1	1.4	1.6	5.9
East I-80 Corridor	96.0	0.3	1.2	1.4	1.1	5.3

Source: US Census Bureau, 1990 Census Data

Per capita income figures show that in general racial and cultural minority groups in the TNF Region earn less than their white neighbors. Table 3.11-16 displays per capita incomes of racial and cultural groups in each community cluster. Figures are in bold where race or heritage based per capita incomes fall below half the per capita incomes of whites. Per capita incomes of all minority groups combined (Black, American Indian, Asian and Pacific Islander, and others) are less than half the per capita incomes for whites in the Yuba River community cluster.

Table 3.11-16. Per capita incomes of residents in Tahoe National Forest community clusters by ethnicity and cultural heritage, 1989

Subregion and Community Cluster	White	Black	American Indian	Asian and Pacific Islander	Other	Combined Racial Minorities	Hispanic, All Races	Percent Jobs in Services Sector
	in 1989 dollars							
Eastern Sierra & Plumas Cos.	11,714	NA	8,683	NA	5,006	7,580	11,601	10.1
Grass Valley/ Nevada City	15,561	4,426	8,858	13,784	10,814	10,034	10,081	3.6
West I-80 Corridor/ Auburn	15,938	19,117	11,109	24,163	11,127	16,108	14,317	2.5
Yuba River	12,917	8,894	5,532	3,848	9,360	6,442	15,893	14.1
East I-80 Corridor	20,700	20,378	14,801	12,549	15,552	14,638	12,033	2.1

Source: US Census Bureau, 1990 Census

Community Clusters at Risk: Community clusters at risk from consequences stemming from the alternatives proposed in this EIS have certain characteristics related to poverty; poverty in relation to race or cultural heritage, historical unemployment, and types of employment. Community clusters of greatest socioeconomic concern meet at least one of the following four criteria:

1. More than 10 percent of the cluster’s population is comprised of minority racial groups that combined have per capita incomes that are no more than half of whites’ per capita income;
2. More than 10 percent of the cluster’s population is comprised of Hispanics *and* Hispanic per capita income is no more than half of whites’ per capita income;
3. Per capita income for whites in a community cluster is less than \$10,350; (This figure is half of the per capita income of the community cluster (East I-80 Corridor) with the highest white per capita income (\$20,700) in the TNF Region.)
4. More than 10 percent of the jobs in the cluster are in the services sector (as a surrogate for recreation).

These criteria identify elements of concern for social impacts in rural communities in several ways. Criteria 1 and 2 identify minority populations, comprising at least 10 percent of the total population that live under marked economic inequalities. Criterion 3 speaks to relative unevenness of wealth distributed across the Sierra Nevada Region for all people. Unemployment differs considerably among Sierra Nevada Region communities. Communities that currently have the highest unemployment have consistently had high unemployment (from 1990 to 1998) despite economic turnarounds in other parts of California. Forest Service opportunities for motorized wheeled vehicle recreation may influence employment in the services sectors in the community clusters. Criterion 4 identifies communities with a high dependence upon the services sector. The community clusters at risk based on these criteria are displayed in Table 3.11-17.

Table 3.11-17. Community clusters of concern based on income by ethnic or cultural heritage group, sources of employment, and percent unemployment

Community Cluster	Qualifying Criteria
Eastern Sierra and Plumas Cos.	1
Yuba River	2

Children in Poverty

Children are one population group that is disproportionately represented within low-income families. Table 3.11-20 shows U.S. Census Bureau estimates for all people living in poverty and for children living in poverty in counties of the TNF Region. Children are all people less than 18 years old. The U.S. Census Bureau defines poverty based on threshold incomes for families of different sizes. Thresholds change yearly and do not vary geographically.

The percentages of children living in poverty in the TNF Region are all below State averages with the exception of Yuba County. More than one-third of the children in Yuba County live in poverty. None of the counties in the TNF Region that have adults living in poverty comprise more than one-third of the total adult population.

The California Department of Education monitors the number of enrolled school children receiving supplemental benefits through Aid to Families with Dependent Children and through free or reduced-price meals. Table 3.11-20 summarizes data for school-age children at schools in the Tahoe National Forest Region.

Table 3.11-18. All people and all children living in poverty in the TNF Region counties, 1996

County	Number of All People Living in Poverty	Percent of People Living in Poverty	Number of Children Living in Poverty	Percent of Children Living in Poverty
Plumas	2,552	12.2	1,094	19.3
Sierra	326	9.4	102	10.6
Nevada	8,456	9.4	3,145	13.6
Placer	16,376	7.6	6,268	10.3
Yuba	13,964	22.8	7,279	34.0
All CA	5,215,575	16.5	2,214,535	24.3

Note: Children are considered to be all people less than eighteen years old.

Source: US Census Bureau (1999) based on a 1995 demographic model and 1996 populations.

Childhood Education

Table 3.11-19 presents the most recent available figures for primary and secondary public schools attended by pupils living in the Tahoe National Forest region. The table shows that, between the 1992-93 and 1997-98 school years, schools in the Region stabilized or reduced pupil-to-teacher ratios and also provided 2.3 percent more school meals to pupils for free or at a reduced price. These accomplishments occurred at the same time that many counties were seeing increases in their enrollments. For example, Placer County saw increases of 10 percent or more.

Table 3.11-19. Enrollment, poverty status, pupil-teacher ratios, and expenditures per pupil for schools attended by pupils living in Sierra Nevada Region

County	Enrolled Students			Children in Poverty*	Percent of Pupils in Families Receiving AFDC Payments			Pupil-to-Teacher Ratio			Per Pupil Spending
	1992-93	1997-98	Percent Change		1996	1992-93	1997-98	Percent Change	1992-93	1997-98	
Plumas	3,875	3,617	-6.7	18.2	13.0	10.4	-2.6	22.4	20.0	-2.4	5,500
Sierra	829	1,592	92.0	10.6	6.4	4.1	-2.3	18.1	16.8	-1.3	7,950
Nevada	12,644	13,378	5.8	12.4	9.2	7.6	-1.7	22.9	20.5	-2.3	5,330
Placer	17,607	20,098	14.1	9.8	7.7	6.0	-1.8	24.2	20.8	-3.4	5,108
Yuba	125	82	-34.4	20.2	23.2	28.0	4.8	23.0	17.1	-5.9	6,950

Source: US Census Bureau and California State Department of Education

* Pupils from parts of counties outside of the Sierra Nevada Region are not included in these totals. Some high schools attended by Sierra Nevada Region pupils, however, lie outside the Sierra Nevada Region. High schools attended by Sierra Nevada Region pupils are included in totals, except in Yuba County.

AFDC: Aid to Families with Dependent Children

Payments to the TNF Region counties from Forest Service timber sales, expressed in constant year dollars, have declined. Counties with declines of more than 70 percent between 1992 and 1997 include Plumas and Yuba. With growing enrollments and reduced funds from Forest Service revenues, these counties, in particular, may experience greater fiscal constraints to meet mandates and societal expectations for public school performance. Children, especially poor children, in these counties may receive diminished educational benefits.

To meet the shortfall in Forest Service receipts, President Clinton signed into law the Secure Rural Schools and Community Self-Determination Act of 2000 on 30 October 2000. This law gives counties the option, instead of 25 percent of current year receipts, of receiving annual payments from the U.S. Forest Service and other federal agencies based on the average of the three highest annual payments for the period 1986 to 1999. See Table 3.11-20. An annual increase above the three-year average adds value up to 50 percent of the annual increase in the National Consumer Price Index in each successive year.

Table 3.11-20. Changes in Forest Service payments (in 1995 dollars) to Sierra Nevada Region counties, 1992 and 1997

Subregion and County	Total Forest Service Payments		
	1992	1997	Percent Change
Plumas	9,521,606	1,659,323	-82.6
Sierra	1,723,426	874,447	-49.3
Nevada	664,716	405,126	-39.1
Placer	1,486,525	739,943	-50.2
Yuba	283,674	75,090	-73.5

USDA Forest Service Records of Payments to California and Nevada counties.

Results from Scholastic Aptitude Tests (SATs) provide one measure of how well public education prepares its students for higher education at colleges and universities. Many people are concerned about how reduced receipts to counties related to National Forest timber sales may have affected counties' spending on educational services for students and ultimately student performance. Table 3.11-21 ranks high schools attended by Sierra Nevada Region students attend based on each school's combined average scores in reading comprehension and mathematical skills.

Table 3.11-21. Combined Average Scholastic Aptitude Test (SAT) scores for High Schools Attended by Sierra Nevada Region Students

High School Name	High School Location (CA Unless otherwise noted)	Percent taking SAT 1989	Aver. Combined SAT Score 1989	Percentile Rank 1989	Percent taking SAT 1998	Aver. Combined SAT Score 1998	Percentile Rank 1998 All CA & NV	Change in Ranking
Nevada Union High	Grass Valley	33.3	1054	76	44.9	1094	82	6
Colfax High	Colfax	28.1	1067	80	46.2	1062	73	-6
Placer High (Char)	Auburn	24.7	1048	74	39.5	1059	72	-1
Tahoe Truckee High	Truckee	35.3	1020	64	51.9	1058	72	8
Del Oro High	Auburn	26.7	1070	81	40.7	1048	69	-11
Bear River High	Grass Valley	33.1	1012	61	46.2	1030	64	3
Loyalton High	Loyalton	32	969	47	51.6	1006	58	11
North Tahoe High	Truckee	44.8	1020	64	73	1003	57	-7
Downieville Junior-Senior High	Downieville	54.5	1086	86	75	936	39	-47

Community Needs for Fuel Wood

Fuel wood supplies are critical to rural people in California with low incomes. Data about fuel wood demand and supply in TNF Region counties are not available at present. Just outside the Region, in Trinity County, California, however, more than 70 percent of households rely on wood heating for their home (Celia Danks, Hayfork GIS Center, Hayfork, CA, personal communication April 1999). Smoke from domestic wood stoves may worsen local air quality during the winter and early spring that in turn may damage the health of children and elderly people nearby.

Environmental Justice: Environmental Consequences

Predictions about changes in the amount of recreational use that may occur on the Forest are difficult to make and would be highly speculative. The Forest Service believes that under all action alternatives, levels of use would increase by the same amount in all alternatives although the use patterns may change. For example, even though the overall number of available roads and trails is reduced in all of the action

alternatives, the same levels of use would simply become more concentrated in those available areas. However, motor vehicle use is already concentrated in some areas of the Forest, so this effect may not be realized either during implementation. However, at some point some users may not attain the experience they desire and would likely seek other areas off-forest. The point at which this would occur is speculative.

Seasonal closures on NFTS native surface (dirt) roads and motorized trails in Alternatives 4, 5 and 6 are likely to have some level of impact to the local economy. Yet, this effect, again, is nearly immeasurable in relationship to the overall economy in the area. Any potential effects would likely impact gas stations, convenience stores, and other retail stores in local communities.

Race, Cultural Heritage, Employment, and Income

The potential impacts from changes in recreation use levels to minority and poor communities are likely to be greater in the Eastern Sierra and Yuba River clusters. These community clusters would be particularly sensitive to potential economic changes associated with the alternatives. These clusters are either the poorest community clusters in the Sierra Nevada Region and have traditionally had significant employment tied to the services industry or sizable minority populations.

Children in Poverty

Children may disproportionately suffer from economic decisions of the Forest Service if their parents lose jobs or must take lower paying jobs.

Childhood Education

The Secure Rural Schools and Community Self-Determination Act of 2000 gives the counties the option to receive payments based in the highest five years receipts from 1986 to 1999. This program is for five years, so during that period, county education budgets will not be impacted.

Other social and economic factors in communities or other Federal and State funding may have more influence more the ability of public education systems in the Region to prepare their students for higher education than the Forest Service.

Community Needs for Fuel Wood

Most individuals use wheeled motorized vehicles to gather personal use fire wood. Those alternatives which provide the largest miles of roads open to wheeled motor vehicles for the longest period would provide the greatest opportunity for fuel wood gathering. Table 3.11-22 shows the miles of roads available by vehicle class and season.

Table 3.11-22. Miles of roads available for fuel wood gathering opportunities by time of year

Access for Fuel wood Gathering Opportunities (miles)								
Class of Vehicle	Season of Use	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Roads Open to Highway Legal Vehicles Only	All Year	351.4	141.4	351.4	348.1	141.4	230.2	348.1
Roads Open to Highway Legal Vehicles Only	Seasonal Restriction	265.3	76.9	265.3	265.3	76.9	251.5	265.3
Roads Open to All Vehicles	All Year	1044.0	1268.2	1044.0	0.0	132.6	4.6	1048.3
Roads Open to All Vehicles	Seasonal Restriction	406.9	586.0	406.9	1457.9	1801.1	1597.1	406.9

Summary of Environmental Justice in the Sierra Nevada Region

Table 3.11-23 summarizes Forest Service concerns for social impacts and environmental justice in Sierra Nevada community clusters analyzed in this EIS. Eastern Sierra and Plumas Counties are at risk for disproportional effects from the alternatives based on two criteria; 1) Race, cultural heritage and income and 2) Community Needs for Fuel Wood. The Yuba River community cluster is at risk for disproportional effects from the alternatives based on three criteria; 1) race, cultural heritage and income, 2) Children in Poverty and 3) Community Needs for Fuel Wood. There is no risk for disproportional effects from the alternatives based on any of criteria of any of the other community clusters.

Table 3.11-23. Summary of Forest Service Civil Rights Impact Analysis and environmental justice by community clusters in the Sierra Nevada Region

Subregion and Community Clusters	Race, Cultural Heritage, Employment, and Income	Children in Poverty	Childhood Education	Community Needs for Fuel Wood	Barriers to Communication
Eastern Sierra & Plumas Counties	Yes	No	No	Yes	No
Grass Valley/Nevada City	No	No	No	No	No
West I-80 Corridor/Auburn	No	No	No	No	No
Yuba River	Yes	Yes	Yes	Yes	No
East I-80 Corridor	No	No	No	No	No

Social Impact Analysis: Affected Environment

For the TNF, two social groups have been identified as likely to be affected by the Travel Management alternatives. These groups generally place different demands and have different values regarding management of motor vehicle use in the TNF. These groups were identified through a variety of sources including: The Public Collaboration Meetings held prior to the Notice of Intent (NOI), scoping comments received on the proposed action in the NOI, public meetings held during the scoping period, public comments received on the Draft EIS, public meetings held during the comment period on the Draft EIS, as well as various other meetings held with individuals or organizations. The identified groups are not mutually exclusive. They are, however, useful for analysis. The different social groups would be affected

differently by the various alternatives. Although grouping may produce some incorrect stereotyping, generally the following characteristics apply to these groups.

Motorized Use Advocates

One group perceived this action as restrictive in nature. They viewed the proposed action as unreasonably restricting motorized recreation use by prohibiting cross country travel and only adding 70.3 miles of additional NFTS motorized recreation opportunities. Concerns were raised that restricting cross country travel across the entire Forest severely impacts motorized recreation opportunities and unfairly restricts access for hunting, fishing, camping and a host of other outdoor activities. Several individuals commented on specific roads that they use and have used historically which they would like to have added to the NFTS.

Non-motorized Use Advocates

Another group of commenters expressed the desire to see the Forest be more restrictive and protective of the resources and that many of the motorized trails proposed for addition to the NFTS are poorly located and would cause adverse impacts to plants, wildlife, water quality, soils and other natural resources. Many commenters expressed concerns about impacts to a variety of natural resources, citing stream crossings, habitat fragmentation, wildlife disturbance, sedimentation, cultural resources, invasive weeds and other resources that would be impacted by motorized use or roads and trails. A group also expressed concerns that the proposed addition of motorized trails to Inventoried Roadless Areas would adversely affect roadless characteristics of these areas including opportunities for solitude, undisturbed landscapes and primitive, non-motorized recreation.

Social Impact Indicators

Lifestyles

This variable includes the ways people live; patterns of work and leisure, customs and traditions, and relationships with family and friends. Aesthetic amenities (e.g., open space, scenery, quiet) and recreation opportunities both motorized and non-motorized are affected by the Travel Management alternatives.

Attitudes, beliefs and values

This variable refers to the feelings, preferences, and expectations people have for the TNF and the management and use of certain areas. It may include the group's sense of freedom or self-sufficiency and their feeling of certainty or uncertainty about the future. The former includes changes in perceived control by outside interests, perceived capability of local government to meet their needs, and the group's sense of whether they can meet their recreation needs from the Forest. Feelings about the future may be affected by rates of change caused by Forest Service management and the predictability of consequences of the change.

Social Impact Analysis: Environmental Consequences

Social and economic consequences are closely related. (Income and employment effects are discussed earlier in this chapter) Social effects are expressed through the evaluation of lifestyles; attitudes, beliefs and values. The affected groups include motorized and non-motorized use advocates.

Implementing the alternatives would have social consequences. When the groups within the Forest sphere of influence differ significantly in their expectations for Forest recreation use and when the alternatives have different effects on the social groups, potential conflict exists. Generally, the smaller the range of alternative choices, the less the conflict between social groups.

For example alternatives which prohibit cross country travel are most beneficial to non-motorized use advocates. On the other hand, alternatives which emphasize motorized recreation opportunities are most acceptable to motorized use advocates.

The two social groups are the focus of the discussion that follows. Table 3.11-24 displays the social effects for each group by indicator measure and alternative.

Table 3.11-24. Summary of impacts to social groups by alternative

Indicator Measure	Social Group	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Lifestyles	Motorized Use Advocates	SS	GS	LS	LS	GS	GS	GS
	Non-motorized Use Advocates	LS	LS	GS	GS	LS	GS	GS
Attitudes, Beliefs and Values	Motorized Use Advocates	SC	GC	LC	LC	GC	GC	GC
	Non-motorized Use Advocates	LC	LC	GC	GC	LC	GC	GC

Legend

- LS – Alternative provides “Little Support” for the lifestyle of the group
- GS – Alternative “Generally Supports” the lifestyle of the group
- SS – Alternative “Substantially Supports” the lifestyle of the group
- LC – “Least Coincides” with the group’s attitudes beliefs and values
- GC – Generally Coincides with the group’s attitudes beliefs and values
- SC – “Substantially Coincides” with the group’s attitudes beliefs and values

Direct and Indirect Effects

If the prohibition of cross country travel is implemented it may negatively impact motor vehicle users on the TNF. This action may affect the very young and the very old by preventing them from participating in activities that require strenuous walking for access. This same action may enhance the recreation opportunity for non-motorized users. This may cause resentment between user groups. The addition of roads and trails to the NFTS may appeal to users who recreate by driving or riding for pleasure. However, this may negatively affect the non-motorized users because of concerns of impacts to plants, wildlife, water quality, soils and other natural resources.

Cumulative Effects

Based on historic data and our best estimates, the Forest assumes that use would not change dramatically in the future because of this project; however, use could increase as population increases. It is also

assumed, that under all action alternatives, levels of use would increase by the same amount; although the use patterns may change. For example, even though cross country travel is prohibited in all of the action alternatives, the same levels of use would simply become more concentrated on roads.

Based on the current numbers and these assumptions, the possibility of conflict between user groups is probably the most constant cumulative effect socially and may be present regardless of which alternative is chosen.

Civil Rights Impact Analysis

USDA civil rights policy requires each agency to analyze the civil rights impact(s) of policies, actions, or decisions that will affect federally conducted and federally assisted programs and activities. A civil rights impact analysis (CRIA) facilitates the identification of the effects of eligibility criteria, methods of administration, or other agency-imposed requirements that may adversely and disproportionately impact employees or program beneficiaries based on their membership in a protected group. Protected groups include multiples of similarly situated persons who may be distinguished by their common race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetics, political beliefs, or receipt of income from any public assistance program.

Restrictions on motor vehicle use that are applied consistently to everyone are not discriminatory. However, some groups could be impacted more than others. This assessment addresses such concerns.

Public Involvement and Scoping

Public involvement concerning this proposal began with travel analysis that focused on the identification of unauthorized routes and assessing the effects of prohibiting cross country motorized travel on Forest users. This initial phase of public involvement began on October 19, 2006 and included six workshops to identify which routes and areas should become part of the “Proposed Action.” On October 19 (Nevada City), October 23 (Truckee), and October 26 (Foresthill), the public broke into three groups to review three different geographical areas and to discuss which of the routes should or should not become part of the proposal. Some of the groups continued to meet and/or to make field visits to review conditions on the ground. On November 15 (Grass Valley), December 5 (Truckee) and December 7 (Foresthill), the groups shared their ideas and their various concerns to the general public. Roughly 300 people participated in these workshops. In 2007, an e-mail update was issued sharing information on the meetings and outcome. These workshops were open to the general public including minorities, woman, and people with disabilities. The facilities where the workshops were held were ADA compliant.

Public scoping for this EIS began with a NOI published in the Federal Register on April 11, 2007. Scoping for the proposal was conducted through May 14, 2007. Scoping efforts included presentations to a variety of groups, phone calls, news releases, website postings and emails to alert the public of the opportunity to comment on the Proposed Action. Public meetings were held in Truckee (April 18, 2007), Foresthill (April 24, 2007) and Grass Valley (April 26, 2007) to explain the Proposed Action. Over 3,500 comments were received via e-mail and regular mail, most being e-mail form letters.

An 88-day comment period on the DEIS was completed on December 29, 2008. During the comment period public meetings were held in Nevada City (Oct. 1, 2008), Sierraville (Oct. 3), Olympic Valley (Oct. 7, 2008), and Auburn (Oct. 9, 2008) to discuss the DEIS. Over 7,000 comments were received via e-mail and regular mail, most being e-mail form letters.

Concerns and Mitigations Related to Potential Civil Rights Impacts

Through these public involvement efforts and interdisciplinary discussions, several concerns were raised and are addressed below.

Gathering Special Forest Products

It is known that many people, including members of protected groups, use motor vehicles to gather Special Forest Products including mushrooms, greenery, firewood, posts, poles, etc. Such products are gathered for both personal and commercial use. Some protected groups are known to be very active in gathering certain Special Forest Products. Concerns have been raised that the prohibition on cross country travel will restrict such activities to designated roads or trails, limit people's ability to gather such products and disproportionately impact protected groups.

Currently, under 36 CFR 261.6, removing any timber, tree or other forest product, except as authorized by a special-use authorization, timber sale contract, or Federal law or regulation is prohibited.

Gathering special forest products requires written authorization by the Forest Service. Such permitted activities are exempt from the prohibition on cross country travel in accordance with provisions of the permit (36 CFR 212.51 (8)). Such activities have been, and will continue to be, subject to separate, site-specific National Environmental Policy Act analysis, before permits are issued. This proposal does not change that policy. Permits will continue to be issued in accordance with law, regulation and policy regardless of this proposal. Therefore, it is not expected that gathering special forest products will be affected by this proposal or that any protected groups will be disproportionately affected.

Impacts on People with Disabilities and the Elderly

Throughout scoping, concerns have been raised about the impact of this project on people with disabilities and the elderly. Commenters have asserted that the proposal unfairly discriminates against these groups because they are more dependent on motor vehicles to access and enjoy our National Forests.

Comments from people with disabilities and the elderly, including references to specific sites or locations, were considered in the development of alternatives. Recreation opportunities and access needs for all users are some of the criteria used in the process of developing the selected alternative.

Implementation of the Travel Management Rule, Subpart B, including the prohibition of cross country travel, would be Forest-wide and applies to all Forest users equally. Changes to the NFTS would be largely limited to changes in vehicle class and season of use. Motorized access on NFTS routes is expected to be enhanced by the addition of unauthorized routes and the addition of vehicle classes on routes where such use has been prohibited.

There is no legal requirement to allow people with disabilities to use motor vehicles on roads, on trails, and in areas that are closed to motor vehicle use. Restrictions on motor vehicle use that are applied

consistently to everyone are not discriminatory. Generally, granting an exemption from designations for people with disabilities would not be consistent with the resource protection and other management objectives of travel management and would fundamentally alter the nature of the Forest Service's travel management program (29 U.S.C. 794; 7 CFR 15e.103).

Under section 504 of the Rehabilitation Act of 1973, no person with a disability can be denied participation in a Federal program that is available to all other people solely because of his or her disability. Consistent with 36 CFR 212.1, FSM 2353.05, and Title V, Section 507(c), of the Americans With Disabilities Act, wheelchairs and mobility devices, including those that are battery-powered, that are designed solely for use by a mobility-impaired person for locomotion and that are suitable for use in an indoor pedestrian area are allowed on all NFS lands that are open to foot travel.

Further, the Selected Alternative includes those additions to the NFTS that were identified as being of special importance to the elderly and disabled. These additions include ARM-3r (family oriented ATV/motorcycle), YRS-B5 (low difficulty motorcycle), TKN-J5 (4wd access to views along Sierra crest), access to the shoreline at Boca, Prosser and Stampede Reservoirs, and numerous routes accessing dispersed recreation sites.

Access by American Indians

Concerns were raised by American Indians and tribal representatives that this proposal would unduly restrict access to sacred sites or traditional gathering areas that are accessed via motorized cross country travel, including unauthorized routes. Elderly or infirm tribal members may be prevented from participating in tribal activities if motor vehicle access is denied. Such access has been traditionally granted as long as resource damage can be prevented.

Motor vehicle use that is specifically authorized under a written authorization issued under Federal law or regulations is exempt from route designations (36 CFR 212.51 (8)). Therefore, motor vehicle access to sacred sites or gathering areas may be authorized by the Forest Service and will not be affected by this proposal.

Further, throughout the Travel Management Project, comments were solicited but not received from federally recognized and unacknowledged tribes, intertribal organizations, and individuals. The following Table 3.11-25 is a summary of the communications to date with American Indian Tribes.

Table 3.11-25. American Indian Tribes Communications

Tribe	When
T'si-Akim Maidu, Donald Ryberg; Washoe Tribal Council, Brian Wallace; United Auburn Indian Community, Jessica Taverrs; Colfax-Todd Valley Consolidated Tribe, Richard Prout; Todd Valley Miwok-Maidu Cultural Foundation, Brigitte Zellner; Greenville Rancheria, Lorie Jaimes; California Indian Basketweavers Association, Sara Greensfelder, and Wadatkuht Band of the Northern Paiutes of the Honey Lake Valley, Harold Dixon.	March 15, 2005 (letters, e-mails, and phone calls)
United Auburn Indian Community, Yolanda Chavez of Environmental Services	April 26, 2007 (phone call)
Ms. Shannon Brawley, Executive Director, California Indian Basket Makers Association	April 13, 2007 (letter)

Tribe	When
United Auburn Indian Community (UAIC), Yolanda Chavez of Analytical Environmental Services	July 5, 2007 (phone call)
United Auburn Indian Community (UAIC)	July 10, 2007 (meeting)
Mike DeSpain, Greenville Rancheria Environmental Coordinator	May 4, 2007 (phone call)
Waldo Walker, Washoe Tribe of Nevada and California	March 18, 2008 (letter)
Jessica Tavares, United Auburn Indian Community	March 18, 2008 (letter)
Lavina Suehead, Colfax Todd Valley Consolidated Tribe	March 20, 2008 (letter)
Don Ryberg, T'si-Akim Maidu	March 20, 2008 (letter)
Bridget Zellner, Todd Valley Miwok-Maidu Cultural Foundation	March 20, 2008 (letter)
Darrel Cruz, Washoe Tribe of Nevada and California	May 27, 2008 (phone call)
Darrel Cruz, Washoe Tribe of Nevada and California	July 3, 2008 (meeting)
Lorie James and Mike DeSpain, Greenville Rancheria; Don Ryberg, T'si Akim Maidu; Waldo Walker, Washoe Tribal Council; United Auburn Indian Community; Levina Suehead, Colfax-Todd Valley Consolidated Tribe; Brigette Zellner, Todd Valley Miwok-Maidu Cultural Foundation; Harold Dixon, Wadatkauht Band of the Northern Paiutes of the Honey Lake Valley.	February 12 , 2009 (letter)

Impacts on People with Limited English Proficiency

In California, people of Hispanic origin comprise a large part of the population and enjoy access to the National Forests for a variety of recreation and business pursuits. Many of these users speak English as a second language and therefore may have limited ability to read maps or other publications pertaining to travel management. In particular, the Forest Motor Vehicle Use Map (MVUM) is a concern since the MVUM will be the basis for enforcing vehicle restrictions. NFTS routes that are open for public use will be designated on the MVUM and users that leave designated routes will be subject to fines. There is a concern that people with limited English proficiency will be more vulnerable to citation if they are unable to read or understand the MVUM.

As the population of the Sierra Nevada Region grows, the ethnic composition of its residents will change as well. The population of the TNF Region is expected to more than double over the next 50 years. At the same time, the number of Hispanic residents is projected to grow at a greater rate than the number of white residents. Proportions of other ethnic groups, except whites, are expected to remain essentially the same. In order to lessen potential negative impacts to Spanish speaking people, the Tahoe National Forest will publish the MVUM in both Spanish and English.

Summary of Effects Analysis across All Alternatives

Table 3.11-26 summarizes the effects analysis for the social and economic environment by ranking each alternative regarding how well it provides for each of the indicators. This summary is not meant to convey that the indicators are equal in importance. The following rankings were used: A score of 7 indicates the alternative has the least impact for the social economic environment to the indicator. A score of 1 indicates the alternative has the most impact for the social economic environment related to the indicator. A score of 0 indicates the indicator does not apply.

Table 3.11-26. Comparison of Effects to the Social Economic Environment

Indicator	Alt 1	Alt 2	Alt 3	Alt 4	Alt 5	Alt 6	Alt 7
Employment and Income	0	0	0	0	0	0	0
Environmental Justice	0	0	0	0	0	0	0
Motorized Use Advocate Lifestyles	7	5	1	2	6	4	3
Non-motorized Use Advocate Lifestyles	1	3	7	6	2	4	5
Motorized Use Advocate Attitudes, Beliefs and Values	7	5	1	2	6	4	3
Non-motorized Use Advocate Attitudes, Beliefs and Values	1	3	7	6	2	4	5
Civil Rights Impacts	0	0	0	0	0	0	0
Average	4.0	4.0	4.0	4.0	4.0	4.0	4.0