

## 3.10. Adjacent Ownerships

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### Affected Environment

#### Adjacent Lands of Other Ownerships

Compatibility between the management of National Forests and the management of adjacent private land is important in reducing conflicts. Within the established boundaries of the Tahoe National Forest are approximately 381,000 acres of privately owned land, with parcels varying in size from about 5 acres to over 12,000 acres. Additional private land adjoins the Tahoe National Forest's exterior boundary and along interior inclusions (i.e., areas of private land excluded when the Tahoe National Forest was established). More than 2,700 miles of property boundary interface between the National Forest and private land.

The checkerboard pattern of ownership in this area results from the railroad land grants of the 1860's, which were intended to encourage the construction of railroads and schools by granting alternate sections of land to the railroads and the States. The majority of this land is owned currently by Sierra Pacific Industries and other timber land managing companies, resulting in about 2,000 miles of property boundary between them and the Tahoe National Forest. Many cooperative agreements for such things as road construction and maintenance have been entered into with adjacent landowners; many of which allow for public access across private land. Sierra Pacific Industries (SPI) manages more than 250,000 acres in the Sierra Nevada. They are the largest corporate landowner in the Tahoe National Forest. SPI has stated that they are opposed to public OHV use on their lands. The assumption has been made in estimating environmental effects in this EIS that SPI corporate forest roads will not be available for use by the public.

Scattered throughout the Tahoe National Forest are smaller parcels and tracts of privately owned land. These parcels are mostly the result of homesteads, Native American Allotments, mineral patents, and State School land sales. These small parcels are typically 5 to 100 acres with irregular shapes.

Different land ownerships, by themselves, do not create conflict in regards to public access by wheeled motor vehicles. Different land ownership objectives often do, even on lands in the same ownership. Opportunities to coordinate with intermingled and adjacent land owners will continue, and underlining the importance of developing compatible road and trail management objectives between private and National Forest System Lands.

Recently, more encroachment and trespassing have occurred along the National Forest/private property boundaries, resulting in user-created routes existing on private land. Several of the unauthorized routes under consideration for addition to the National Forest System of roads and trails cross private lands. For the portion of these routes on National Forest System lands to be added to the National Forest Transportation System, permission must first be obtained from the private landowner to grant public access across their lands as well. Once this permission is obtained, the portion of the roads and/or trail on National Forest System lands would be added to the National Forest Transportation System and be made available for public access. Prior to the permission being obtained, public use of these roads and trails would be prohibited. If the landowner is unwilling to give permission for public access across the portion on their lands, the portion of those routes on National Forest System lands would not be added to the

National Forest Transportation System and public use would be prohibited on them. Routes which crossed lands owned by Sierra Pacific Industries (SPI) were excluded from this consideration unless the Forest Service already has a right of way or easement since they have indicated they are unwilling to encourage use by wheeled motorized vehicles by the public on their land. Table 3.10-1 lists those roads and trails on National Forest System lands which could be added to the National Forest Transportation System once permission from the private land owner is obtained for public access their lands as well.

**Table 3.10-1. Routes Potentially Effecting Private Land under Consideration for Addition to the NFTS**

| Route ID   | Description of Need as Part of the NFTS  | Mitigation Required Prior to Opening   |
|------------|--|--|
| ARM-5      | Trail connecting two routes near Eliot Meadow which connects two National Forest System Roads.   | Permission for public access through private land must be obtained from private landowner.   |
| H18-12     | Former National Forest System road near Northwest of Rucker Lake   | Permission for public access through private land must be obtained from private landowner.   |
| H18N49Y    | Former National Forest System Road providing a loop off of the 7 Road west of Bullards Bar Reservoir   | Permission for public access through private land must be obtained from private landowner.   |
| H19-22-14  | Former National Forest System road just south and parallel to Highway 80 between Emigrant Gap and Yuba Gap   | Permission for public access through private land must be obtained from private landowner.   |
| H20-16     | Former National Forest System road connecting the 29 Road to a private road owned by Sierra Pacific Industries   | Permission for public access through private land must be obtained from private landowner and a right of way from Seirra Pacific Industries. |
| H29-11     | Former National Forest System Road coming off of the 29 Road to the north near Omega going into and dead ending on private land. The majority of the route is on private land.   | Permission for public access through private land must be obtained from private landowner.   |
| H293       | Former National Forest System road on Sleightville Ridge northeast of Camptonville parallel to County Road Road 115 accessing private land at Sleightville House.  | Permission for public access through private land must be obtained from private landowner.   |
| H293-19    | Former National Forest System Road 293-19 coming off of County Road 293 north of Miller Ranch. First part of road crosses private land.  | Permission for public access through private land must be obtained from private landowner.   |
| H293-4-18  | Former National Forest System Road south of Henness Pass road accessing private land at Gates Orchard.   | Permission for public access through private land must be obtained from private landowner.   |
| H293-4-4   | Former National Forest System Road west of Sleightville Ridge crossing Marion Creek and deadending on private land near Oregon Creek.  | Permission for public access through private land must be obtained from private landowner.   |
| H3004-10   | Former National Forest System Road number 3004-10 just west of Michigan Bluff accessing private land at Blue Gun Diggings.   | Permission for public access through private land must be obtained from private landowner.   |
| H3004-8    | Former National Forest System Road number 3004-8 near Michigan Bluff connecting two private land parcels, one at Blue Gun Diggings and the other at Sugar Loaf.  | Permission for public access through private land must be obtained from both private landowners.   |
| H3127-10-2 | Former National Forest System road number 3127-10 located just south of the Sugar Pine OHV Area connecting County Road 3127 to National Forest System road 3127-008. Short segment crosses private land adjacent to County Road 3127.                | Permission for public access through private land must be obtained from private landowner.   |
| H34-4      | Former National Forest System road number 34-4. Makes a small loop to the north off of the Jouberts Road just south of Indian Hill and Highway 49 near Indian Valley. Shorth segment crosses private land immediately adjacent to the Jouberts Road. | Permission for public access through private land must be obtained from private landowner.   |
| H34-8-3    | Former National Forest System road accessing dispersed recreation site on private land in Indian Valley just south of Highway 49.  | Permission for public access through private land must be obtained from private landowner.   |
| H36-3-1    | Former National Forest System road east of Malakoff Diggings in Missouri Canyon which makes a loop between two National Forest System roads. One small segment crosses private land near Humbug Creek.   | Permission for public access through private land must be obtained from private landowner.   |

| Route ID  | Description of Need as Part of the NFTS  | Mitigation Required Prior to Opening   |
|-----------|--|--|
| H38       | Former National Forest System road north of the Sugar Pine Flat Research Natural Area coming off National Forest System road number 38 accessing private land at Pelliam Flat.   | Permission for public access through private land must be obtained from private landowner. |
| H49-16    | Former National Forest System road number 49-16 parallel to Highway 49 near Bullards Bar Reservoir. Majority of route is on private land.  | Permission for public access through private land must be obtained from private landowner. |
| H652-5-5  | Former National Forest System road number 652-5-5 south of Highway 80 near Crystal Lake. Route goes through private land accessing private picnic area at Kelly Lake and continuing on to SP Lake. Majority of route is on private land.   | Permission for public access through private land must be obtained from private landowner. |
| H823-1-1  | Former National Forest System road west of Gold Lake coming off National Forest System road number 9 to the north accessing private land at Howard Creek Meadows.  | Permission for public access through private land must be obtained from private landowner. |
| H833      | Former National Forest System road west of Malakoff Diggings near Bloody Run. Short segment near intersection with County Road 522 crosses private land.   | Permission for public access through private land must be obtained from private landowner. |
| H833-10   | Former National Forest System road north of Buck Ranch coming off Nevada County Road 833 accessing Orleans Flat. Small segment near junction with county road crosses private land.  | Permission for public access through private land must be obtained from private landowner. |
| H88-13    | Former National Forest System road just south of China Flat OHV staging area connecting a National Forest System motorcycle trail with Placer County Road 88. Majority of route is on private land.  | Permission for public access through private land must be obtained from private landowner. |
| H93-3-1   | Former National Forest System road number 93-3-1 just north of Packer Saddle and Robinson Cow Camp. Road dead ends on National Forest System land after crossing private land parcel.  | Permission for public access through private land must be obtained from private landowner. |
| H96-49    | Former National Forest System road just west of French Meadows Reservoir. Connects two National Forest System roads and proceeds to a dead end on private land.  | Permission for public access through private land must be obtained from private landowner. |
| N25-1-1   | Former National Forest System road number 25-1-1 connecting National Forest System road number 25 just north of Cal-Ida to National Forest System road number 25-1. Short segment near junction with the 25-1 Road crosses private land.   | Permission for public access through private land must be obtained from private landowner. |
| N270-4-6  | Former National Forest System road number 270-4-6 just east of Stampede Reservoir. Route is a continuation of current National Forest System Road 270-4-6 which terminates at boundary with private land. Entire route is on private land. | Permission for public access through private land must be obtained from private landowner. |
| N43-14    | Former National Forest System road 43-14 just south of Robinson Flat extends north off of National Forest System road number 43 into Deep Canyon and access Savage Workings where it dead ends.  | Permission for public access through private land must be obtained from private landowner. |
| N43-14-4  | Former National Forest System road 43-14-4 just south of Robinson Flat extends south off of National Forest System road number 44 into Deep Canyon and access Savage Workings where it dead ends.  | Permission for public access through private land must be obtained from private landowner. |
| N860-20-1 | Former National Forest System road number 860-20-1 just north of Stampede Reservoir. Comes off of Sierra County Road number 86 in Sardine Valley and provides access to the north shore of Stampede Reservoir at Stampede Valley.          | Permission for public access through private land must be obtained from private landowner. |
| N866-1-5  | Former National Forest System road number 866-1-5 near the head of Prosser Reservoir. Road parallels Nevada County Road 886b. Entire route is on private land.   | Permission for public access through private land must be obtained from private landowner. |
| N96-110-6 | Former National Forest road north French Meadows Reservoir. Comes north off of the Western States Trail near Talbots and accesses private land where the route dead ends in three separate locations.                                      | Permission for public access through private land must be obtained from private landowner. |
| N96-12c   | Former National Forest System road coming north off of the Mosquito Ridge Road near Mosquito Narrows. One segment dead ends at Cedar Springs and the other segment dead ends at Big Oak Flat.  | Permission for public access through private land must be obtained from private landowner. |

| Route ID | Description of Need as Part of the NFTS  | Mitigation Required Prior to Opening   |
|----------|--|--|
| N96-15   | Former National Forest system road number 96-15. Comes off of Mosquito Ridge Road towards the north accessing Peavine Creek on private land.   | Permission for public access through private land must be obtained from private landowner.               |
| N96-22   | Former National Forest system road number 96-22. Comes off of Mosquito Ridge Road towards the north accessing Peavine Creek on private land.   | Permission for public access through private land must be obtained from private landowner.               |
| TKN-J9   | Route just to the east of Stampede Reservoir. Route is the access road underneath a powerline  | Permission for public access through private land must be obtained from private landowner.               |
| TKS-6    | Route is just west of the The Cedars Lodge. Route goes to the west off of National Forest System Road number 51, crosses private land prior to dead ending on National Forest System Lands.                          | Permission for public access through private land must be obtained from private landowner.               |
| YRM-M4   | Comes off of Sierra County Road number 201 south of the town of Alleghany. Accesses private land at Minnesota Flat   | Permission for public access through private land must be obtained from private landowner.               |
| YRN-M3b  | Motorcycle trail connecting the Downie River Trail to Castle Rock Trail. Crosses small segment of private land near Castle Rock Trail.   | None – Permission has already been received for public access through private land from the landowner.   |
| YRS-AF   | South of Fordyce Lake. Comes off of National Forest System motorcycle trail and provides access to a small lake. Short segment near intersection with existing trail crosses private land.                           | Permission for public access through private land must be obtained from private landowner.               |
| YRS-F1c  | Comes off of Fordyce Jeep trail to the east towards Fordyce Lake to provide access to dispersed site. First half of the route is on private land.  | Permission for public access through private land must be obtained from private landowner.               |
| YRS-SF5  | Comes off of Highway 20 to the north near Bear Valley. One curve in trail touches a parcel of private land.  | Permission for public access through private land must be obtained from private landowner.               |
| TKN-Q1   | This trail is located on top of a buried phone line. It parallels an existing trail that was meant to re-route users; however, some users prefer to follow the buried line rather than the alternative system trail. | Secure an agreement with the phone company to allow vehicles to use this route over the buried pipeline. |

## Adjacent National Forest System Land

The Tahoe National Forest adjoins three other National Forests: Plumas, Eldorado, Humboldt-Toiyabe, as well as the Lake Tahoe Basin Management Unit (LTBMU). Shared administrative duties often occur along the Forest boundaries. The Tahoe National Forest, for example, currently administers a small portion of the Plumas National Forest northeast of Bullards Bar Reservoir. This shared administration is intended primarily to facilitate efficient, economical management of National Forest System land. Adjacent National Forests currently have coordinated travel management planning to ensure the amount of contrast between respective National Forests is minimized.

## Private Land Interface

Private land interface situations may occur when National Forest System lands are adjacent to private lands that have been, or may be, developing for recreation, rural, residential, urban or commercial uses. When National Forest road and trail management objectives differ from our neighbors, the potential for mutual conflicts exist. Generally these private land interface situations arise adjacent to private lands where the land owners have conflicting road and trail management objectives and different perceptions about how National Forest System roads and trails adjacent or near their property should be managed. Typically these lands range from small communities, towns, and subdivisions to scattered rural residences. Some of these private land owners are concerned that the effects of Forest Service road and trail management will have negative effects on water quality, noise, dust, and recreation opportunities. As

a result of these concerns, often private landowners are opposed to OHV use, trespassing by recreationists, and road maintenance. Many people feel the Forest should provide buffers on National Forest System lands. To add to this complexity, landowners may have conflicting needs and attitudes about management of roads and trails next to them. One landowner may be completely supportive of adjoining OHV opportunities while another resident may be totally opposed due aesthetic concerns, noise, or dust drifting onto their property.

Residential and community development of private lands adjacent to National Forest boundaries is expanding. The Sierra Nevada foothill counties are the fastest growing in the State. It is predicted that, through the subdivision of private lands, the number of landowners within and adjacent to National Forest boundaries will significantly increase. The number of landowners with different road and trail management objectives and perceptions about how National Forest System roads and trails should be managed will also increase dramatically. Table 3.10-2 displays the current miles of roads and trails within ¼ mile of private land by class of vehicle and season of use.

**Table 3.10-2. Motorized Roads and Trails within ¼ Mile of Private Land**

| Road/Trail Category   | Season of Use    | Length (miles) |
|---|------------------|----------------|
| <b>Cross Country Travel</b>   |                  |                |
| Acres   | Not Applicable   | 273,700        |
| Miles of routes unauthorized for motor vehicle                                | Not Applicable   | 517.3          |
| <b>Roads open to highway legal vehicles only</b>                              | Seasonal Closure | 11.5           |
| <b>Roads open to highway legal vehicles only</b>                              | Open Year Around | 143.8          |
| <b>Roads open to all vehicles</b>   | Seasonal Closure | 29.5           |
| <b>Roads open to all vehicles</b>   | Open Year Around | 468.2          |
| <b>Subtotal NFS Roads</b>   |                  | <b>653.0</b>   |
| <b>Trail open to high clearance trail vehicles</b>                            | Seasonal Closure | 1.3            |
| <b>Trail open to high clearance trail vehicles</b>                            | Open Year Around | 36.2           |
| <b>Trail open to ATVs and motorcycles</b>                                     | Seasonal Closure | 0.0            |
| <b>Trail open to ATVs and motorcycles</b>                                     | Open Year Around | 3.9            |
| <b>Trail Open to motorcycles</b>  | Seasonal Closure | 0.2            |
| <b>Trail Open to motorcycles</b>  | Open Year Around | 16.9           |
| <b>Subtotal NFS Motorized Trails</b>  |                  | <b>58.5</b>    |
| <b>State, County or other jurisdiction roads</b>                              | Open Year Around | 219.3          |
| <b>Total Motorized</b>  |                  | <b>1,449.1</b> |
| <b>Roads closed to motorized users</b>  | Open Year Around | 7.0            |
| <b>Trails open only to non-motorized users</b>                                | Open Year Around | 77.3           |
| <b>Trails open only to hikers and equestrians (No mountain bikes allowed)</b> | Open Year Around | 38.6           |
| <b>Subtotal Non-Motorized</b>   |                  | <b>122.8</b>   |

### Local Plans and Initiatives

**County plans, zoning plans:** All county Plans in the state of California affect all private roads within county boundaries. In the counties in the Tahoe National Forest, National forest lands and private lands adjacent to National Forests are generally zoned for very low housing densities (one dwelling per 160 or 640 acres). The regulations for these zones keep roads available for use by the public consistent with the California Vehicle Code.

There will be little effect on county planning from the decision from this EIS. County zoning and regulations are only peripherally affected by Tahoe National Forest management. County plans and zoning are primarily based on locations of existing infrastructure, distance to schools, services, utilities, and land capabilities. There are no direct ties between these plans and route designations on the Tahoe

National Forest, so the cumulative effects of this EIS on county plans and the effect of county plans on this decision are minimal.

### **Other Federal Lands**

The Bureau of Land Management has a multiple use management mission, similar to that of the Forest Service, and the agency's management plans reflect stewardship commitments comparable to those that apply to the national forests. The Forest Service coordinates management activities and planning at various geographic scales with the Bureau of Land Management.

### **State Lands**

**State Parks:** Units of the California State Park system that are in the Sierra Nevada protect all their wildlife and plants and give special care to sensitive species. State Parks have regulations that prohibit any disturbance or destruction of natural resources.

## **Environmental Consequences**

### **Measures or Factors Used to Assess Environmental Consequences**

Management activities proposed in all of the alternatives could directly, indirectly, or cumulatively affect adjacent ownerships. National Forest travel management decisions have the potential to affect adjacent ownerships. The following factors indicate potential effects on adjacent ownerships:

- Adding motorized roads and trails to the National Forest System which cross private land,
- Management of wheeled motorized vehicle activities adjacent to private

### **Motorized Roads and Trails Crossing Private Land**

Several of the unauthorized routes under consideration for addition to the National Forest System of roads and trails also cross private lands. For the portion of these roads and trails on National Forest System lands to be added to the National Forest System, permission must first be obtained from the private landowner to grant public access across the portion on their lands. Once this permission is obtained, the portion of the roads and/or trails on National Forest System lands would be added to the National Forest Transportation System and be made available for public access. Prior to the permission being obtained, public use of the portion of these roads and trails on National Forest System lands would be prohibited. If the landowner is unwilling to give permission for public access, these routes would not be added to the National Forest System and public use would be prohibited. Routes which crossed lands owned by Sierra Pacific Industries (SPI) were excluded from this consideration unless the Forest Service already has a right of way or easement since they have indicated they are unwilling to encourage use by motorized vehicles by the public on their land. Table 3.10-3 lists those roads and trails by alternative which would have the portion on National Forest System lands added to the National Forest Transportation System once permission from the private land owner is obtained for public access across the portion on their lands.

**Table 3.10-3. Roads and Trails Crossing Private Land Potentially Open to Wheeled Motorized Vehicles by Alternative**

| Route ID   | Description   | Alt 1 | Alt 2 | Alt 3 | Alt 4 | Alt 5 | Alt 6 | Alt 7 |
|------------|---|-------|-------|-------|-------|-------|-------|-------|
| ARM-5      | Trail connecting two routes near Eliot Meadow which connects two National Forest System Roads.  | X     | X     |       | X     | X     | X     | X     |
| H18-12     | Former National Forest System road near Northwest of Rucker Lake  | X     |       |       |       | X     |       |       |
| H18N49Y    | Former National Forest System Road providing a loop off of the 7 Road west of Bullards Bar Reservoir  | X     |       |       |       | X     |       |       |
| H19-22-14  | Former National Forest System road just south and parallel to Highway 80 between Emigrant Gap and Yuba Gap  | X     |       |       |       | X     |       |       |
| H20-16     | Former National Forest System road connecting the 29 Road to a private road owned by Sierra Pacific Industries  | X     |       |       |       | X     |       |       |
| H29-11     | Former National Forest System Road coming off of the 29 Road to the north near Omega going into and dead ending on private land. The majority of the route is on private land.  | X     |       |       |       | X     |       |       |
| H293       | Former National Forest System road on Sleighville Ridge northeast of Camptonville parallel to County Road 115 accessing private land at Sleighville House.  | X     |       |       |       | X     |       |       |
| H293-19    | Former National Forest System Road 293-19 coming off of County Road 293 north of Miller Ranch. First part of road crosses private land.   | X     |       |       |       | X     |       |       |
| H293-4-18  | Former National Forest System Road south of Henness Pass road accessing private land at Gates Orchard.  | X     |       |       |       | X     |       |       |
| H293-4-4   | Former National Forest System Road west of Sleighville Ridge crossing Marion Creek and deadending on private land near Oregon Creek.  | X     |       |       |       | X     |       |       |
| H3004-10   | Former National Forest System Road number 3004-10 just west of Michigan Bluff accessing private land at Blue Gun Diggings.  | X     |       |       |       | X     |       |       |
| H3004-8    | Former National Forest System Road number 3004-8 near Michigan Bluff connecting two private land parcels, one at Blue Gun Diggings and the other at Sugar Loaf.   | X     |       |       |       | X     |       |       |
| H3127-10-2 | Former National Forest System road number 3127-10 located just south of the Sugar Pine OHV Area connecting County Road 3127 to National Forest System road 3127-008. Short segment crosses private land adjacent to County Road 3127.               | X     |       |       |       | X     |       |       |
| H34-4      | Former National Forest System road number 34-4. Makes a small loop to the north off of the Jouberts Road just south of Indian Hill and Highway 49 near Indian Valley. Short segment crosses private land immediately adjacent to the Jouberts Road. | X     |       |       |       | X     |       |       |
| H34-8-3    | Former National Forest System road accessing dispersed recreation site on private land in Indian Valley just south of Highway 49.   | X     |       |       |       | X     |       |       |
| H36-3-1    | Former National Forest System road east of Malakoff Diggings in Missouri Canyon which makes a loop between two National Forest System roads. One small segment crosses private land near Humbug Creek.  | X     |       |       |       | X     |       |       |
| H38        | Former National Forest System road north of the Sugar Pine Flat Research Natural Area coming off National Forest System road number 38 accessing private land at Pelliam Flat.  | X     |       |       |       | X     |       |       |
| H49-16     | Former National Forest System road number 49-16 parallel to Highway 49 near Bullards Bar Reservoir. Majority of route is on private land.   | X     |       |       |       | X     |       |       |

**Motorized Travel Management Draft Environmental Impact Statement – September 2008**  
**Chapter 3: Affected Environment and Environmental Consequences – 3.10. Adjacent Ownerships**

| Route ID         | Description  | Alt 1 | Alt 2 | Alt 3 | Alt 4 | Alt 5 | Alt 6 | Alt 7 |
|------------------|--|-------|-------|-------|-------|-------|-------|-------|
| <b>H652-5-5</b>  | Former National Forest System road number 652-5-5 south of Highway 80 near Crystal Lake. Route goes through private land accessing private picnic area at Kelly Lake and continuing on to SP Lake. Majority of route is on private land.   | X     |       |       |       | X     |       |       |
| <b>H823-1-1</b>  | Former National Forest System road west of Gold Lake coming of National Forest System road number 9 to the north accessing private land at Howard Creek Meadows.   | X     |       |       |       | X     |       |       |
| <b>H833</b>      | Former National Forest System road west of Malakoff Diggings near Bloody Run. Short segment near intersection with County Road 522 crosses private land.   | X     |       |       |       | X     |       |       |
| <b>H833-10</b>   | Former National Forest System road north of Buck Ranch coming off Nevada County Road 833 accessing Orleans Flat. Small segment near junction with county road crosses private land.  | X     |       |       |       | X     |       |       |
| <b>H88-13</b>    | Former National Forest System road just south of China Flat OHV staging area connecting a National Forest System motorcycle trail with Placer County Road 88. Majority of route is on private land.  | X     |       |       |       | X     |       |       |
| <b>H93-3-1</b>   | Former National Forest System road number 93-3-1 just north of Packer Saddle and Robinson Cow Camp. Road dead ends on National Forest System land after crossing private land parcel.  | X     |       |       |       | X     |       |       |
| <b>H96-49</b>    | Former National Forest System road just west of French Meadowss Reservoir. Connects two National Forest System roads and proceeds to a dead end on private land.   | X     |       |       |       | X     |       |       |
| <b>N25-1-1</b>   | Former National Forest System road number 25-1-1 connecting National Forest System road number 25 just north of Cal-Ida to National Forest System road number 25-1. Short segment near junction with the 25-1 Road crosses private land.   | X     |       |       |       | X     |       |       |
| <b>N270-4-6</b>  | Former National Forest System road number 270-4-6 just east of Stampede Reservoir. Route is a continuation of current National Forest System Road 270-4-6 which terminates at boundary with private land. Entire route is on private land. | X     |       |       |       | X     |       |       |
| <b>N43-14</b>    | Former National Forest System road 43-14 just south of Robinson Flat extends north off of National Forest System road number 43 into Deep Canyon and access Savage Workings where it dead ends.  | X     |       |       |       | X     |       |       |
| <b>N43-14-4</b>  | Former National Forest System road 43-14-4 just south of Robinson Flat extends south off of National Forest System road number 44 into Deep Canyon and access Savage Workings where it dead ends.  | X     |       |       |       | X     |       |       |
| <b>N860-20-1</b> | Former National Forest System road number 860-20-1 just north of Stampede Reservoir. Comes off of Sierra County Road number 86 in Sardine Valley and provides access to the north shore of Stampede Reservoir at Stampede Valley.          | X     |       |       |       | X     |       |       |
| <b>N866-1-5</b>  | Former National Forest System road number 866-1-5 near the head of Prosser Reservoir. Road parallels Nevada County Road 886b. Entire route is on private land.   | X     |       |       |       | X     |       |       |
| <b>N96-110-6</b> | Former National Forest road north French Meadows Reservoir. Comes north off of the Western States Trail near Talbots and accesses private land where the route dead ends in three separate locations.                                      | X     |       |       |       | X     |       |       |
| <b>N96-12c</b>   | Former National Forest System road coming north off of the Mosquito Ridge Road near Mosquito Narrows. One segment dead ends at Cedar Springs and the other segment dead ends at Big Oak Flat.  | X     |       |       |       | X     |       |       |
| <b>N96-15</b>    | Former National Forest system road number 96-15. Comes of off Mosquito Ridge Road towards the north accessing Peavine Creek on private land.   | X     |       |       |       | X     |       |       |

| Route ID                                      | Description  | Alt 1     | Alt 2    | Alt 3    | Alt 4    | Alt 5     | Alt 6    | Alt 7    |
|---|--|-----------|----------|----------|----------|-----------|----------|----------|
| N96-22  | Former National Forest system road number 96-22. Comes off of Mosquito Ridge Road towards the north accessing Peavine Creek on private land.   | X         |          |          |          | X         |          |          |
| TKN-J9  | Route just to the east of Stampede Reservoir. Route is the access road underneath a powerline  | X         | X        |          | X        | X         | X        | X        |
| TKS-6   | Route is just west of the The Cedars Lodge. Route goes to the west off of National Forest System Road number 51, crosses private land prior to dead ending on National Forest System Lands.                          | X         | X        |          |          | X         |          |          |
| YRM-M4  | Comes off of Sierra County Road number 201 south of the town of Alleghany. Accesses private land at Minnesota Flat   | X         | X        |          |          | X         | X        | X        |
| YRN-M3b                                       | Motorcycle trail connecting the Downie River Trail to Castle Rock Trail. Crosses small segment of private land near Castle Rock Trail.   | X         | X        |          |          | X         | X        | X        |
| YRS-AF  | South of Fordyce Lake. Comes off of National Forest System motorcycle trail and provides access to a small lake. Short segment near intersection with existing trail crosses private land.                           | X         | X        |          | X        | X         | X        | X        |
| YRS-F1c                                       | Comes off of Fordyce Jeep trail to the east towards Fordyce Lake to provide access to dispersed site. First half of the route is on private land.  | X         | X        |          |          | X         |          |          |
| YRS-SF5                                       | Comes off of Highway 20 to the north near Bear Valley. One curve in trail touches a parcel of private land.  | X         | X        |          | X        | X         | X        | X        |
| TKN-Q1  | This trail is located on top of a buried phone line. It parallels an existing trail that was meant to re-route users; however, some users prefer to follow the buried line rather than the alternative system trail. | X         | X        |          | X        | X         | X        | X        |
| <b>Number of Routes Crossing Private Land</b> |  | <b>43</b> | <b>9</b> | <b>0</b> | <b>5</b> | <b>43</b> | <b>7</b> | <b>7</b> |

Under the No Action Alternative, unauthorized use by wheeled motorized vehicles on all of the roads and trails listed in Table 3.10-3 could be expected to continue unless action was taken by the private landowner to stop public access. Alternative 3 would prohibit use by wheeled motorized vehicles on all routes un-authorized for motor vehicles on National Forest System lands which also cross private land. Alternatives 4, 6 and 7 have a minor amount of unauthorized roads and trails crossing private where use by wheeled motorized vehicles would be allowed to continue. This use however would only be allowed once the private land owner has given permission for public access. Prior to such permission being given, public use by wheeled motorized vehicles would be prohibited.

Alternatives 2 and 5 have a significant amount of unauthorized roads and trails crossing private where use by wheeled motorized vehicles would be allowed to continue. The majority of these routes are routes are within the Mosquito, Cal-Ida, Boca, Prosser, Stampede networks where all of the existing unauthorized routes within the boundary of this area would be open for motorized wheeled vehicles for the purpose of providing an OHV destination experience. This use however would only be allowed once the private land owner has given permission for public access across their lands as well. Prior to such permission being given, public use by motorized vehicles would be prohibited.

### Management of wheeled motorized vehicle activities adjacent to private land

Private land interface situations may occur when National Forest System lands are adjacent to private lands that have been, or may be, developing for recreation, rural, residential, urban or commercial uses. When National Forest road and trail management objectives differ from our neighbors, the potential for

mutual conflicts exist. Generally these private land interface situations arise adjacent to private lands where the land owners have conflicting road and trail management objectives and different perceptions about how National Forest System roads and trails adjacent or near their property should be managed.

Table 3.10-4. Miles of roads and trails for each alternative within ¼ mile of private land by class of vehicle and season of use

| Road/Trail Category   | Season of Use              | Alt 1         | Alt 2        | Alt 3        | Alt 4        | Alt 5        | Alt 6        | Alt 7        |
|---|----------------------------|---------------|--------------|--------------|--------------|--------------|--------------|--------------|
| <b>Cross Country Travel</b>   |                            |               |              |              |              |              |              |              |
| Acres   |                            | 273,700       | 0            | 0            | 0            | 0            | 0            | 0            |
| Routes un-authorized for motorized use (miles)                                | <b>Not Applicable</b>      | 517.3         | 0            | 0            | 0            | 0            | 0            | 0            |
| <b>Roads open to highway legal vehicles only</b>                              | Seasonal Closure           | 11.5          | 0.0          | 11.5         | 11.5         | 0.0          | 5.9          | 11.5         |
| <b>Roads open to highway legal vehicles only</b>                              | Open Year Around           | 143.8         | 47.2         | 142.4        | 142.4        | 47.2         | 87.6         | 142.4        |
| <b>Roads open to all vehicles</b>   | Seasonal Closure           | 29.5          | 41.0         | 29.5         | 499.1        | 551.0        | 543.8        | 29.5         |
| <b>Roads open to all vehicles</b>   | Open Year Around           | 468.2         | 564.8        | 469.7        | 0.0          | 55.1         | 15.7         | 469.7        |
|   | <b>Subtotal NFS Roads</b>  | <b>653.0</b>  | <b>653.0</b> | <b>653.0</b> | <b>653.0</b> | <b>653.3</b> | <b>653.0</b> | <b>653.0</b> |
| <b>Trail open to high clearance trail vehicles</b>                            | Seasonal Closure           | 1.3           | 1.4          | 1.3          | 40.4         | 83.2         | 46.7         | 1.3          |
| <b>Trail open to high clearance trail vehicles</b>                            | Open Year Around           | 36.2          | 47.1         | 36.2         | 0.0          | 0.0          | 0.0          | 40.6         |
| <b>Trail open to ATV's and motorcycles</b>                                    | Seasonal Closure           | 0.0           | 0.0          | 0.0          | 5.2          | 5.2          | 5.2          | 0.0          |
| <b>Trail open to ATV's and motorcycles</b>                                    | Open Year Around           | 3.9           | 5.2          | 3.9          | 0.0          | 0.0          | 0.0          | 5.2          |
| <b>Trail Open to motorcycles</b>  | Seasonal Closure           | 0.2           | 0.2          | 0.2          | 22.3         | 25.4         | 24.7         | 0.2          |
| <b>Trail Open to motorcycles</b>  | Open Year Around           | 16.9          | 25.2         | 16.9         | 0.0          | 0.0          | 0.0          | 22.9         |
|   | <b>Subtotal NFS Trails</b> | <b>58.5</b>   | <b>79.1</b>  | <b>58.5</b>  | <b>67.9</b>  | <b>113.7</b> | <b>76.6</b>  | <b>70.3</b>  |
| <b>State, County or other jurisdiction roads</b>                              | <b>Open Year Around</b>    | 219.3         | 219.3        | 219.3        | 219.3        | 219.3        | 219.3        | 219.3        |
|   | <b>Total Motorized</b>     | <b>1449.1</b> | <b>952.4</b> | <b>931.8</b> | <b>941.2</b> | <b>987.4</b> | <b>949.9</b> | <b>943.6</b> |
| <b>Roads/trails closed to motorized users</b>                                 | Closed                     | 7.0           | 503.7        | 524.3        | 514.9        | 468.7        | 506.2        | 512.5        |
| <b>Trails open only to non-motorized users</b>                                | Open Year Around           | 77.3          | 77.3         | 77.3         | 77.3         | 77.3         | 77.3         | 77.3         |
| <b>Trails open only to hikers and equestrians (No mountain bikes allowed)</b> | Open Year Around           | 38.6          | 38.6         | 38.6         | 38.6         | 38.6         | 38.6         | 38.6         |
|   | <b>Total Non-Motorized</b> | <b>122.8</b>  | <b>619.6</b> | <b>640.1</b> | <b>630.8</b> | <b>584.6</b> | <b>622.1</b> | <b>628.4</b> |

All of the action alternatives reduce the number of miles of roads and trails open to wheeled motorized vehicles within ¼ mile private land. The largest decrease is Alternative 3. The smallest decrease is in Alternative 5. In addition, all of the action alternatives prohibit cross country travel within ¼ mile of private land which will reduce the proliferation of additional unauthorized routes. Alternatives 4, 5 and 6 impose wet weather restrictions on all native surface roads and trails which limit their use to the summer months.

### 3.11. Society, Culture & Economy

The Tahoe National Forest Region (TNF Region) encompasses more area than the Tahoe National Forest itself. For the purposes of this EIS, the Tahoe National Forest Region consists of all or part of Five California counties in which the Tahoe National Forest is located. These counties are Nevada, Placer, Plumas, Yuba and Sierra. Information on Tahoe National Forest 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 Tahoe National Forest, especially Lake Tahoe, 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. Lake Tahoe is midway on the I-80 highway corridor through the Tahoe National Forest between Reno and Sacramento.

## Population and Demographics

### Historical Background

People have lived in the TNF Region for thousands of years. A deep and enduring connection continues between American Indians, the first residents, and the forest.

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 ecosystem. 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 (low-level) 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. 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

| 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                       |
| <b>Total</b> | <b>313.9</b> | <b>341.5</b> | <b>350.5</b> | <b>358.3</b> | <b>364.7</b> | <b>371.5</b> | <b>378.3</b> | <b>384.7</b> | <b>392.1</b> | <b>399.6</b> | <b>399.6</b> | <b>27.3</b>               |

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 the Placer County. Placer County has also seen the largest population growth in recent years with a more than 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 this 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. The Forest Service will need to respond to increasing needs for potable water, recreation, natural resource extraction, and community fire protection.

### 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. 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                       |
| <b>State Average</b> | <b>51.5</b>                   | <b>29.9</b>        | <b>11.1</b>                       | <b>6.9</b>               | <b>0.6</b>                |

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 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.

**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                       |                              |
| <b>Total</b>  |                               |                    |                                  |                          |                           | <b>909.4</b>                 |

### 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.

**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.

By 2040, the share of the population less than 17 years old will have climbed once again. Elderly people will be a lower percentage of the population than they are currently. In the foreseeable future, the Sierra Nevada Region population will not be “graying.” 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. 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 among counties of the TNF Region. 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 |      |      |      |      |      |                          |
|--------|---------------------------|------|------|------|------|------|--------------------------|
|        | 1972                      | 1977 | 1982 | 1987 | 1994 | 1997 | Percent Change 1972-1997 |
| 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.

During the 1990's, the labor force in Fresno, Madera, and Tehama counties, located along the Interstate 5 corridor, grew more than 17 percent. However, workforce growth in other Sierra Nevada counties located along the Interstate 5 corridor has proceeded at a slower pace, or, in some cases, declined. Yuba County, although close to the nexus of Interstate 5 and Interstate 80, saw a net reduction in its workforce in the 1990s.

Although Washoe County has grown rapidly, the 17 percent growth in its labor force is approximately half that of Nevada as a whole. (Nevada's high labor force growth rate is a result of the rapid economic growth in the Las Vegas metropolitan area.) While Esmeralda and Mineral Counties lie between Las Vegas and Reno, they do not reflect the strong economic growth of these two major urban centers of Nevada.

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. In Calaveras, Lassen, Modoc, Plumas, and Tuolumne Counties, the civilian labor force has declined between 9 and 15 percent from peaks in 1992 and 1993.

Data for many Sierra Nevada communities, particularly in Fresno, Tehama, and Yuba counties, are not available.

## 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 Amador, El Dorado, Nevada, and Placer counties (all of which are within commuting distance of Sacramento); some communities in the Owens Valley; and Washoe County, including Reno. Other foothill communities, such as those in the Oroville area in Butte County, experienced high unemployment between 1990 and 1998.

Unemployment data aggregated by county or by subregion do not show differences in unemployment between communities. Fresno and Mariposa counties show marked differences in community unemployment, even between communities that are located near one another. In general, more remote communities at high elevations have higher unemployment rates than lower elevation communities in the same county. This pattern is reversed in the Southern Sierra subregion, however. Counties in this subregion have unemployment rates as high as three times greater than the California average. In the Sierra Nevada portion of Kern County, however, unemployment rates in all but one community are lower than the County average.

Unemployment in California peaked in 1995. Communities and counties in the Sierra Nevada Region, however, experienced peaks in unemployment in 1993. Employment in the Sierra Nevada Region responds to economic trends that are different than those that affect employment in more urban and industrialized portions of California and Nevada. A statewide economic upswing in California in the late 1990s appears to have reduced unemployment in many mountain communities to levels close to 1990 unemployment figures. Yet, many Sierra Nevada communities continue to experience relatively high unemployment rates.

## 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 Sierra Nevada 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 TNF Region counties. 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, the right column, 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 Tahoe National Forest 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   |
| <b>Total - All California</b> | <b>January</b>                             | <b>August</b>                            | <b>0.96</b>  | <b>-4.1</b>  |

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 Tahoe National Forest 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 will be insignificant or will 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 National Forest plans, 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*; English, Kocis, Zarnoch, and Arnold; Southern Research Station; May 2002 ([www.fs.fed.us/recreation/programs/nvum](http://www.fs.fed.us/recreation/programs/nvum)).

The Tahoe National Forest participated in the National Visitor Use Monitoring (NVUM) project from October 2004 through September 2005. There were approximately 3,930,000 national forest visits on Tahoe National Forest during fiscal year 2005. The full Tahoe NVUM report is available on the web through the Natural Resource Information System (NRIS) Human Dimensions Module at:

[http://fsweb.nris.fs.fed.us/products/Human\\_Dimensions\\_NVUM/HD-NVUM\\_12/index.shtml](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 (%) <sup>1/2</sup> | Percent as Main Activity (%) <sup>3/4</sup> |
|-------------------------------|--|---|---|
| Snowmobiling                  | Motorized                              | 0.7   | 0.5   |
| Driving for Pleasure          | Motorized                              | 17.5  | 4.8   |
| OHV Use                       | Motorized                              | 7.4   | 3.3   |
| Other Motorized Activity      | Motorized                              | 0.2   | 0.1   |
| <b>Motorized Subtotal</b>     |  |   | <b>8.7</b>                                  |
| Hiking / Walking              | Non-motorized                          | 29.9  | 9.1   |
| Bicycling                     | Non-motorized                          | 4.5   | 2.6   |
| Other Non-motorized           | Non-motorized                          | 10.9  | 3.0   |
| Cross-country Skiing          | Non-motorized                          | 5.9   | 5.0   |
| Backpacking                   | Non-motorized                          | 1.4   | 0.5   |
| Horseback Riding              | Non-motorized                          | 0.4   | 0.3   |
| <b>Non-motorized Subtotal</b> |  |   | <b>20.5</b>                                 |
| Downhill Skiing               | Other                                  | 45.2  | 43.5  |
| Fishing                       | Other                                  | 8.6   | 4.2   |
| Viewing Natural Features      | Other                                  | 52.7  | 4.8   |
| Relaxing                      | Other                                  | 39.9  | 5.4   |
| Motorized Water Activities    | Other                                  | 3.8   | 0.8   |
| Hunting                       | Other                                  | 4.0   | 3.4   |
| Non-motorized Water           | Other                                  | 3.2   | 1.0   |
| Developed Camping             | Other                                  | 6.2   | 3.3   |
| Primitive Camping             | Other                                  | 1.6   | 0.2   |
| Picnicking                    | Other                                  | 6.7   | 0.6   |
| Viewing Wildlife              | Other                                  | 33.3  | 0.3   |
| Sightseeing                   | Other                                  | 0.0   | 0.0   |
| No Activity Reported          | Other                                  | 2.8   | 2.9   |
| Resort Use                    | Other                                  | 3.8   | 0.3   |
| Visiting Historic Sites       | Other                                  | 12.2  | 2.0   |
| Nature Study                  | Other                                  | 5.4   | 0.1   |
| Gathering Forest Products     | Other                                  | 3.7   | 2.6   |
| Nature Center Activities      | Other                                  | 2.9   | 0.0   |
| <b>Other Subtotal</b>         |  |   | <b>75.3</b>                                 |
| <b>Total</b>                  |  |   | <b>104.5</b>                                |

<sup>1</sup> Survey respondents could select multiple activities so this column may total more than 100%.

<sup>2</sup> The number in this column is the percent of survey respondents who indicated participation in this activity.

<sup>3</sup> Survey respondents were asked to select just one of their activities as their main reason for the forest visit. Some respondents selected more than one, so this column may total more than 100%.

<sup>4</sup> The number in this column is the percent of survey respondents who indicated this activity was their main activity.

The primary activity participation rates (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 3.11-9a 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) displayed in Table 3.11-8 and the total number of visits of 3,931,709 reported in the Tahoe National Forest 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. The table indicates the most popular non-motorized use is hiking/walking, followed by cross-country skiing. The most popular motorized use is driving for pleasure, followed by OHV use. The table 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 3.11-9a. Number of Visits by Activity**

|                      | Use (Visits)      |                     |               |                 |             |
|----------------------|-------------------|---------------------|---------------|-----------------|-------------|
|                      | Non-local Day Use | Non-local Overnight | Local Day use | Local Overnight | Non-Primary |
| <b>Non-motorized</b> |                   |                     |               |                 |             |
| Hiking/Walking       | 13,048            | 25,316              | 119,878       | 9,341           | 7,611       |
| Bicycling            | 3,771             | 7,317               | 34,646        | 2,700           | 2,200       |
| Other Non-motorized  | 4,230             | 8,207               | 38,862        | 3,028           | 2,467       |
| Cross-country Skiing | 6,761             | 20,961              | 44,449        | 3,293           | 757         |
| Backpacking          | 0                 | 1,640               | 0             | 2,510           | 167         |
| Horseback Riding     | 373               | 723                 | 3,425         | 267             | 217         |

|                            | Use (Visits)  |                     |               |                 |             |
|----------------------------|---|---------------------|---------------|-----------------|-------------|
|                            | Non-local Day Use   | Non-local Overnight | Local Day use | Local Overnight | Non-Primary |
| <b>Motorized</b>           |   |                     |               |                 |             |
| Snowmobiling               | 924   | 1,057               | 5,037         | 726             | 847         |
| Driving for Pleasure       | 5,108   | 6,189               | 70,520        | 2,438           | 8,194       |
| OHV Use                    | 6,506   | 11,427              | 29,810        | 8,694           | 1,911       |
| Other Motorized Activity   | 217   | 381                 | 994           | 290             | 64          |
| <b>Other</b>               |   |                     |               |                 |             |
| Fishing                    | 8,777   | 16,653              | 37,997        | 7,022           | 3,040       |
| Hunting                    | 3,056   | 13,510              | 37,749        | 14,861          | 1,925       |
| Viewing Wildlife           | 422   | 976                 | 1,771         | 307             | 625         |
| Motorized Water Activities | 1,004   | 2,366               | 6,022         | 1,927           | 519         |
| Non-motorized Water        | 3,973   | 5,747               | 52,890        | 2,145           | 6,781       |
| Downhill Skiing            | 111,606   | 180,623             | 342,968       | 49,819          | 17,230      |
| Developed Camping          | 563   | 19,459              | 826           | 18,375          | 2,989       |
| Primitive Camping          | 0   | 643                 | 0             | 984             | 65          |
| Resort Use                 | There are no NVUM estimates for trip type segment shares for these activities |                     |               |                 |             |
| Picnicking                 |   |                     |               |                 |             |
| Viewing Natural Features   |   |                     |               |                 |             |
| Visiting Historic Sites    |   |                     |               |                 |             |
| Nature Center Activities   |   |                     |               |                 |             |
| Nature Study               |   |                     |               |                 |             |
| Relaxing                   |   |                     |               |                 |             |
| Gathering Forest Products  |   |                     |               |                 |             |
| Sightseeing                |   |                     |               |                 |             |
| No Activity Reported       |   |                     |               |                 |             |
| <b>Sub Total</b>           |   |                     |               |                 |             |

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

|                      | Expenditures (\$ per visit) |                     |               |                 |             |
|----------------------|-----------------------------|---------------------|---------------|-----------------|-------------|
|                      | Non-local Day Use           | Non-local Overnight | Local Day use | Local Overnight | Non-Primary |
| <b>Non-motorized</b> |                             |                     |               |                 |             |
| 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        |

|                            | Expenditures (\$ per visit) |                     |               |                 |             |
|----------------------------|-----------------------------|---------------------|---------------|-----------------|-------------|
|                            | Non-local Day Use           | Non-local Overnight | Local Day use | Local Overnight | Non-Primary |
| <b>Motorized</b>           |                             |                     |               |                 |             |
| 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       |
| <b>Other</b>               |                             |                     |               |                 |             |
| 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 Tahoe National Forest were estimated. The economic effects of all other types of recreation combined on the Tahoe NF 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 that surrounds the Tahoe National Forest used for this jobs and income analysis was five counties in Northern California and one in Nevada surrounding the Tahoe National Forest. 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 Tahoe National Forest 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 presented. Estimated economic effects 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 visits presented in Table 3.11-10 were used to estimate the economic effects for local and non-local use by activity type.

Table 3.11-10 indicates the following: First, 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). Second, 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). Third, 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 can not 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<br>(Jobs per 1,000 Party-Trips) |                               | Labor Income (2006 dollars)<br>(\$ per 1,000 Party-Trips) |                               |
|---|--------------|--|-------------------------------|---|-------------------------------|
|   |              | Direct<br>Effects                          | Indirect &<br>Induced Effects | Direct<br>Effects   | Indirect &<br>Induced Effects |
| <b>Non-motorized Use</b>  |              |  |                               |   |                               |
| Hiking/ Walking,<br>Bicycling, Horseback<br>Riding, Other Non-<br>motorized | Local Day    | 0.164                                      | 0.073                         | \$4,503   | \$3,080                       |
|   | Local OVN    | 0.729                                      | 0.334                         | \$20,401  | \$14,105                      |
|   | NonLocal Day | 0.371                                      | 0.147                         | \$9,840   | \$5,894                       |
|   | NonLocal OVN | 2.337                                      | 0.985                         | \$62,451  | \$40,866                      |
|   | NP           | 0.164                                      | 0.073                         | \$4,503   | \$3,080                       |
| Backpacking   | Local Day    | -  | -                             | \$0   | \$0                           |
|   | Local OVN    | 0.660                                      | 0.340                         | \$19,880  | \$14,857                      |
|   | NonLocal Day | -  | -                             | \$0   | \$0                           |
|   | NonLocal OVN | 0.862                                      | 0.401                         | \$25,603  | \$16,633                      |
|   | NP           | 0.660                                      | 0.340                         | \$19,880  | \$14,857                      |

|                      |               | Employment<br>(Jobs per 1,000 Party-Trips) |                               | Labor Income (2006 dollars)<br>(\$ per 1,000 Party-Trips) |                               |
|----------------------|---------------|--|-------------------------------|---|-------------------------------|
|                      |               | Direct<br>Effects                          | Indirect &<br>Induced Effects | Direct<br>Effects   | Indirect &<br>Induced Effects |
| <b>Motorized Use</b> |               |  |                               |   |                               |
| OHV Use              | Local Day     | 0.280                                      | 0.132                         | \$8,030   | \$5,599                       |
|                      | Local OVN     | 0.746                                      | 0.349                         | \$20,949  | \$15,026                      |
|                      | Non Local Day | 0.440                                      | 0.207                         | \$12,624  | \$8,801                       |
|                      | Non Local OVN | 1.244                                      | 0.582                         | \$34,916  | \$25,045                      |
|                      | NP            | 0.280                                      | 0.132                         | \$8,030   | \$5,599                       |
| Driving              | Local Day     | 0.186                                      | 0.080                         | \$5,007   | \$3,351                       |
|                      | Local OVN     | 1.057                                      | 0.414                         | \$26,022  | \$17,187                      |
|                      | Non Local Day | 0.292                                      | 0.125                         | \$7,873   | \$5,270                       |
|                      | Non Local OVN | 1.763                                      | 0.690                         | \$43,376  | \$28,648                      |
|                      | NP            | 0.186                                      | 0.080                         | \$5,007   | \$3,351                       |
| Snowmobile           | Local Day     | 0.498                                      | 0.233                         | \$14,352  | \$9,891                       |
|                      | Local OVN     | 1.932                                      | 0.771                         | \$47,812  | \$32,057                      |
|                      | Non Local Day | 0.851                                      | 0.387                         | \$24,106  | \$16,154                      |
|                      | Non Local OVN | 3.221                                      | 1.284                         | \$79,691  | \$53,431                      |
|                      | NP            | 0.498                                      | 0.233                         | \$14,352  | \$9,891                       |
| Cross Country Ski    | Local Day     | 0.318                                      | 0.136                         | \$8,202   | \$5,732                       |
|                      | Local OVN     | 1.997                                      | 0.826                         | \$51,477  | \$34,342                      |
|                      | Non Local Day | 0.500                                      | 0.214                         | \$12,885  | \$9,004                       |
|                      | Non Local OVN | 3.329                                      | 1.376                         | \$85,801  | \$57,239                      |
|                      | NP            | 0.318                                      | 0.136                         | \$8,202   | \$5,732                       |
| <b>All Other Use</b> |               |  |                               |   |                               |
| All Other Activities | Local Day     | 0.263                                      | 0.119                         | \$7,291   | \$5,048                       |
|                      | Local OVN     | 0.973                                      | 0.442                         | \$26,771  | \$18,779                      |
|                      | Non Local Day | 0.478                                      | 0.199                         | \$12,507  | \$8,271                       |
|                      | Non Local OVN | 2.336                                      | 0.984                         | \$61,620  | \$40,966                      |
|                      | NP            | 1.745                                      | 0.730                         | \$45,703  | \$30,421                      |

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 350 total average annual jobs in the 5 county area (direct, indirect and induced, full-time, temporary, and part-time) and \$11.2 million total labor income (direct, indirect and induced) are attributable to non-motorized visitation on the Tahoe National Forest. The two largest activities among those in the table are hiking/walking and cross-country skiing, together these account for about 13% of the jobs and 13% of the income generated from the activities analyzed. These activities account for about 262 jobs and provided \$8.4 million in labor income to the nine-county area.

Motorized activities were responsible for approximately 100 total jobs (direct, indirect and induced) and \$3.3 million total labor income (direct, indirect and induced). The two largest motorized uses are OHV Use and driving for pleasure. These two activities contribute about 4.4% of the jobs from the activities in the table, and provide about 4.5% of the labor income. Together these two activities contribute 87 jobs and provide about \$2.9 million in labor income to the area.

“All Other Activities” (see Table 3.11.8 for a list) are significant economic contributors for the activities studied. They provide 1,519 jobs, or 74% of the jobs from the activities analyzed. Labor income is about \$49 million, or 77% of the income generated by these activities.

Table 3.11-12 shows that about 18% of the jobs provided from these activities are from non-motorized use, 5% from motorized use and 77% from “Other Activities.” The contributions to labor income are 18% non-motorized use, 5% motorized use and 77% from “Other Activities.”

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

|                                     | Employment<br>(full & part-time jobs) |                    | Labor Income<br>(2008 dollars) |                    |
|-------------------------------------|---------------------------------------|--------------------|--------------------------------|--------------------|
|                                     | Direct                                | Indirect & Induced | Direct                         | Indirect & Induced |
| <b>Non-Motorized Use</b>            |                                       |                    |                                |                    |
| <b>Backpacking - Local</b>          | 2                                     | 1                  | 51,656                         | 38,605             |
| Non-local                           | 1                                     | 1                  | 43,474                         | 28,244             |
| <b>Hiking/Walking - Local</b>       | 26                                    | 12                 | 756,114                        | 518,658            |
| Non-local                           | 64                                    | 27                 | 1,769,505                      | 1,150,526          |
| <b>Horseback Riding - Local</b>     | 1                                     | 0                  | 21,603                         | 14,819             |
| Non-local                           | 2                                     | 1                  | 50,557                         | 32,872             |
| <b>Bicycling - Local</b>            | 8                                     | 3                  | 218,525                        | 149,898            |
| Non-local                           | 18                                    | 8                  | 511,407                        | 332,515            |
| <b>Cross-country Skiing - Local</b> | 21                                    | 9                  | 552,854                        | 380,765            |
| Non-local                           | 73                                    | 30                 | 1,951,844                      | 1,304,962          |
| <b>Other Non-motorized - Local</b>  | 9                                     | 4                  | 245,114                        | 168,136            |
| Non-local                           | 21                                    | 9                  | 573,631                        | 372,973            |
| <b>Total Non-motorized</b>          | <b>246</b>                            | <b>104</b>         | <b>\$6,746,286</b>             | <b>\$4,492,972</b> |
| <b>Subtotal</b>                     | <b>350</b>                            |                    | <b>\$11,239,257</b>            |                    |

|   | Employment<br>(full & part-time jobs) |                    | Labor Income<br>(2008 dollars) |                    |
|---|---------------------------------------|--------------------|--------------------------------|--------------------|
|   | Direct                                | Indirect & Induced | Direct                         | Indirect & Induced |
| <b>Motorized Use</b>                    |                                       |                    |                                |                    |
| <b>OHV Use - Local</b>                  | 14.8                                  | 7.0                | 436,341.1                      | 308,005            |
| Non-local                               | 17.1                                  | 8.0                | 498,032.8                      | 355,523            |
| <b>Driving for Pleasure - Local</b>     | 15.7                                  | 6.6                | 431,153                        | 288,013            |
| Non-local                               | 12.4                                  | 4.9                | 319,507                        | 211,392            |
| <b>Snowmobiling - Local</b>             | 3.9                                   | 1.7                | 110,760                        | 75,658             |
| Non-local                               | 4.2                                   | 1.7                | 110,240                        | 73,904             |
| <b>Other Motorized Activity - Local</b> | 0.5                                   | 0.2                | 14,545                         | 10,267             |
| Non-local                               | 0.6                                   | 0.3                | 16,601                         | 11,851             |
| <b>Total Motorized</b>                  | <b>69</b>                             | <b>30</b>          | <b>\$1,937,179</b>             | <b>\$1,334,614</b> |
| <b>Subtotal</b>                         | <b>100</b>                            |                    | <b>\$3,271,793</b>             |                    |
| <b>All Other Use</b>                    |                                       |                    |                                |                    |
| <b>All Other Activities - Local</b>     | 300                                   | 135.93             | 8,566,267                      | 5,966,518          |
| Non-local                               | 762                                   | 321                | 20,791,117                     | 13,815,523         |
| <b>Total Other</b>                      | <b>1,062</b>                          | <b>457</b>         | <b>\$29,357,384</b>            | <b>19,782,041</b>  |
| <b>Subtotal</b>                         | <b>1,519</b>                          |                    | <b>\$49,139,425</b>            |                    |
| <b>Grand Total</b>                      | <b>1,377</b>                          | <b>591</b>         | <b>38,040,849</b>              | <b>25,609,626</b>  |
| <b>Grand subtotal</b>                   | <b>1,968</b>                          |                    | <b>63,650,476</b>              |                    |

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

|                                     | Employment<br>(% of full & part-time jobs) |                    | Labor Income (2008 dollars)<br>(% of Total Income) |                    |
|-------------------------------------|--|--------------------|--|--------------------|
|                                     | Direct                                     | Indirect & Induced | Direct   | Indirect & Induced |
| <b>Non-Motorized Use</b>            |  |                    |  |                    |
| <b>Backpacking - Local</b>          | 0.1%                                       | 0.0%               | 0.1%   | 0.1%               |
| Non-local                           | 0.1%                                       | 0.0%               | 0.1%   | 0.0%               |
| <b>Hiking/Walking - Local</b>       | 1.3%                                       | 0.6%               | 1.2%   | 0.8%               |
| Non-local                           | 3.3%                                       | 1.4%               | 2.8%   | 1.8%               |
| <b>Horseback Riding - Local</b>     | 0.0%                                       | 0.0%               | 0.0%   | 0.0%               |
| Non-local                           | 0.1%                                       | 0.0%               | 0.1%   | 0.1%               |
| <b>Bicycling - Local</b>            | 0.4%                                       | 0.2%               | 0.3%   | 0.2%               |
| Non-local                           | 0.9%                                       | 0.4%               | 0.8%   | 0.5%               |
| <b>Cross-country Skiing - Local</b> | 1.1%                                       | 0.4%               | 0.9%   | 0.6%               |
| Non-local                           | 3.7%                                       | 1.5%               | 3.1%   | 2.1%               |
| <b>Other Non-motorized - Local</b>  | 0.4%                                       | 0.2%               | 0.4%   | 0.3%               |
| Non-local                           | 1.1%                                       | 0.4%               | 0.9%   | 0.6%               |
| <b>Total Non-motorized</b>          | <b>12.5%</b>                               | <b>5.3%</b>        | <b>10.6%</b>                                       | <b>7.1%</b>        |

|   | Employment<br>(% of full & part-time jobs) |                    | Labor Income (2008 dollars)<br>(% of Total Income) |                    |
|---|--|--------------------|--|--------------------|
|   | Direct                                     | Indirect & Induced | Direct   | Indirect & Induced |
| <b>Motorized Use</b>                    |  |                    |  |                    |
| <b>OHV Use - Local</b>                  | 0.8%                                       | 0.4%               | 0.7%   | 0.5%               |
| Non-local                               | 0.9%                                       | 0.4%               | 0.8%   | 0.6%               |
| <b>Driving for Pleasure - Local</b>     | 0.8%                                       | 0.3%               | 0.7%   | 0.5%               |
| Non-local                               | 0.6%                                       | 0.2%               | 0.5%   | 0.3%               |
| <b>Snowmobiling - Local</b>             | 0.2%                                       | 0.1%               | 0.2%   | 0.1%               |
| Non-local                               | 0.2%                                       | 0.1%               | 0.2%   | 0.1%               |
| <b>Other Motorized Activity - Local</b> | 0.0%                                       | 0.0%               | 0.0%   | 0.0%               |
| Non-local                               | 0.0%                                       | 0.0%               | 0.0%   | 0.0%               |
| <b>Total Motorized</b>                  | <b>3.5%</b>                                | <b>1.5%</b>        | <b>3.0%</b>  | <b>2.1%</b>        |
| <b>All Other Use</b>                    |  |                    |  |                    |
| <b>All Other Activities - Local</b>     | 15.2%                                      | 6.9%               | 13.5%  | 9.4%               |
| Non-local                               | 38.7%                                      | 16.3%              | 32.7%  | 21.7%              |
| <b>Total Other</b>                      | <b>54.0%</b>                               | <b>23.2%</b>       | <b>46.1%</b>                                       | <b>31.1%</b>       |
| <b>Totals</b>                           | <b>69.9%</b>                               | <b>30.1%</b>       | <b>59.8%</b>                                       | <b>40.2%</b>       |
|   | <b>100.0%</b>                              |                    | <b>100.0%</b>                                      |                    |

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

|                                |           | Employment Effects<br>(full and part time jobs) | Labor Income<br>(2008 dollars) |
|--------------------------------|-----------|---|--------------------------------|
| <b>Total Non-Motorized Use</b> | Local     | 65.9  | 1,270,881.3                    |
|                                | Non Local | 179.6   | 3,222,090.4                    |
| <b>Total Motorized Use</b>     | Local     | 34.9  | 681,943.7                      |
|                                | Non Local | 34.2  | 652,669.8                      |
| <b>Total All Other Use</b>     | Local     | 299.8   | 5,966,518.0                    |
|                                | Non Local | 762.1   | 13,815,523.1                   |
| <b>Total</b>                   | Local     | 400.6   | 7,919,342.9                    |
|                                | Non Local | 976.0   | 17,690,283.3                   |
| <b>Total for Area</b>          |           | <b>1,376.6</b>                                  | <b>25,609,626.2</b>            |

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

|                                |           | <b>Employment Effects</b><br>(full and part time jobs) | <b>Labor Income</b><br>(2008 dollars) |
|--------------------------------|-----------|--|---------------------------------------|
| <b>Total Non-Motorized Use</b> | Local     | 0.006%   | 0.004%                                |
|                                | Non Local | 0.017%   | 0.011%                                |
| <b>Total Motorized Use</b>     | Local     | 0.003%   | 0.002%                                |
|                                | Non Local | 0.003%   | 0.002%                                |
| <b>Total All Other Use</b>     | Local     | 0.029%   | 0.019%                                |
|                                | Non Local | 0.072%   | 0.045%                                |
| <b>Total Use</b>               |           | <b>0.138%</b>  | <b>0.088%</b>                         |
| <b>Total for Area</b>          |           | <b>1,511,303</b>                                       | <b>76,354,830,000</b>                 |

Table 3.11-13b shows 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 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 be relatively static 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 areas. However, motor vehicle use is already concentrated in many areas of the Forest at this time, so this effect may not be realized either during implementation; but at some point some users would no longer 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 native surface (dirt) 2 roads and system 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.

## **American Indian Rights and Interests: Affected Environment**

### **Laws Pertaining to American Indian Tribes**

Laws pertaining to the rights of federally recognized American Indian tribes acknowledge that these tribes have specific rights and interests, many unlike those accorded to other governments. Most American Indian lands in California are small. American Indians in California and Nevada rely on Federal lands for exercising their interests and rights to access and use natural resources, cultural resources, and ceremonial sites, and to seek economic well-being (Reynolds 1996).

An important distinction in U.S. law is that federally recognized American Indian tribes are not a special interest group; they are sovereign governments distinct from Federal and State governments. This legal standing confers government-to-government relations between the Federal Government and each federally recognized tribe. Powers that Federal laws do not expressly limit remain inherent powers of individual tribes. Reservations, Rancheria, and Indian colonies all comprise “Indian Country” as defined in the 1948 Indian Country Statute. American Indian governments have jurisdiction and authority over resources on Indian Country lands. On lands outside Indian Country, rights reserved for tribal

governments may include rights to hunt and fish; rights to gather traditional plants, mushrooms, and lichens; and rights to water.

Federal policy for tribes emphasizes self-determination and government-to-government relationships. Table 3.11-14 lists major laws that shape how the Federal government supports tribal self-determination interests and government-to-government consultation. In addition, a long tradition of case law has defined reserved rights for American Indians, including water rights and trust responsibility of the Federal government, among others (Getches and others 1998).

Claims for compensation by California Indians for European-American land taking are still considered by many tribes to be outstanding. Also, many unrecognized tribes are seeking recognition from the Federal government. It is unclear how these cases may affect the Tahoe National Forest in the future.

**Table 3.11-14. Federal laws relevant to American Indian concerns regarding National Forest management**

| <b>Law</b>   | <b>Purpose</b>   |
|--|--|
| <b>National Environmental Policy Act of 1969</b>                         | Requires consideration of effects on cultural values and diversity.  |
| <b>American Indian Religious Freedom Act of 1978, as amended in 1994</b> | Protects Indian religious practices and access to sacred sites.  |
| <b>Federal Land Policy and Management Act of 1976</b>                    | Coordinates with Indian tribes to inventory, plan, and manage resources of value to Tribes.  |
| <b>National Historic Preservation Act of 1976</b>                        | Accounts for impacts of management on prehistoric and historic sites.  |
| <b>Archeological Resources Protection Act of 1979 as amended in 1992</b> | Protects archeological resources and requires that affected tribes be notified if archeological studies might harm or destroy culturally or spiritually important sites. |
| <b>Native American Graves Protection and Repatriation Act of 1990</b>    | Requires consultation with tribes about disposition of Native American remains, funerary objects, and other cultural relics.   |

American Indian groups exert influences at national, regional, and local levels. For this EIS, their influence is most pronounced at the local level. There are approximately 11 Indian tribes and communities residing in or near the Tahoe National Forest. Indian people make up approximately one percent of the total population within the Tahoe National Forest Region. The federally recognized tribes have populations ranging up to 1,655 individuals. The Forest Service consults with federally recognized tribes, non-recognized tribes, organizations, and individuals to comply with the laws displayed in Table 3.11-14.

### **Importance of National Forest Lands and Resources to American Indian People**

Indian country is a complex pattern of reservations, Rancherias, and allotments scattered throughout the Sierra Nevada. Federal American Indian reservations range from 0.5 acre to 313,690 acres; five tribes have no land base at all. There are four reservations larger than 50,000 acres each. The 477,000-acre Pyramid Lake Reservation lies on the eastside of the Sierra Nevada; the people who live there have a significant interest in the management of nearby Sierra Nevada national forests.

American Indian tribes, communities, and individuals live principally in the foothills on both the west and east sides of the Tahoe National Forest. Some American Indian communities and individuals reside

off the reservations while others live on allotments within national forests administrative boundaries. Many American Indians have also migrated to nearby urban centers. The tribes discussed in this section continue to maintain their cultural identities while participating in many day-to-day social and economic activities of other communities.

Tribal concerns related to this EIS have been shared with the Forest Service at public and tribal meetings. Key tribal concerns include: road access and special lands and their associated activities.

### **Road Access**

Many ceremonial locations, cemeteries, traditional gathering areas, and archaeological sites are located in the national forests. These areas contribute to the tribal community's way of life, their identity, their traditional practices, and cohesiveness. While roads were not a traditional means of access to these sites they are essential for many now. Some Indian people have expressed concern about potential changes in roaded access to these sites.

### **Special Lands and Associated Activities**

Many sacred areas are located in national forests. Ceremonial activities are held in these areas. Occasionally, ceremonial activities are held with little notice to the Forest Service, and, at other times, these activities are large gatherings attended by tribes and the general public. Some activities, particularly those of a religious nature, must be performed in specific settings or environments.

The designation of "sacred" lands is tribally based. According to some traditions, the Creator designated sacred lands. These lands are often situated in areas with unique and fixed geological features or other landscape attributes. Many American Indians consider major land alterations, such as clearcutting, road building, or mining, on sacred lands to be disrespectful. Certain activities, such as bear hunting during traditional "Bear Dance Celebrations," are also considered disrespectful.

As more people visit and use national forests, conflicts arise between tribal uses of culturally important areas and other uses of these same areas. The unique characteristics of culturally important areas attract many people for many different reasons. Some of these areas are currently experiencing increased recreational use that, at times, conflicts with tribal uses. In the past, some campgrounds were located on tribal sites and some roads were located on prehistoric and historic trails, further illustrating the critical need for local consultation between the Forest Service and American Indian tribes.

## **American Indian Rights and Interests: Environmental Consequences**

### **Factors Used to Assess Environmental Consequences**

Tribal input provided to the Forest Service during pre-scoping and scoping for this EIS identified a goal for providing appropriate access to sacred sites, ceremonial sites, and traditional use areas. Access to traditional use areas is not presently quantifiable in the absence of baseline inventories. Therefore, the factor used to assess the consequences of the alternatives is the total miles of roads and trails open to wheeled motorized vehicles and season of use. Chapter 3.05 "Heritage Resources" describes consequences to traditional cultural resources that are also heritage resources, such as archaeological sites, sacred sites, and traditional cultural properties.

## Effects of the Alternatives on American Indian Rights and Interests

Table 3.11-15 displays the total miles of roads and trail open to wheeled motorized use by class of vehicle. Alternative 5 provides the greatest opportunity for wheeled motorized use on the Tahoe National Forest. However the seasonal wet weather restrictions associated with Alternative 5 reduce its overall level of access. Alternatives 3, 4, 6 and 7 provide lower levels of access in terms of total miles. Access in Alternatives 4 and 6 is reduced even further due to the implementation of wet weather seasonal restrictions.

**Table 3.11-15. Summary evaluation of consequences to American Indians based on access**

| 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             | 31    | 0     | 31    | 31    | 0     | 18    | 31    |
| Roads Open to Highway Legal Vehicles Only    | Seasonal Restriction | 602   | 213   | 598   | 598   | 213   | 370   | 598   |
| Roads Open to All Vehicles                   | All Year             | 110   | 141   | 110   | 1,900 | 2,086 | 2,066 | 110   |
| Roads Open to All Vehicles                   | Seasonal Restriction | 1,786 | 2,175 | 1,789 |       | 230   | 76    | 1,790 |
| Trails Open To High Clearance Trail Vehicles | All Year             | 5     | 6     | 5     | 203   | 434   | 227   | 6     |
| Trails Open To High Clearance Trail Vehicles | Seasonal Restriction | 184   | 227   | 184   |       |       |       | 208   |
| Trails Open to ATVs and Motorcycles          | All Year             |       |       |       | 20    | 29    | 29    |       |
| Trails Open to ATVs and Motorcycles          | Seasonal Restriction | 18    | 20    | 18    |       |       |       | 20    |
| Trails Open to Motorcycles                   | All Year             | 1     | 1     | 1     | 142   | 154   | 149   | 1     |
| Trails Open to Motorcycles                   | Seasonal Restriction | 127   | 152   | 127   |       |       |       | 144   |

## Civil Rights Impact Analysis

Environmental justice speaks to concerns that costs of Federal decisions could fall disproportionately on people of a particular ethnic or cultural heritage group, or on people with low incomes. Executive Order 12899 requires federal agencies to identify where such disproportionate burdens might occur as the result of Federal actions. Social impact analysis identifies areas where health and well-being of people are at risk as the result of actions conducted in this EIS.

The National Environmental Policy Act (NEPA) provides the basis for environmental justice and social impact analysis. Section 101 of NEPA sets forth six goals pertaining to social well-being and environmental justice:

1. Fulfill the responsibility of each generation as trustees of the environment for following generations;
2. Assure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings;
3. Attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences;

4. Preserve important historical, cultural, and natural aspects of our natural heritage, and maintain, wherever possible, an environment which supports diversity and variety of individual choice;
5. Achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities; and
6. Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

The evaluation of social impacts, environmental justice, and civil rights considers people of color, gender-based groups, civic and community organizations, students and youth, the elderly poor and working class communities, farm workers, other labor groups, and communities.

During development of the Notice of Intent and EIS for the Motorized Travel Management Project, people expressed concerns relating to environmental justice and civil rights. Concerns related to environmental justice and civil rights can be organized into major topic areas of community fire risk, human health, employment, and poverty.

This part analyzes five topics for social impacts including environmental justice and civil rights that relate to the five problem areas addressed in this EIS. The topics for analysis are:

- Race, Cultural Heritage, Employment, and Income
- Children in Poverty
- Childhood Education
- Community Needs for Fuel Wood
- Barriers to Communication

### **Factors used in Civil Rights Impact Analysis**

Community clusters are used to display how the eight alternatives in this EIS 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 Tahoe National Forest. Table 3.11-16 displays those community clusters used in this analysis.

**Table 3.11-16. Community clusters used to analyze economic and social impacts on Tahoe National Forest Communities stemming from alternatives proposed in the Public Wheeled Motorized Travel Management EIS**

| <b>Community Cluster</b>                | <b>ZIP Code</b> | <b>Community</b>    | <b>Community Population</b> |
|---|-----------------|---------------------|-----------------------------|
| <b>Eastern Sierra &amp; Plumas Cos.</b> | 96015           | Chilcoot            | 470                         |
|   | 96118           | Loyalton            | 1500                        |
|   | 96124           | Calpine             | 286                         |
|   | 96126           | Sierraville         | 355                         |
|   | 96135           | Vinton              | -                           |
| <b>Grass Valley/Nevada City</b>         | 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                         |
| <b>West I-80 Corridor/Auburn</b>        | 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                        |
| <b>Yuba River</b>                       | 95910           | Alleghany           | -                           |
|   | 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        | -                           |
|   | 95972           | Rackerby            | 260                         |
|   | 95981           | Strawberry Valley   | 242                         |
|   | 96125           | Sierra City         | 311                         |
| <b>East I-80 Corridor</b>               | 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 Tahoe National Forest 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. Collecting new information is not essential to discern differences among alternatives or required for a reasoned choice among options.

## Race, Cultural Heritage, Employment, and Income: Affected Environment

The Tahoe National Forest community clusters have larger white populations than communities located just outside the Region. Table 3.11-17 shows percentages of people by racial composition and by Hispanic cultural heritage in the community clusters. None of the racial and cultural minorities that combined comprise more than 10 percent of a cluster’s population.

**Table 3.11-17. 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 |
|---|-------|-------|-----------------|------------------------|-------|---------------------|
| <b>Eastern Sierra &amp; Plumas Cos.</b> | 96.0  | 0.0   | 2.8             | 0.0                    | 1.2   | 4.7                 |
| <b>Grass Valley / Nevada City</b>       | 97.1  | 0.3   | 1.2             | 0.7                    | 0.6   | 3.9                 |
| <b>West I-80 Corridor / Auburn</b>      | 95.7  | 0.4   | 1.5             | 1.4                    | 1.0   | 4.7                 |
| <b>Yuba River</b>                       | 91.8  | 1.1   | 4.1             | 1.4                    | 1.6   | 5.9                 |
| <b>East I-80 Corridor</b>               | 96.0  | 0.3   | 1.2             | 1.4                    | 1.1   | 5.3                 |

**Note:** Figures in bold indicate community clusters with greater than 10 percent minority racial populations and greater than ten percent Hispanic-heritage populations.

**Source:** US Census Bureau, 1990 Census Data

Per capita income figures show that in general racial and cultural minority groups in the Tahoe National Forest Region earn less than their white neighbors. Table 3.11-18 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 3.11-18. 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 |        |                 |                            |        |                            |                     |                                 |
| <b>Eastern Sierra &amp; Plumas Cos.</b> | 11,714          | NA     | 8,683           | NA                         | 5,006  | 7,580                      | 11,601              | 10.1                            |
| <b>Grass Valley/ Nevada City</b>        | 15,561          | 4,426  | 8,858           | 13,784                     | 10,814 | 10,034                     | 10,081              | 3.6                             |
| <b>West I-80 Corridor/ Auburn</b>       | 15,938          | 19,117 | 11,109          | 24,163                     | 11,127 | 16,108                     | 14,317              | 2.5                             |
| <b>Yuba River</b>                       | 12,917          | 8,894  | 5,532           | 3,848                      | 9,360  | 6,442                      | 15,893              | 14.1                            |
| <b>East I-80 Corridor</b>               | 20,700          | 20,378 | 14,801          | 12,549                     | 15,552 | 14,638                     | 12,033              | 2.1                             |

**Note:** Figures in bold indicate community clusters where (1) per capita incomes of combined minority racial groups is less than half the per capita income of whites; (2) per capita incomes of people with Hispanic heritage is less than half the per capita income of whites; and (3) more than ten percent of all employment comes from combined agriculture and forestry.

**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 Tahoe National Forest 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 services employment in community clusters. Criterion 4 identifies communities with a high dependence upon the services sector.

**Table 3.11-19. 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                   |

## **Race, Cultural Heritage, Employment, and Income: Environmental Consequences**

Potential impacts 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.

Predictions about changes in 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 be relatively static 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 areas. However, motor vehicle use is already concentrated in many areas of the Forest at this time, so this effect may not be realized either during implementation; but at some point some users would no longer 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 native surface (dirt) roads and system 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. Any potential effects would likely impact gas stations, convenience stores, and other retail stores in local communities.

## **Children in Poverty: Affected Environment**

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

The percentages of people living in poverty in the Tahoe National Forest 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 Tahoe National Forest Region 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 3.11-20. All people and all children living in poverty in Tahoe National Forest 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                                  |
| <b>All CA</b> | <b>5,215,575</b>                       | <b>16.5</b>                         | <b>2,214,535</b>                     | <b>24.3</b>                           |

**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.

## Children in Poverty: Environmental Consequences

Children may disproportionately suffer from economic decisions of the Forest Service if their parents lose jobs or must take lower paying jobs. Predictions about changes in recreational use that may occur on the Forest and affect employment are difficult to make and would be highly speculative. The Forest Service believes that under all action alternatives, levels of use would be relatively static 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 areas. However, motor vehicle use is already concentrated in many areas of the Forest at this time, so this effect may not be realized either during implementation; but at some point, some users would no longer 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 native surface native surface (dirt) roads and system 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. Any potential effects would likely impact gas stations, convenience stores, and other retail stores in local communities.

## Childhood Education: Affected Environment

Table 3.11-21 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 3.11-21. 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 |                      | 1992-93   | 1997-98 | Percent Change | 1992-93                | 1997-98 | Percent Change |                    |
| 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 Tahoe National Forest 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 US Forest Service and other federal agencies based on the average of the three highest annual payments for the period 1986 to 1999. 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 3.11-22. 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 3.11-22 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 3.11-23. 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               |

## Childhood Education: Environmental Consequences

The Secure Rural Schools and Community Self-Determination Act of 2000 gives the counties the option to received 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 by changes in Forest Service timber receipts.

Other social and economic factors in communities or other Federal and State funding may influence more the ability of public education systems in the Region to prepare their students for higher education than the Forest Service. Instances of departures from environmental justice based on predictions about changes in 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 be relatively static 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 areas. However, motor vehicle use is already concentrated in many areas of the Forest at this time, so this effect may not be realized either during implementation; but at some point, some users would no longer attain the experience they desire and would likely seek other areas off-forest. The point at which this would occur is speculative

## Community Needs for Fuel Wood: Affected Environment

Fuel wood supplies are critical to rural people in California with low incomes. Data about fuel wood demand and supply in Tahoe National Forest 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.

## Community Needs for Fuel Wood: Environmental Consequences

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 will provided the greatest opportunity for fuel wood gathering.

**Table 3.11-24. 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             | 31    | 0     | 31    | 31    | 0     | 18    | 31    |
| Roads Open to Highway Legal Vehicles Only            | Seasonal Restriction | 602   | 213   | 598   | 598   | 213   | 370   | 598   |
| Roads Open to All Vehicles                           | All Year             | 110   | 141   | 110   | 1,900 | 2,086 | 2,066 | 110   |
| Roads Open to All Vehicles                           | Seasonal Restriction | 1,786 | 2,175 | 1,789 | X     | 230   | 76    | 1,790 |

## Barriers to Communication: Affected Environment

The National Environmental Policy Act (NEPA) mandates that the Forest Service actively reach out to members of the public, including those people whom the Forest Service has historically underserved. Where poverty and language barriers occur, Forest Service responsibilities are complicated. Data on language barriers for adults in the Tahoe National Forest counties are available from the 1990 US Decennial Census. These data may not reflect current conditions. Indicators of where the Forest Service needs to compensate for outreach are where child poverty and lack of child proficiency in English are prevalent. The rationale is that children who are poor and who do not speak English well also have parents who are poor and do not speak English well.

Table 3.11-25 displays percentages of children in poverty and percentages of children with limited English proficiency. None of the counties have both a high percentages of poverty (greater than 15 percent) and difficulty in English-proficiency among children (greater than 10 percent).

**Table 3.11-25. Percentages of child poverty and Limited English Proficiency (LEP) in Tahoe National Forest Region elementary and secondary schools**

| Subregion and County | Children in Poverty, 1996 | LEP 1997/1998 |
|----------------------|---------------------------|---------------|
| Plumas               | 18.2                      | 1.8           |
| Sierra               | 10.6                      | 0.1           |
| Nevada               | 12.4                      | 0.5           |
| Placer               | 9.8                       | 3.7           |
| Yuba                 | 20.2                      | 0.0           |

Sources: US Census Bureau, California State Department of Education

In communities just outside the Tahoe National Forest Region, especially those in the Sacramento Valleys, larger proportions of residents are poor. For example, 20 percent of the children living in the Tahoe National Forest portion of

Yuba County are living in poverty; in Yuba County as a whole, 34 percent of the children are living in poverty. Poorer residents are frequently immigrants with limited English-proficiency as well.

### **Barriers to Communication: Environmental Consequences**

In the public comment period between the appearance of the draft EIS and the final EIS, Tahoe National Forest staff will reach out to people from whom the Forest Service has not heard. Of particular interest to the Forest Service is inclusion of people who care about the Tahoe National Forest, but who may not see their role in shaping decision-making as significant or worthy. Many people who rely on the Tahoe National Forest at particular seasons may live considerable distances away, yet their concerns deserve to be heard.

The Forest Service will work to overcome barriers to communication among people who are poor and who have limited English proficiency. Attention will focus especially on American Indian residents, Hispanic communities, and recent South and Southeast Asian and East European immigrants.

### **Summary of Civil Rights Impact Analysis including Environmental Justice in the Sierra Nevada Region**

Table 3.11-26 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 3.11-26. Summary of Forest Service Civil Rights Impact Analysis and environmental justice by community clusters in the Sierra Nevada Region**

| <b>Subregion and Community Clusters</b>     | <b>Race, Cultural Heritage, Employment, and Income</b> | <b>Children in Poverty</b> | <b>Childhood Education</b> | <b>Community Needs for Fuel Wood</b> | <b>Barriers to Communication</b> |
|---|--|----------------------------|----------------------------|--------------------------------------|----------------------------------|
| <b>Eastern Sierra &amp; Plumas Counties</b> | Yes  |                            |                            | Yes                                  |                                  |
| <b>Grass Valley/Nevada City</b>             |  |                            |                            |                                      |                                  |
| <b>West I-80 Corridor/Auburn</b>            |  |                            |                            |                                      |                                  |
| <b>Yuba River</b>                           | Yes  | Yes                        | x                          | Yes                                  |                                  |
| <b>East I-80 Corridor</b>                   |  |                            |                            |                                      |                                  |

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