APPENDIX A

2009 OSV WINTER TRAILHEAD SURVEY
California State University, Sacramento

California Department of Parks & Recreation

Off-Highway Motor Vehicle Recreation Division

2009 Winter Trailhead Survey

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Study Overview

This study represents an effort by California State Parks Off-Highway Motor Vehicle Recreation (OHMVR) Division to collect current and representative information about recreation visitors who use the snomobile trailheads included in the OHMVR Division's Over Snow Vehicle Snow Program Challenge Cost Share Agreements. These winter recreation areas provide the public with opportunities for snow play areas, cross-country ski and snowmobile trails. The data was collected for a variety of reasons, including the collection of information to support the OHMVR Division's management decisions as well as to provide documentation to aid the agency in its environmental planning needs.

Gathering accurate, scientifically collected baseline information about visitors who utilize the trailhead system was the goal set by agency managers and faculty researchers during an extensive survey development period when goals of the study were formulated. These information priorities were eventually operationalized in a series of survey questions designed to gain in-depth data about visits to and visitors at the trailheads. In the end 413 interviews were conducted with trailhead users at 11 trailheads during the winter between the months of February and April, 2009. While 413 individual interviews were conducted, these interviews include groups totalling 1,732 visitors to the winter trailhead system.

It was the OHMVR Division's original intent to conduct this survey at all snowmobile trailheads to better understand how these trailheads are being used; however, due to timing constraints of survey planning and implementation the number of trailheads was limited to 11. In addition to providing information about visitor characteristics and their current trailhead and equipment utilization, this study is also valuable as a pilot for future studies addressing all trailheads in the system. Specificly, this study yields information on characteristics of trailhead users (place of residence, socio-demographic information), recreation activities of visitors, details on motorized recreation patterns and equipment use, trailhead information sources, observation of problem behaviors, overall travel patterns, as well as how plowing and grooming affects visitors' decisions to come to the winter trailheads for recreation.

Visitor Survey Summary

Visitors were in large part from California (just over 65%) and all were from the United States. Almost 90% of visitors contacted for this study were snowmobiling for part of their trip. Visitors seemed to come from counties in close proximity to the trailheads where they were contacted as well as the urban areas of the Bay Area and Sacramento Valley. Nevada residents accounted for over 10% of the study sample. The large majority (over 80%) of study participants indicated that the trip they took to the trailhead where they were contact was the primary destination of their trip. The bulk of study participants came to the trailhead in groups

of 2 to 6 people. Visitors found out about the trailhead either by living nearby (43%) or through word of mouth of others (33%).

Visitors in the study traveled on average 204 miles roundtrip to visit study trailheads. Those reporting an overnight stay as part of their visit indicated that they on average stayed 35 miles roundtrip drive from their overnight accommodations. Visitors drove on average the furthest to Deer Mountain and the shortest routes to Little Truckee Summit. The bulk of non-motorized visitors were at the trailhead as part of a day trip while motorized study participants were typically out for a multi-day trip. Non-motorized visitors spent on average 2.3 hours on the snow while motorized visitors on average spent 6 hours on the snow.

Motorized visitors (predominantly snowmobilers) typically traveled both on and off groomed terrain, although over half spent 40-80% of their time on groomed terrain while in the study trailhead area where they were contacted. Approximately 24% of the visitors spent between 6-15 days snowmobiling annually while another 37.5% snowmobiled between 16-30 days a season. Just under 30% of the snowmobilers interviewed for this study indicated that they used the trails at night on the trip they were contacted. Of all the trailheads on the study night time trail usage was most common among study participants contacted at LaPorte. Of those visitors who were staying overnight as part of their trip, about half indicated that their overnight accommodations were under 30 miles from the trailhead. Typical speeds reported by just over half of the snowmobilers in the study were between 21 and 40 miles per hour.

Just under 96% of the snowmobilers participating in the study drove 2-stroke motors and these were split almost evenly between pre- and post-2004 models. Relatively few of any snowmobilers in the study drove motors with alterations.

Study participants were asked from if they observed any problem behaviors (see Appendix A, question 10) as part of their visit, and the results from analysis of the data indicate that relatively few were observed. The most common of these included driving over bare ground (16%) and excessive noise and speeds (about 9% of each). Few study participants indicated that they saw these behaviors as problems. While problem observations were few, there were a few occasions where wilderness boundary trespass was observed. Most snowmobilers learned of winter use regulations either through word of mouth (54%) or via the Internet (41%).

Study participants were asked how they would respond if the parking areas at study trailheads were not plowed. More than half of the participants (54%) indicated that they would not snowmobile or would snowmobile less. Approximately 27% indicated they would snowmobile about the same if trailhead parking was plowed and 3% said they would snowmobile more. Half of the visitors in this study (50%) indicated they would not snowmobile or would snowmobile less if the trails were not groomed. Almost 30% said they would snowmobile about the same amount and 5% indicated they would snowmobile more if the trails were not groomed. Equal numbers of snowmobilers participating in the study were affiliated with clubs versus those not affiliated with an organization.

The largest proportion of snowmobilers tended to be between the age of 35 and 49 years old, and the largest proportion of group members were male (about 65%). Adolescents made up a fairly small amount of the participants in the study. Ninety percent of visitors in the study were Anglo/Caucasian and English was their primary language. Over half of study participants (61%) earned more than $75,000 annually with the remaining 39% earning below this level.

Trailhead Use Summary

The average number of vehicles present on any given day when researchers collected information was 18, and the three sites with the largest average number of vehicles present were Little Truckee Summit (with 41 vehicles) Bucks Summit (35), Lake Alpine (32) and Highway 108 (32). The largest number of vehicles observed on any one study date was 83 at the Highway 108 trailhead. The average number of vehicles is only somewhat higher on weekend days compared to weekdays, with 19 vehicles observed on weekend days and 13 on weekday observation periods in the study. Vehicles with no trailers accounted for about half of all vehicles observed in the study. Researchers noted that it is likely that a good portion visitors to the trailheads studied were snowmobilers who likely came in these passenger vehicles or trucks that can transport one or two snowmobiles in the truck-bed. Out of state vehicles at study trailheads (measured by observations of license plates) accounted for about 6% of all vehicles observed by researchers in the study.

Study Methods

This section details the methods used in the study, including a description of the interview approach chosen by the State Parks staff and university researchers which was then utilized in the field. A rationale for the study sites used in the survey is also discussed. Methods used for the selection of study dates and participants are also reviewed. Study instruments (including both survey forms and use observation forms) have been provided in Appendix A and B.

Study Trailheads

A representative number of trailheads were chosen by OHMVR Division managers and researchers. Sites were included based on their geographic distribution throughout the trailheads administered by the OHMVR Division. It should be noted that Hope Valley, while included in the study, was not part of the cost share program, but was included in the study based on manager interest in gaining information from visitors at this site.

Trailheads where visitor survey and use information was collected included the following study sites:

- Ashpan
- Bogard
- Buck's Summit
- Deer Mountain
- Highway 108
- Hope Valley
- Iron Mountain
- Lake Alpine
- LaPorte
- Little Truckee Summit
- Swain Morgan

Survey Approach

A randomized schedule of survey dates was utilized for this research, stratified by weekend and weekday periods for each trailhead in the study. An in-person questionnaire approach to collecting visitor information was determined to be the most effective means of gathering data from trailhead users, particularly for use during busy times when researchers could distribute a copy of the survey to a visitor group and then move on to other groups present. A survey instrument was developed that took about 10 minutes to complete in a pilot test in a university as well as on-site field setting. The instrument has been provided in Appendix A of this report. Sample size calculations were approached similar to other recreation studies of this kind, but these are typically based on a known population of visitors. Because specific information about the winter visitor population of users of the trailheads in the study was not known, a sample size of at least 285 was targeted as being representative of the people who visit study trailheads. This calculation was made using a sample size calculation formula that allows for a confidence level of ±95%, or a sample error of 5%. This sample size, along with the randomized nature of sample dates at study trailheads allows researchers to make specific statements about visitors at study trailheads with a small degree of error. However, because the trailheads were also chosen to represent the overall trailhead system, findings from this study can be seen as suggestive of visitors to the trailhead system as a whole.

Field researchers were comprised of volunteers from affiliated snowmobile trail clubs and university students from California State University, Sacramento's Dept. of Recreation, Parks and Tourism Administration. Typically researchers arrived at study trailheads in late morning and stayed until sunset. While at the trailhead, researchers contacted all visitor groups when visitors were completing their time at the trailhead, inviting them to participate in the study. After explaining briefly that the study was being conducted to provide visitor information to trailhead managers, visitors were told that the study was anonymous and completely voluntary. If visitors declined to participate, they were thanked for their time and the researcher moved on. If visitors agreed, the researcher typically asked who in the group (of people over 18 years) had the most recent birthday and that person was asked to be the member who completed the survey. Because of the method used to track response rates, it is difficult to determine precisely the number of refusals to the survey, but study researchers estimate that the response was very strong, with between 85-94% of visitors invited agreeing to participate in the study. Those who declined did so most likely because of being rushed to begin the drive home.

Recreation Use Observation Methods

Use information was collected using a simple one-page form that researchers completed for each day spent at a trailhead. This form has been provided in Appendix B of this report, and included space for researchers to record the number of passenger vehicles present upon their arrival and departure from study trailheads, vehicles with and without trailers, as well as out of state license plates. While this information sheet was not completed on all study dates, enough data was collected to give additional perspective on winter use of the trailheads.

Study Results

This section of the report details visitors' responses to individual survey items as well as recreation use information observed by field researchers.

Specific information was collected for the visitor survey that focused on the following information:

- Visitor characteristics

- Demographic indicators
- Recreational travel patterns in project trailhead area
- Motorized and non-motorized recreation use of trailheads
- Length of travel time
- Problems identified by trailhead users
- Nighttime use of trail system
- Effect of parking lot plowing and trail grooming on visits

Recreation use observations were also collected including on the following information:

- Number of vehicles present upon arrival and departure on study dates
- Vehicles with trailers vs. vehicles with no trailers
- Out of state license plate information

Visitor Residence

Tables 1 to 3 provide information on visitors' home locations. All study participants were from the United States and over half (66.7%) were from California. In this study, a large number of visitors were from Shasta, Washoe, Yuba, Plumas, Nevada, Tehama, El Dorado and Sutter Counties. The other visitors were from a variety of counties located in the states of California, Nevada, Texas, Oregon, Washington, and Kansas.

Table 1. Residence of Trailhead Visitors: U.S. and California

Residence	Number of visitors	Percent
United States	413	100.0%
California	276	66.7%

Table 2. Residence of Trailhead Visitors by California County

California County of Residence	Number of visitors	Percent
Alameda	14	3.4%
Alpine	1	0.2%
Amador	11	2.7%
Butte	12	2.9%
Calaveras	12	2.9%%
Colusa	1	0.2%
Contra Costa	14	3.4%
El Dorado	17	4.1%
Fresno	1	0.2%
Glenn	1	0.2%
Humboldt	3	0.6%
Lassen	1	0.2%
Marin	2	0.4%
Merced	1	0.2%
Mono	1	0.2%

California County of Residence	Number of visitors	Percent
Sacramento	16	3.9%
San Francisco	1	0.2%
San Joaquin	13	3.1%
San Mateo	5	1.1%
Santa Barbara	1	0.2%
Santa Clara	10	2.4%
Santa Cruz	3	0.6%
Shasta	42	10.2%
Sierra	2	0.4%
Siskiyou	14	3.4%
Solano	4	0.9%
Sonoma	5	1.1%
Stanislaus	11	2.7%
Sutter	17	4.1%
Tehama	19	4.6%

Napa	1	0.2%
Nevada	21	5.1%
Placer	12	2.9%
Plumas	22	5.3%

Tuolumne	1	0.2%
Yolo	3	0.6%
Yuba	23	5.6%

Table 3. Residence of Trailhead Visitors States other than California

State of Nevada Counties	**Percent**
Carson City	0.7%
Douglas	1.7%
Lyon	0.4%
Washoe	8.7%
Clark	0.2%
King	0.2%
State of Oregon Counties	
Deschutes	0.2%
Jackson	1.3%
Josephine	1.3%
Klamath	0.2%
Counties in other States	
Dickinson County, KS	0.2%
Ellis County, TX	0.2%
Mohave County, AZ	0.2%
Unknown	6.8%

Out of State Trailhead Users

Additional information on visitors was also collected through use of the observation form by study researchers. From these counts, out of state vehicles at study trailheads (measured by observations of license plates) accounted for about 6% of all vehicles observed by researchers in the study (see Table 4). The largest number of out-of-state plates observed by researchers came from Nevada (72.6%) while the next most common was Oregon with 20.4%. The remaining 9 vehicles observed were from 5 other states.

Table 4. Out of State Vehicles Observed

State	**Number Observed**	**Proportion of Non-California vehicles**
Nevada	82	72.6%
Oregon	23	20.4%
Montana	3	2.7%

Washington	2	1.8%
Tennessee	1	0.9%
Florida	1	0.9%
Alaska	1	0.9%
	113	100.0%

Distance Traveled to and from Study Trailheads

The distance between study participants' place of residence to the trailheads where they were contacted has been provided in Table 5. As well, this table also contains roundtrip mileage averages for where visitors were staying overnight. On average, study participants drove 205 miles on these trips from their place of residence while they drove on average 34 miles from their overnight accommodations. More detailed information relating to visitors' trip origination for each trailhead in the study is provided in Appendix C, tables C-1 through C-10.

Table 5. Average Distance Traveled from Study Trailheads

Trailhead	Number Sampled	Avg. No. Miles Roundtrip from Residence	Avg. No. Miles Roundtrip from Overnight Accommodations
Lake Alpine	31	195	48
Ashpan	41	192	68
Bogard	2	271	50
Bucks Summit	41	105	18
Deer Mountain	38	384	34
Highway 108	17	203	18
Iron Mountain	47	286	38
LaPorte	58	192	11
Swain/Morgan	35	142	29
Little Truckee Summit	71	81	25
Average		**205**	**34**

From Lake Alpine trailhead the mean distance traveled by visitors in the study was 195 miles roundtrip, while these visitors typically drove 48 miles roundtrip from their overnight accommodations. Visitors utilizing the trailhead at Lake Alpine were a mix of Bay Area and Central Valley residents.

The roundtrip average for Ashpan visitors from their places of residence was 192 miles with the majority of these visitors coming from Shasta County. Visitors at Ashpan typically drove 68 mile s roundtrip from their overnight accommodations.

The distance roundtrip for visitors interviewed at Bogard traveled an average of 271 miles, although this number is based on only two visitors who were from the East Bay area. While this number is not representative it has been included here for reference.

Travel to and from Bucks Summit among 41 visitors in the study averaged 105 roundtrip miles from their homes after the travel distance of one outlying group (from Kansas) was removed. Study participants at Bucks Summit are geographically diverse, with representation from Nevada, the Bay Area, as well as the Central Valley. These visitors typically traveled only 18 miles roundtrip from their overnight accommodations.

Participants in the study who were at Deer Mountain traveled roundtrip 129 miles on average from their residences. Visitors at Deer Mountain are typically from northern California, although there were numbers of visitors from southern Oregon and Bay Area/Central Valley counties, as well. One outlying number of 38 groups interviewed at Deer Mountain (a visitor group from Texas) was removed from this list. Deer Mountain visitors typically drove 34 miles roundtrip from their overnight accommodations on the trip where they were contacted for this study.

Highway 108 visitors who provided information about travel from their homes to the trailhead numbered 17, with an average of 203 miles traveled roundtrip. The visitors participating in the study at Highway 108 were typically from Central Valley communities, and those on overnight trips stayed 18 miles roundtrip from the trailhead, on average.

Forty-seven visitors at Iron Mountain provided point of departure information, with a mean of 286 miles roundtrip. These visitors were split evenly between travel from Bay Area and Central Valley communities with one group indicating they had traveled from Oregon. Of those staying overnight on their trips, an average of 48 miles to and from their accommodations was reported.

In this study, the total number of miles traveled by visitors to LaPorte Snowmobile Trailhead from their homes averaged 192 miles roundtrip among 58 groups. These groups were generally from Central Valley communities although there were a few from the south bay. Those staying overnight were on average only 11 miles roundtrip from their accommodations.

Visitors contacted at the Swain/Morgan trailhead typically traveled 142 miles roundtrip from their homes. The 35 groups who participated in the study at Swain/Morgan were widely dispersed throughout northern California.

Roundtrip miles from their homes for visitors at Little Truckee averaged 81 miles roundtrip between 71 groups. More than half of the groups interviewed were from out of state and the bulk of these traveled from Nevada to visit this trailhead. Those reporting an overnight stay were on average about 25 miles roundtrip from their accommodations.

Visitor and Visit Characteristics

The following section provides information on characteristics of participants' visits to the trailheads in the study.

Visitors' Itinerary.

Visits to the snowmobile trailhead where they were contacted were the primary reason the large majority of participants were on a trip, with over 82% of visitors indicating that the trailhead was the primary reason for their trip on the day they were contacted (see Table 6). Just over 11% indicated that the visit was just one of many stops on their trip.

Table 6. Itinerary of Visitors

Itinerary	Percent
Primary stop	82.3%
One of many stops	11.4%

Group Size and Characteristics.

Table 7 contains information relating to group size and the nature of groups that accompanied those interviewed. The typical visitor comes to the snowmobile trailhead either with another individual (31.4%), with a group of 3-5 people (40.9%) or 6-10 people (16.2%).

Table 7. Group Size of Study Participants

Number in Group	Percent
1	6.5%
2	31.7%
3 – 5	40.9%
6 – 10	16.2%
11 – 19	3.3%
20 or more	1.1%

Groups sampled and median group sizes have been outlined by individual study trailhead in Table 8 below. Note that this information is based on data from the visitor survey and not from the recreation use observations made by researchers. Little Truckee Summit and LaPorte were the trailheads where the largest numbers of visitors were sampled, with 71 and 58 visitors agreeing at those sites to complete the survey. Otherwise the total number of groups who had a member complete a survey numbered 1,732.

Table 8. Survey Sample and Group Size by Study Trailheads

Trailhead	Groups Sampled	Median Group Size	Maximum Group Size	Total Visitors
Hope Valley	37	3	12	151
Iron Mountain	47	2	20	168
Lake Alpine	31	4	20	164
Bogard	2	2	2	4
Deer Mountain	39	2	11	132
Ashpan	35	4	12	175
Bucks Summit	41	4	10	178
LaPorte	58	4	40	333
Little Truckee Summit	71	3	13	227
Swain/Morgan	35	2	7	122

Highway 108	17	4	11	78
Total	**413**			**1,732**

Skill Level of Trailhead Users.

Table 9 shows the proportion of beginner, intermediate, and advanced riders among the groups of those surveyed for this study. The largest two groups were the intermediate and advanced level riders while beginners represented only 14%.

Table 9. Percentages of Beginner, Moderate and Advanced Riders

Skill Level	Percent
Beginner	13.8%
Intermediate	40.8%
Advanced	45.4%

Time Spent Conducting Non-Motorized Winter Activities

Tables 10 and 11 contain information about hours spent conducting non-motorized recreation activities. On the given trip, 39.7% of visitors participated in non-motorized recreation activities. Among these visitors, the majority spent between 4-10 hours (19.6%) and 1-5 days (18.7%) participating in non-motorized recreation activities.

Table 10. Hours Spent Conducting Non-Motorized Activities on Current Trip

Length of Visit	Percent
0 hours	60.3%
1 - 30 minutes	1.2%
31 – 60 minutes	3.4%
61 minutes – 2 hours	4.8%
2 – 4 hours	8%
4 – 10 hours	19.6%
10 – 48 hours	2.7%

Table 11. Number of Days Spent Conducting Non-Motorized Activities on the Current Trip

Number of Days	Percent
0	77.9%
1	5.6%

2	7%
3-5	6.1%
6-10	1.2%
11-20	0.9%
25-50	1.1%

Time Spent on the Snow

Tables 12 through Table 17 show the percentage of time individuals were on the snow on the given trip separated by non-motorized study participants and motorized participants. Participants were asked how long they were going to be on the snow on the particular trip they were contacted. Visitors could provide the number of days and hours. Just over 87% of study participants indicated they were snowmobiling while just over 11% were non-motorized recreation visitors. Non-motorized visitors spent on average 2.3 hours on the snow while motorized visitors on average spent just over 6 hours on the snow.

Table 12. Average Amount of Time on the Snow on This Trip. Hours vs. Days

Type	Number	Percent	Hours	Days
No answer	7	1.7%	-	-
Non-motorized	46	11.1%	2.3	0.4
Motorized	360	87.2%	6.3	1.5

Table 13 shows the breakdown of participants who identified themselves in a previous question as solely non-motorized day visitors along with how many hours these visitors spent on the snow on their visit. Just under 80% were spending fewer than 5 hours on the snow while about 20% spent 6 or more hours on the snow.

Table 13. Hours on the Snow on This Trip. Non-motorized Participants

Hours on Snow	No.	Percent
0	12	26.1%
1 – 2	10	21.7%
3 – 5	14	30.4%
6 – 8	11	19.6%
8 +	1	2.2%

Table 14 shows the length of trip for non-motorized participants who indicated they were on a multi-day trip. Seventeen percent of non-motorized study participants were staying more than one day on the snow on their trip.

Table 14. Days on the Snow on This Trip. Non-motorized Participants

Hours on Snow	No.	Percent

1 or less	38	83%
More than 1	8	17%

Table 15 shows the number of hours that motorized day trip participants were spending on the snow. Just around half of motorized day visitors in the study were spending between 5-9 hours of on-snow time.

Table 15. Hours on the Snow on Trip for Motorized Participants

Hours on Snow	No.	Percent
1 – 4	67	18.2%
5 – 9	174	47.3%
10 +	45	12.2%

Table 16 shows the difference between day and multi-day motorized study participants. Just over 30% of motorized visitors were spending more than 1 day on the snow with the bulk of these spending between 1 and 4 on snow days. Table 17 shows the percentage of time and days on the snow on the trip when participants were contacted. It is likely that the data reflects the common practice of snowmobilers (particularly those that have traveled 200 miles) to plan a trip which involves riding for several days. They pull their machines in trailers go to a trailhead for a day and then stay the night at local lodging.

Table 16. Days on the Snow on This Trip: Motorized Participants

Days on Snow	No.	Percent
< 1 day	256	69.6%
More than 1 day	112	30.4%
1 - 4	24	24.7%
5 - 10	4	2.8%
> 10	11	3.0%

Table 17. Percentage of Time/Days on the Snow on this Trip

Number of Days	Percent
0	71.9%
1	6.1%
2	9.4%
3 – 5	8.5%
6 – 10	1.3%
11 – 20	1.1%
25 – 65	1.4%

Activity Participation Overall.

Table 18 shows a ranking of winter recreation activity participation reported by visitors at the trailheads in the study. The most commonly reported activity visitors participated overall was snowmobiling (89.1%). This was followed by general snow play (18.6%) and sledding/tubing (11.6%). Information in Table 18 shows that about 10% of those participating in the study were non-motorized recreation visitors.

Table 18. Winter Recreation Activities of Study Participants

Activity	Rank	Overall Number	Overall Percent
Snowmobile	1	368	89.1%
General Snow Play	2	77	18.6%
Sledding/Tubing	3	48	11.6%
Snowshoeing	4	36	8.7%
Cross Country Skiing	5	22	5.3%
Snowboarding	6	18	4.4%
Other	7	23	5.6%
Side-by-Side Tracked Vehicle	8	3	0.7%

Activity Participation at Individual Trailheads.

Table 19 shows the winter activity participation at each individual trailhead included in the study. At Hope Valley, and Ashpan, 100% of visitors participated in snowmobiling. A majority of visitors used their snowmobiles at almost all of the sites. At Iron Mountain, more individuals were likely to snowshoe, cross country ski, tube/sled, partake in general snow play or snowboard than at the other sites. At all of the trailheads, activities other than snowmobiling occurred.

Table 19. Activity Participation at Individual Trailheads

Snowmobile Trailhead	Snowmobiling	RUV Side by Side Tracked Vehicle	Cross Country Skiing	Snowshoeing	Snowboarding	General Snowplay	Tubing/ Sledding
Hope Valley	100.0%	0.0%	0.0%	5.4%	16.2%	18.9%	13.5%
Iron Mountain	57.4%	0.0%	12.8%	23.4%	6.4%	25.5%	21.3%
Lake Alpine	93.5%	0.0%	6.5%	6.5%	6.5%	22.6%	29.0%
Bogard	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Deer Mountain	84.6%	5.1%	5.1%	7.7%	0.0%	25.6%	10.3%
Ashpan	100.0%	0.0%	0.0%	0.0%	0.0%	11.4%	2.9%
Buck's Summit	92.7%	0.0%	9.8%	17.1%	2.4%	19.5%	9.8%
LaPorte	93.1%	1.7%	5.2%	12.1%	5.2%	31.0%	24.1%
Little Truckee Summit	94.4%	0.0%	4.2%	2.8%	4.2%	4.2%	1.4%
Swain Morgan	88.6%	0.0%	5.7%	5.7%	0.0%	11.4%	0.0%
Highway 108	88.2%	0.0%	0.0%	0.0%	0.0%	23.5%	0.0%

Time Spent on Groomed and Un-Groomed Trails.

Tables 20 and 21 illustrate the percentage of time individuals spent on groomed and un-groomed trails. According to Table 20, approximately three quarters of individuals (72.9%) spent between 40% and 100% of their time on groomed trails (41-60% -23.7%, 61-80% -25.2%, 81-99% -11.9% or 100% - 12.1%). Table 21 shows that 60% of visitors spent between 0 and 40% on un-groomed trails.

Table 20. Percentage of Time Spent on Groomed Trails on This Trip

Percentage of time on groomed trails	Response Percentages
0%	5.3%
1-20%	14%
21-40%	7.7%
41-60%	23.7%
61-80%	25.2%
81-99%	11.9%
100%	12.1%

Table 21. Percentage of Time Spent on Un-groomed Trails on This Trip

Percentage of time on un-groomed trails	Percent
0%	16.0%
1-20%	23.7%
21-40%	19.9%
41-60%	21.1%
61-80%	9.0%
81-99%	8.2%
100%	2.2%

Overall Night Trail Usage and Lodging.

Table 22 and 23 document the amount of night trail usage at the trailheads while Table 24 shows study information related to overnight accommodations. Almost 30% of visitors used the trails at night mostly using the trails at LaPorte, Little Truckee Summit, and Swain Morgan. Typically individuals find "other" accommodations or stay at a lodge.

Table 22. Night Trail Usage on This Trip

Night Trail Usage	Percent

Yes	29.1%
No	70.9%

Table 23. Night Trail Usage at Individual Trailheads

Trailhead	Number of Visits	Percent
LaPorte	12	20.6%
Little Truckee Summit	9	15.5%
Bucks Summit	8	13.7%
Swain Morgan	7	12%
Ashpan	6	10.3%
Alpine	4	6.8%
Deer Mountain	4	6.8%
Highway 108	4	6.8%
Iron Mountain	4	6.8%
Bogard	0	0%
Hope Valley	0	0%

Table 24. Overnight Lodging Used

Lodging	Percent
Lodge Accommodations	6.5%
Campground	0.7%
Other	14.8%

Distance Traveled from Overnight Lodging to the Trailhead.

The average number of miles traveled by participants in the study from the place where they were staying overnight was just over 24 miles. The miles driven by participants have been separated by category in Table 25. Just over 20% of visitors were staying within 10 miles of the trailhead on their visit, about a quarter stayed between 10 and 29 miles, and over one-third stayed over 30 miles away. Table 26 shows the average distance traveled to overnight accommodations by study site.

Table 25. Distance traveled from Overnight Lodging

Miles	Percent
None (on day visit)	20.5%
< 10	20.8%
10 to 19	9.9%

20 to 29	15.5%
30 to 39	8.2%
40 to 49	7.5%
50 to 59	5.8%
60 to 69	3.9%
70 to 99	3.4%
Over 100	4.6%
	100%

Table 26. Mileage Driven Between Trailheads and Accommodations Sorted by Site

Trailhead	Avg. Mileage from Lodging to Trailhead
LaPorte	11.2
Little Truckee Summit	24.6
Bucks Summit	9.0
Swain Morgan	29.04
Ashpan	34.0
Alpine	24.0
Deer Mountain	34.0
Highway 108	18.4
Iron Mountain	38.0
Bogard	25.0
Hope Valley	24.0
Overall	24.1

Speed of Snowmobiles Traveled

Table 27 outlines the snowmobile speed typically traveled on snowmobile trails. Almost 55% of visitors traveled between 21 and 40 miles per hour during their visit.

Table 27. Speed Typically Traveled at Trailhead Area

Speed mph	Percent
0 (unanswered or non-snowmobile rider)	25.2%
1-5	1.2%
6-10	0.5%
11-15	1.2%
16-20	3.6%

21-25	9.2%
26-30	18.9%
31-35	12.8%
36-40	13.6%
41-45	7.3%
46-50	5.3%
51-90	1.2%
Total	100%

Snowmobile Types

Table 28 and 29 outline the number of snowmobile types used on the trails and alterations made to the machines. Almost 96% of all snowmobiles used had 2-stroke engines. Approximately half of the 2-stroke machines recorded were made prior to 2004. The remaining 4% of snowmobiles recorded had 4-stroke engines. Very few of the 4-stroke machines had any alterations done to their engines or mufflers. However, 5.7% of the 2-stroke snowmobiles had altered mufflers and 5.5% had both altered mufflers and engines.

Table 28. Numbers and Percentages of Snowmobile Types

Snowmobile Year and Type	Number & Percent	
2-Stroke		
2004 and earlier	310	49.3%
2004-present	292	46.4%
2-Stroke Total	602	95.7%
4-Stroke		
2004 and earlier	4	0.6%
2004-present	23	3.7%
4-Stroke Total	27	4.3%
Total	**629**	

Table 29. Snowmobile Alterations

Snowmobile Year and Type	Engine Alterations		Muffler Alterations		Engine and Muffler Alterations	
2-Stroke Total	11	.17%	36	5.7%	35	5.5%
4-Stroke	1	.01%	2	.03%	1	0.01%

Table 30 shows information related to the average hours spent riding on the trailheads where visitors were contacted for each site. As well, the average number of gallons of fuel used on trips is also provided. Participants using 2-stroke snowmobiles had longer trips and used more gas, although these larger averages are likely influenced by several groups that had extremely large number of hours and gallons of fuel used on their trips.

Table 30. Hours Ridden and Fuel Used

Study Site	2 Stroke Snowmobiles				4 Stroke Snowmobiles			
	Avg Hrs Ridden	Max Hours	Avg Gals Used	Max Fuel Used	Avg Hrs Ridden	Max Hours	Avg Gals Used	Max Fuel Used
Alpine	2.18	12	2.79	60	0.02	2	0.04	5
Ashpan	3.94	35	2.99	27	0.33	18	0.21	7
Bogard	5.50	16	7.00	20	2.00	16	1.50	12
Bucks Summit	2.84	20	2.43	20	0.10	10	0.09	10
Deer Mountain	2.40	25	1.89	27	0.24	15	0.08	5
Hope Valley	1.55	16	1.62	20	0.05	8	0.01	2
Hwy 108	5.51	61	2.35	35	0.00	0	0.06	4
Iron Mountain	1.68	50	1.32	40	0.05	5	0.03	5
La Porte	2.01	25	1.65	25	0.07	5	0.10	15
Swain/Morgan	3.78	18	3.06	25	0.00	0	0.00	0
L. Truckee Summit	2.02	60	2.10	30	0.07	20	0.15	20
Overall	**2.9**	**61**	**2.5**	**60**	**0.40**	**20**	**0.90**	**20**

Problems Observed on Snowmobile Trails and at Trailheads

Visitors were asked if they observed any problem behaviors while on their trips to study trailheads including others' traveling at excessive spends, snowmobile travel over bare ground, excessive noise, trespass in closed areas, and wilderness boundary trespass. Table 31 shows the overall responses to this question while Tables 32 through 42 show responses at individual study trailheads.

Table 31 outlines challenging behaviors that were observed on the trails and at the trailheads, with some participants in the study not answering the question (just over 12%). Participants also evaluated whether or not these behaviors were perceived as problems or not. Travel over bare ground was the most common problem behavior observed by study participants, with 16%. Excessive noise (9.2%) was the next most observed problem behavior, followed by excessive speeds (8.5%). Overall, few visitors perceived the behaviors as big problems on the trails with traveling at excessive speeds recorded by 1.2% of the visitors surveyed. Just over 2% of the participants perceived traveling at excessive speeds, riding on bare ground, and excessive noise as a moderate problem. Trespass in closed areas or wilderness boundaries was not commonly observed.

Table 31. Overall Observation and Rating of Behaviors at Winter Trailheads

Behavior	Did not observe	Observed	It was...	Not a Problem	A Moderate Problem	A Big Problem
Excessive (or unsafe) speeds	78.9%	8.5%		8.7%	2.4%	1.2%
Bare ground	71.2%	16.0%		14.0%	2.2%	0.7%
Excessive noise	76.5%	9.2%		9.4%	2.2%	0.7%
Trespass closed areas	81.4%	3.9%.		6.1%	1.2%	0.5%
Trespass wilderness boundary	83.1%	1.2%		3.9%	0.2%	0.2%

Problems at Individual Trailheads

Because sample sizes at for individual questions were sometimes limited, the following tables present responses in simple counts instead of percentages. Responses to problem behaviors have been presented in the following tables sorted by site. Note that "NA" responses mean, for whatever reason, the individual participant did not answer the question. In some cases, not answering a question was logical. For example, if an individual did not observe excessive speeds at a trailhead, then this would not be considered a problem and the study participant left the question blank. At Alpine (Table 32) the number of times trespassing a boundary occurred was observed by one person out of 25, and this individual wrote "many."

Table 32. Lake Alpine Behavior Observations

Behavior	Did not observe	Observed	NA	It was...	Not a Problem	A Moderate Problem	A Big Problem	NA
Excessive (or unsafe) speeds	25	2	4		5	2	0	24
Bare ground	20	7	4		9	0	0	22
Excessive noise	24	2	5		4	1	0	26
Trespass closed areas	25	2	4		3	0	1	27
Trespass wilderness boundary	24	1	6		3	0	1	27

At Ashpan trailhead (see Table 33) bare ground and excessive noise were the most commonly reported behaviors, although 85% of visitors interviewed at this trailhead did not observe problem behaviors.

Table 33. Ashpan Behavior Observations

Behavior	Did not observe	Observed	NA	It was...	Not a Problem	A Moderate Problem	A Big Problem	NA
Excessive (or unsafe) speeds	33	1	1		1	0	0	34
Bare ground	30	4	1		1	3	0	31
Excessive noise	30	4	1		3	0	0	32
Trespass closed areas	33	1	1		1	0	0	34
Trespass wilderness boundary	33	0	2		0	0	0	35

At Bogard (see Table 34) bare ground was the only problem behavior observed, but it is worth noting that the survey sample at Bogard was limited to two individuals.

Table 34. Bogard Behavior Observations

Behavior	Did not observe	Observed	NA	It was...	Not a Problem	A Moderate Problem	A Big Problem	NA
Excessive (or unsafe) speeds	1	0	0		0	0	0	0
Bare ground	0	2	0		1	1	0	0
Excessive noise	2	0	0		0	0	0	0
Trespass closed areas	2	0	0		0	0	0	0
Trespass wilderness boundary	2	0	0		0	0	0	0

At Bucks Summit (see Table 35) the most commonly observed problem behavior was excessive speed. One individual wrote that wilderness boundary trespass had been observed three times at this trailhead.

Table 35. Bucks Summit Behavior Observations

Behavior	Did not observe	Observed	NA	It was...	Not a Problem	A Moderate Problem	A Big Problem	NA
Excessive (or unsafe) speeds	33	5	3		4	0	0	36
Bare ground	35	3	3		7	0	1	33
Excessive noise	36	2	3		2	0	0	39
Trespass closed areas	37	1	3		2	0	0	39
Trespass wilderness boundary	36	1	4		1	1	0	39

Deer Mountain (see Table 36) had few observations of problem behaviors, with bare ground being the most commonly observed.

Table 36. Deer Mountain Behavior Observations

Behavior	Did not observe	Observed	NA	It was...	Not a Problem	A Moderate Problem	A Big Problem	NA
Excessive (or unsafe) speeds	31	2	6		1	0	0	38
Bare ground	27	4	8		2	1	1	35
Excessive noise	32	0	7		0	0	0	39
Trespass closed areas	32	0	7		0	0	0	39
Trespass wilderness boundary	33	0	6		0	0	0	39

Hope Valley behaviors observed that were on the problem list included excessive noise (see Table 37).

Table 37. Hope Valley Behavior Observations

Behavior	Did not observe	Observed	NA	It was...	Not a Problem	A Moderate Problem	A Big Problem	NA
Excessive (or unsafe) speeds	32	3	2		5	0	1	32
Bare ground	34	1	3		2	0	0	35
Excessive noise	30	5	2		4	1	0	32
Trespass closed areas	33	1	3		2	0	0	35
Trespass wilderness boundary	35	0	2		0	0	0	37

The most common problem behaviors witnessed at Highway 108 (see Table 38) were excessive speed and noise, with about one-third of respondents reporting seeing this behavior.

Table 38. Highway 108 Behavior Observations

Behavior	Did not observe	Observed	NA	It was...	Not a Problem	A Moderate Problem	A Big Problem	NA
Excessive (or unsafe) speeds	10	4	3		1	3	0	13
Bare ground	11	3	3		2	0	0	15
Excessive noise	10	4	3		2	2	0	13

Trespass closed areas	12	1	4	0	0	0	17
Trespass wilderness boundary	14	0	3	0	0	0	17

Iron Mountain trailhead had numbers similar to other sites, with 5 of 40 respondents seeing excessive noise or speed near the trailhead area (see Table 39).

Table 39. Iron Mountain Behavior Observations

Behavior	Did not observe	Observed	NA	It was...	Not a Problem	A Moderate Problem	A Big Problem	NA
Excessive (or unsafe) speeds	35	5	7		4	1	1	41
Bare ground	34	4	9		7	0	0	40
Excessive noise	34	5	8		3	2	2	40
Trespass closed areas	36	2	9		2	2	1	42
Trespass wilderness boundary	37	0	10		2	0	0	45

Over one-third of participants at LaPorte reported seeing snowmobile travel over bare ground, although few saw this as a problem behavior (see Table 40).

Table 40. LaPorte Behavior Observations

Behavior	Did not observe	Observed	NA	It was...	Not a Problem	A Moderate Problem	A Big Problem	NA
Excessive (or unsafe) speeds	42	5	11		9	1	2	46
Bare ground	37	10	11		12	1	0	46
Excessive noise	41	5	12		9	1	1	47
Trespass closed areas	46	1	11		7	0	0	51
Trespass wilderness boundary	43	0	15		5	0	0	53

Participants at Swain trailhead (see Table 41) observed travel over bare ground as the most commonly observed problem behavior but none evaluated this is a problem.

Table 41. Swain Morgan Behavior Observations

Behavior	Did not observe	Observed	NA	It was...	Not a Problem	A Moderate Problem	A Big Problem	NA
Excessive (or unsafe) speeds	29	2	4		0	2	0	33
Bare ground	31	4	0		3	0	0	32
Excessive noise	29	1	5		0	1	0	34
Trespass closed areas	29	2	4		2	0	0	33
Trespass wilderness boundary	34	0	1		0	0	0	35

Little Truckee Summit (see Table 42) saw the most problem behavior observations, with almost half observing travel over bare ground at this trail access point, although few felt this was a problem. One-fifth of study participants at this trailhead noted excessive noise on their visit.

Table 42. Little Truckee Summit Behavior Observations

Behavior	Did not	Observed	N	It was...	Not a	A Moderate	A Big	N

	observe		A
Excessive (or unsafe) speeds	55	6	10
Bare ground	41	19	11
Excessive noise	50	10	11
Trespass closed areas	51	5	15
Trespass wilderness boundary	55	3	13

Problem	Problem	Problem	A
6	1	1	63
12	3	1	55
10	1	0	60
6	3	0	62
5	0	0	66

Motorized Activities.

Table 43 shows the total number of days visitors spend snowmobiling throughout a winter season. Approximately 24% of the visitors spend between 6-15 days snowmobiling while another 37.5% snowmobile between 16-30 days a season.

Table 43. Days Spent Conducting Motorized Activities Per Season

Number of Days	Percent
0	10.2%
1	2.7%
2	1.2%
3-5	4.6
6-10	12.1%
11-15	11.6%
16-20	18.4%
21-30	19.1%
31-40	6.2%
41-50	7%
51-70	2.1%
71-90	2.2%
91-180	3.2%

Motorized and Non-Motorized Snow-Based Recreation Activities at Trailheads.

Table 44 and 45 show the number of days a season an individual participates in motorized and non-motorized snow-based activities at trailheads similar to the one where they are taking the survey. Similar to the table above, over half (55.5%) spend between 6 and 30 days participating in motorized activities at snowmobile trailheads. Almost three fourths (72.4%) of visitors don't spend any time conducting non-motorized recreation activities at snowmobile trailheads. Almost 19% of visitors participate in non-motorized snow-based recreation activities at trailheads.

Table 44. Participation in Motorized Snow-Based Activities at Trailheads

Number of Days	Percent

0	18.2%
1	3.4%
2	2.4%
3-5	6.8%
6-10	13.1%
11-20	25.7%
21-30	16.7%
31-40	4.4%
41-50	4.8%
51-70	1.6%
71-90	0.4%
91-180	2.3%

Table 45. Participation in Non-Motorized Snow-Based Activities at Trailheads

Number of Days Non-motorized Snow Activity	Percent
0	72.4%
1	1.9%
2	3.3%
3-5	6.5%
6-10	6.3%
11-20	6.1%
21-30	0.9%
31-40	0.2%
41-50	1.5%
51-70	0.0%
71-90	0.2%
91-180	0.2%

Where Visitors Learned About the Trailhead.

Table 46 records how individuals learned about this particular trailhead. The majority of visitors learned about the trailhead because they live nearby in an adjacent community (43.1%) or by word of mouth (32.9). Others learned about the trailhead by looking at the USDA Forest Service website (18.6%) or on another website on the internet (10.7%).

Table 46. Where Visitors Learned About This Trailhead

Information Source	Percentage
Live nearby	43.1%
Recommended by others	32.9%
Forest Service website	18.6%
Other	15.7%
Internet	10.7%
State Park website	7.7%
Road sign	6.1%
Tour book/map	3.4%
By chance	2.7%
Newspaper	1.7%
Magazine publication	1.7%
Do not remember	1.7%
Radio	0.7%

Where Visitors Learned about Winter Use Regulations.

Table 47 illustrates where visitors learned about winter use regulations. More than half learned about the winter use regulations by word of mouth (53.9%), while others used the internet (40.9%) to find out the needed information. The USDA Forest Service website (34.9%) and trailhead signs (36.8%) were also used frequently to educate individuals about the given rules of usage.

Table 47. Where Visitors Learned of Winter Use Regulations

Information Source	Percentage
Word of Mouth	53.8%
Internet	40.9%
Trailhead Signs	36.8%
Forest Service Website	34.9%
Other	20.6%
Snowmobile Safety Training	15.3%
State Park Website	12.8%
Newspaper	8.2%
Radio	4.4%
Have No Information	3.6%

Influence of Parking Lot Plowing

Table 48 illustrates how plowing parking lots would influence whether or not a visitor would ride on the trail. More than half of the participants (53.7%) would not snowmobile or would snowmobile less if the trailheads were not plowed. Approximately 27% indicated they would snowmobile about the same amount and 3% said they would actually snowmobile more than they do now.

Table 48. Influence of Plowing Parking Lots

If the trailhead was not plowed, I (we) would…	Number of Responses	Percent
Snowmobile less	122	29.5%
Snowmobile about the same	113	27.4%
Wouldn't come out to snowmobile	100	24.2%
Snowmobile more	14	3.4%
No Answer Given	64	15.5%
Total	413	100.0%

Trail Grooming

Table 49 shows how grooming the trail influences a visitor's decision to participate in snowmobiling or not. Almost half of the visitors in this study (49.9%) indicated they would not snowmobile or would snowmobile less if the trails were not groomed. Almost 30% said they would snowmobile about the same amount and 5% indicated they would snowmobile more if the trails were not groomed.

Table 49. How Grooming Trails Influences Snowmobile Activity

If the trails were not groomed I (we) would…	Number of Responses	Percent
Snowmobile less	138	33.4%
Snowmobile about the same	122	29.5%
Wouldn't come out to snowmobile	68	16.5%
No Answer Given	63	15.3%
Snowmobile more	22	5.3%
Total	413	100.0%

Visitor Affiliation with Snowmobile Clubs.

Table 50 shows the affiliation riders have with snowmobile clubs. Over 37% of the visitors belong to a club and 16.2% contribute to an organization. Over 36% of visitors have no connection with a club, although almost 20% receive information from a snowmobile club.

Table 50. Snowmobile Club Affiliations

Affiliation	Overall Number	Overall Percent
Belongs to a club	155	37.5%
Contributes to a club	67	16.2%
Receives information about a club	82	19.9%
Has no connection to a club	151	36.6%

Demographic Characteristics of Study Participants

This section covers the demographic characteristics of participants in the survey including gender, participant age, age of group members, ethnicity, as well as household income levels of study participants. These characteristics have been outlined in Tables 51 through 55 in this section of the report.

Study participants were asked to indicate the gender of members of their groups. Of those groups contacted, more were male (63.8%) than female (36.2%).

Table 51. Gender of Group Members

Gender	Total Number	Percent
Female	589	36.2%
Male	1,037	63.8%

Participants' Age.

The age of group members that accompanied study participants is presented in Table 52 below. The total number of people in groups of study participants was 734 people. The largest proportions of these were individuals between the ages of 35 and 49 with relatively small numbers of teenagers in groups.

Table 52. Age of Group Members

Age in years	Percentage
13 and younger	11.4%
14 – 15	3.3%
16 – 18	4.1%
19 – 34	15.1%
35 – 44	26.4%
45 – 59	29.2%
60 – 74	10.2%
75 and older	0.3%

Participants' Ethnic Background.

Those interviewed were asked to indicate the ethnic group they belong to, and Table 53 and 54 shows the distribution of responses of the ethnic group with which they are best affiliated and their primary language. The majority of visitors were White/Caucasian (89.8%) and speak English as their primary language. It should be noted that these numbers add up to more than 100% because individuals would check two different ethnicities if the group was mixed.

Table 53. Ethnicity of Study Participants

Ethnicity	Percent
Hispanic or Latino	4.4%
Asian	1.7%
Black or African American	1%
White / Caucasian	89.8%
American Indian and/or Alaska Native	2.2%
Native Hawaiian and other Pacific Islander	0.7%
Other / Multi-racial	2.4%

Table 54. Primary Language Spoken by Visitors

Primary Language	Percent
English	93.5%
Spanish	3.1%
Tagalog	0.5%
Vietnamese	0.2%
Other	1.9%

Participants' Household Income.

Table 55 shows income levels provided by study participants. More than half of the visitors (61.2%) earned more than $75,000 annually with the remaining 39% earning below this level. A number of visitors (21%) declined to give their income.

Table 55. Combined Household Income

Income Level	Percent
Less than $14,999	2.9%
$15,000 to $24,999	3.1%
$25,000 to $34,999	3.6%

$35,000 to $49,999	8.7%
$50,000 to $74,999	13.8%
$75,000 to $99,999	14.3%
$100,000 to $149,000	15.7%
$150,000 and over	17.4%
No answer	21.5%

Overall Feedback Provided by Visitors at Snowmobile Trailheads

The last survey item gathered invited participants to give the OHMVR Division or Forest Service managers general feedback about their visits. These responses have been provided in their entirety in Appendix D. The comments received totaled 174, or 42% of study participants. While this number is high in comparison to the proportion of comments provided by participants in other similar studies, it should be noted that these comments are not representative of all study participants and merely reflect what was on the mind of those individuals who took the time to add extra comments at the end of their survey. For the purposes of this study these comments have not been analyzed categorically.

Recreation Use Observations

Observations were made across all study trailheads on 49 days at 10 of the 11 study sites. As noted previously, researchers recorded recreation use information related to the numbers of vehicles present upon arrival and departure, vehicles present that had no trailers, numbers of vehicles present in overflow parking areas, as well as counts of out-of-state vehicles. The form for this use observation data collection has been provided in Appendix B. The average number of vehicles was calculated from the "snapshot" counts of vehicles that researchers counted on arrival and departure.

Table 56 contains information related to counts of the average and maximum "vehicles at one time" measure in the study. The average number of vehicles present on any given day when researchers collected information was 18, and the three sites with the largest average number of vehicles present were Little Truckee Summit (41), Bucks Summit (35), Lake Alpine (32) and Highway 108 (32). The largest number of vehicles observed on any one study date was 83 at the Highway 108 trailhead, while Lake Alpine had a maximum of 74 on one observation day and Bucks Summit had a maximum of 72 vehicles observed.

Table 56. Vehicles Observed at Study Trailheads

Trailhead	No. Days of Observation Data	Average No. Vehicles Observed	Maximum No. Vehicles Observed
Lake Alpine	3	32	74
Ashpan	0	na	na
Bogard	1	2	2
Bucks Summit	8	35	72
Deer Mountain	7	4	14
Hope Valley	5	16	47

Highway 108	2	32	83
Iron Mountain	13	7	23
LaPorte	3	23	35
Swain/Morgan	3	5	8
Little Truckee Summit	4	41	63
Overall	49	18	

Weekend vs. Weekday Use

Observations of vehicle counts have been separated between weekday (Monday through Thursday) and weekend (Friday through Sunday) and are presented in Table 57. The average number of vehicles is only somewhat higher on weekend days compared to weekdays, with 19 vehicles observed on weekend days and 13 on weekday observation periods in the study.

Finally, use observations for each day they were available have been presented in Table 57, which shows the survey dates (weekend or weekday), the number of surveys collected for each of those dates, the number of vehicles present on each of the days as well as the numbers of vehicles counted in overflow parking. Regular use of overflow parking was evident at Lake Alpine, Bucks Summit, and Little Truckee Summit, and at LaPorte it was utilized on one day.

Table 57. Trailhead Observations Showing Day of Week, Surveys Collected, and Vehicle Information by Individual Study Date

Location	Survey Date	Day of Week*	Surveys Collected	Daily Average Number of Vehicles Present	No. vehicles in overflow
Lake Alpine	02/28/09	WE	18	50	16
	04/04/09	WE	8	25	37
	04/05/09	WE	5	20	19
Ashpan	April	Not avail.	35	na	0
Bogard	03/08/09	WE	2	2	0
Bucks Summit	02/24/09	D	0	18	2
	02/28/09	WE	15	43	0
	03/05/09	D	0	18	4
	03/07/09	WE	0	72	10
	03/08/09	WE	10	39	1
	03/15/09	WE	7	33	0
	03/19/09	D	1	22	0
	03/21/09	WE	8	40	2
Deer Mountain	02/21/09	WE	14	10	5
	02/23/09	D	1	2	0
	03/01/09	WE	3	1	0
	03/14/09	WE	9	7	0
	03/18/09	D	2	2	0

	03/25/09	D	1	5	1
	03/28/09	WE	9	4	0
Hope Valley	02/14/09	WE	8	9	0
	02/14/09	WE	10	11	0
	02/15/09	WE	3	4	0
	02/16/09	D	7	10	0
	03/05/09	D	9	46	0
Hwy 108	03/14/09	WE	14	21	0
	03/18/09	D	3	43	0
Iron Mountain	02/14/09	WE	7	3	0
	02/20/09	WE	4	13	0
	02/25/09	D	0	0	0
	03/04/09	D	0	0	0
	03/05/09	D	0	0	0
	03/06/09	WE	1	4	0
	03/07/09	WE	11	15	0
	03/13/09	WE	5	10	0
	03/19/09	D	5	11	0
	03/20/09	WE	2	5	0
	03/21/09	WE	2	5	0
	03/27/09	WE	1	5	0
	03/28/09	WE	9	16	0
LaPorte	02/14/09	WE	10	33	0
	03/07/09	WE	28	Not avail.	0
	03/21/09	WE	20	13	20
Swain/Morgan	03/08/09	WE	8	5	0
	March	WE	25	Not avail.	0
	April	D	2	Not avail.	0
Little Truckee Summit	02/14/09	WE	30	49	24
	03/08/09	WE	9	49	5
	03/28/09	WE	21	29	10
	03/29/09	WE	11	36	16

**WE denotes a weekend day while D denotes a weekday observation period.*

Vehicles without Trailers

Researchers were also requested to collect information regarding vehicles without trailers. It should be noted that comparing the average numbers of vehicles in Table 57 with counts of vehicles with no trailers is difficult because the arrival and departure counts represent "snapshot" numbers (vehicles at one time) while the vehicles with no trailer counts are cumulative. All the same these counts are presented in Table 58. Vehicles with no trailers accounted for about half of all vehicles observed in the study. However, because of the large number (90%) of survey participants who indicated they were participating in motorized recreation, it was determined that the large number of vehicles with no trailers don't solely represent non-OSV visitors. Instead, it is likely

that many visitors came in trucks that can transport one or two snowmobiles in the truckbed without the use of a trailer or came in passenger vehicles that accompanied other vehicles with snowmobiles .

Table 58. Trailhead Observations Showing Counts of Vehicles without Trailers

Location	Survey Date	Day of Week*	No. Vehicles without Trailers
Lake Alpine	02/28/09	WE	68
	04/04/09	WE	20
	04/05/09	WE	9
Ashpan	April	Not avail.	Not avail.
Bogard	03/08/09	WE	0
Bucks Summit	02/24/09	D	5
	02/28/09	WE	Not avail.
	03/05/09	D	10
	03/07/09	WE	16
	03/08/09	WE	18
	03/15/09	WE	15
	03/19/09	D	14
	03/21/09	WE	16
Deer Mountain	02/21/09	WE	3
	02/23/09	D	0
	03/01/09	WE	2
	03/14/09	WE	8
	03/18/09	D	1
	03/25/09	D	2
	03/28/09	WE	3
Hope Valley	02/14/09	WE	5
	02/14/09	WE	15
	02/15/09	WE	1
	02/16/09	D	15
	03/05/09	D	18
Hwy 108	03/14/09	WE	5
	03/18/09	D	0
Iron Mountain	02/14/09	WE	9
	02/20/09	WE	10
	02/25/09	D	0
	03/04/09	D	0
	03/05/09	D	0
	03/06/09	WE	2
	03/07/09	WE	13
	03/13/09	WE	6

	03/19/09	D	3
	03/20/09	WE	Not avail.
	03/21/09	WE	8
	03/27/09	WE	1
	03/28/09	WE	4
LaPorte	02/14/09	WE	17
	03/07/09	WE	Not avail.
	03/21/09	WE	Not avail.
Swain/Morgan	03/08/09	WE	0
	March	WE	Not avail.
	April	D	Not avail.
Little Truckee Summit	02/14/09	WE	15
	03/08/09	WE	18
	03/28/09	WE	11
	03/29/09	WE	8

Discussion

Systematically designed and conducted visitor studies provide managers with valuable information regarding the use and users of public lands and the programs that aim for high quality recreation opportunities. Studies such as this one can support managers in understanding the visiting public, their behaviors, attitudes, opinions, and desires for high quality recreation opportunities. This study has served both as an information support tool for the OHMVR Division's environmental documentation needs, but it also has provided a baseline of information for managers to refer to in future years. It is a snapshot of a sub-sample of snowmobilers as they currently use a particular system of winter recreation trails in the Sierra Nevada.

Eleven of the OSV trailhead study's trailheads were studied during a 2-month period of the 2009 winter recreation season. The findings in this study represent detailed information on 413 individuals and provide managers with insights into the travel patterns, observations, recreation characteristics, equipment usage, mileage and demographics on 1,732 total visitors. While these findings can only be directly applied to the specific trailheads in the study, it is the position of the study researchers that findings would be highly similar at other trailheads in the study. While these findings couldn't be extended to all snowmobilers in California, it is the assertion of researchers that this study's findings can be seen as highly suggestive of the study trailheads, with a low degree of error.

OSV Trailhead Program Represents a Significant Regional Recreation Opportunity

The winter recreation visitors represented in this study are a highly committed grouping of people who venture to public lands in California seeking high quality recreation opportunities. The time spent on the snow as well as the significant effort made in traveling to trailheads in this study support this assertion. As well, the large numbers of participants indicating that visiting the trailhead system was the primary goal of the trip on which they were contacted suggests, in turn, that the trailheads represent a high quality, distinctive recreation opportunity. Residence information indicates that the trailhead system serves both rural and urban communities and is truly a regional recreation system. Large numbers of visitors from Nevada make the winter recreation trailheads a multi-state attraction, as well.

Information, Affiliation and Volunteers Play a Critical Role

Information sources indicated by participants in the study suggest that community and social networks are a significant information conduit for location and regulation information. Therefore it seems wise that State Parks OHMVR Division continue its close relationship with community groups and snowmobile clubs. However, the distance traveled by study participants also suggests that visitors come from areas further away from trailheads, so information efforts should likely also include a focus on urban areas represented by visitors in this study.

Visitors Present both a Dynamic and Traditional Profile

While age, gender, and ethnic backgrounds tend to be heavily represented by more traditional motorized recreationists, it is highly likely that this dynamic of visitors will shift as Californians grow more diverse. Information from this study indicates that groups tend to have more than one kind of winter recreation activity involvement on their trips, although the emphasis of recreation visitors to study trailheads is overwhelmingly associated with snowmobiles. Evidence of multi-activity involvement also likely suggests that winter recreation at study trailheads is a family-friendly activity. This dimension of winter recreation should be explored in

further studies. If recreation patterns such as those at Iron Mountain are found at other trailheads, this will be indicative of a growing multi-activity approach to recreation at study trailheads for managers to consider.

Transition or resistance to use of 4-stroke motors should also be explored in further studies. With the large majority of visitors participating in this study using 2-stroke motors, trends in new designs of snowmobiles should be evident as the 2-stroke fleet ages.

Some Environmental and Social Impacts are Evident but not Significant

As found in this study, environmental and social impacts (e.g. bare ground, unsafe speeds, wilderness trespass) were recalled by about 15% of visitors in the study. The variety of impacts should be tracked systematically in future studies and findings should be compared to other sources of information, such as law enforcement statistics. There were no clear stand-out sites in this study where problems were significantly more evident than at other trailheads, although there were enough recollections of problems at the Highway 108 trailhead that this site would be worth monitoring closely in the future so that managers can take action if the problems either become more common or start to be evaluated by trailhead visitors as a problem.

Consider Use Monitoring Programs

Parking capacity-related issues were mentioned by a number of visitors in the feedback section at the end of the survey, but these were relatively few comments. While this study did not address capacity of parking areas, this would be a worthy direction for any future trailhead monitoring programs. Overflow conditions at sites like Little Truckee Summit and Lake Alpine would be worth monitoring in future because of the load on overflow parking documented in this study. Simple monitoring forms could also utilize use measures such as "People at One Time" (PAOT) and "Vehicles at One Time" (VAOT) that would provide the OHMVR Division with relatively low-cost and time-effective approaches to tracking use. As well, documenting the average number of passengers per vehicle for each trailhead could serve as an easy measure of use. Once this number is obtained for each trailhead a simple count of vehicles could provide managers with information about the numbers of visitors present on any given day.

Limitations and Future Directions

Limitations of this study include a schedule that did not extend to the entire 2008-2009 winter recreation season, although snow seasons in the Sierra-Nevada are notoriously difficult to characterize with consistency. This study benefited by a significant mid-to-late season snowfall which bolstered what had started as a slower than usual winter recreation season. Another limitation is that the surveys were dependent on the good will of affiliated winter recreation groups, although these limitations are less significant because the study relied on a randomized schedule of survey dates.

Future studies should encapsulate visitors and use observations from throughout the winter recreation season. Additionally, a more systematic effort to obtain a broader sample from all trailheads in the study system is advised to ensure a representative sample of visitors and use levels geographically.

This study represents a systematically conducted sample of one-third of study trailheads. The findings support the characterization of State Parks OHMVR OSV trailhead study as key in providing outstanding winter recreation opportunities for significant numbers of the winter-going public in a regional context.

Appendix A: Visitor Survey Form

Trailhead Survey

1. How many people are in your group on this trip? (*including you*) _____

2. What is your home zip code? _____
   - *If snot from the U.S., what country are you from*? _____

3. On your visit to this area, how much time will you be spending out on the snow for non-motorized recreation activities? ___ hours ___ days ___ NA

4. What activities did you do **or** do you expect to do at this trailhead on this visit? (*check all that apply*)
   - ❑ Snowmobiling
   - ❑ RUV/Side-by-side tracked vehicle
   - ❑ Cross-country skiing
   - ❑ Snowshoeing
   - ❑ Snowboarding
   - ❑ General snowplay
   - ❑ Sledding/tubing
   - ❑ Other _____

5. What percent of time on this trip are you on groomed trail versus off groomed trail?
   (*e.g. 80% groomed trail and 20% off groomed trails*)

   _____% **on** groomed trails

   _____% **off** groomed trails

6. How many days a season do you ride a snowmobile or other over-snow motorized vehicle? _____ days

7. How many days a season do you participate in snow-based activities at trailheads like this one?

   ____ motorized

   ____ non-motorized

8. How much time did you spend on the snow during this visit to the trailhead?

   ___ hours ___ days ___ NA

9. Where have you gotten information about winter use regulations? (*check all that apply*)
   - ❑ Internet
   - ❑ Forest Service website
   - ❑ State Park website
   - ❑ Radio
   - ❑ Newspaper
   - ❑ Word of mouth
   - ❑ Trailhead signs
   - ❑ Snowmobile safety training
   - ❑ I have no information
   - ❑ Other: _____

10. We'd like to know a few things about your experience on the snow at this trailhead.

First, indicate whether you observed any of the following behaviors in this trail area on this visit. If you did, then tell us if it negatively affected your experience here or if it wasn't a problem.

	Not observed	Observed	***If observed, was it...*** A big problem	A moderate problem	Not a problem
Others operating at excessive speeds (*or unsafe speeds*)	❑	❑	❑	❑	❑
Snowmobile travel over bare ground	❑	❑	❑	❑	❑
Excessive noise	❑	❑	❑	❑	❑
Trespass in areas closed to snowmobiles	❑	❑	❑	❑	❑
Wilderness boundary trespass *If yes, how many times did you observe boundaries being crossed?* _____ times	❑	❑	❑	❑	❑

Comments:

11. Are you planning on using the trails in this area at night on this visit?
    - ❑ No (*if no, skip to next question*)
    - ❑ Yes ⇨ If yes, will you be staying out in the forest overnight? ❑ Yes ❑ No
        - ⇨ If yes, where are you staying?
            - ❑ lodge accommodations
            - ❑ campground
            - ❑ other_____

12. Is your visit to this trailhead the primary purpose of your trip or is it part of a larger itinerary?
    - ❑ primary purpose
    - ❑ part of a larger itinerary

13. How far is this trailhead from where you are staying overnight?
    ____ miles

14. How did you learn about this trailhead? (*check all that apply*)
    - ❑ Agency website (*indicate which agency below*)
        - ❑ Forest Service
        - ❑ State Parks
    - ❑ Grew up nearby/live nearby
    - ❑ Newspaper
    - ❑ Magazine or publication
    - ❑ Recommended by family or friends
    - ❑ By chance (*drove by, etc*.)
    - ❑ Tour book/map (*e.g., CSAA guide*)
    - ❑ TV/radio

- ❑ Road sign
- ❑ Don't remember
- ❑ Other: _____

If you are not snowmobiling on this trip (or using an OSV) skip to Question 21.

15. Tell us about the skill level of riders in your group (*provide the **number** of each type*).

    ___beginner ___intermediate ___advanced

16. At what speed did you typically travel on your snowmobile in this trail area? _____ mph

17. Tell us about the machines that you and your group are using on this visit.

Number of 2-stroke machines	Model year	Has the engine or muffler been modified? (*check all that apply*)	Hours you have ridden on this trip	Gallons of fuel you have used on this trip
		❑ engine ❑ muffler		
		❑ engine ❑ muffler		
		❑ engine ❑ muffler		
		❑ engine ❑ muffler		

Number of 4-stroke machines	Model year	Has the engine or muffler been modified? (*check all that apply*)	Hours you have ridden on this trip	Gallons of fuel you have used on this trip
		❑ engine ❑ muffler		
		❑ engine ❑ muffler		
		❑ engine ❑ muffler		
		❑ engine ❑ muffler		

18. If parking lots at sites like this trailhead were not plowed, how would this affect your decision to snowmobile here? (*check one*)
    - ❑ wouldn't come out to snowmobile
    - ❑ I'd snowmobile less
    - ❑ I'd snowmobile about the same
    - ❑ I'd snowmobile more

19. If the trails at areas such as the one you're visiting were not groomed would you still snowmobile here? (*check one*)

- ❑ I wouldn't come out to snowmobile
- ❑ I'd snowmobile less
- ❑ I'd snowmobile about the same
- ❑ I'd snowmobile more

20. What exposure do you have to snowmobile clubs (*check all that apply*)
    - ❑ I belong to a snowmobiling club
    - ❑ I contribute to a snowmobiling club
    - ❑ I receive information from a snowmobiling club
    - ❑ I don't have a connection to a snowmobiling club

The remaining survey items are designed to give us a better idea of the characteristics of trailhead visitors like yourself. Please note that your responses are <u>anonymous</u> and you are <u>not</u> identified in any way with this information.

21. What is the gender of members of your group, including yourself? (*provide the **<u>number</u>** of each*)

___ Females ___ Males

22. What is the age range for each member of the party you came with today, including yourself? *(provide the **<u>number</u>** of each category in your group)*

___ 13 years and younger
___ 14-15 years
___ 16-18 years
___ 19-34 years
___ 35-44 years
___ 45-59 years
___ 60-74 years
___ 75 years and older

23. Which ethnic group do you belong to? (*check one*)

- ❑ Hispanic or Latino
- ❑ White / Caucasian
- ❑ Asian
- ❑ American Indian and/or Alaska Native
- ❑ Black or African American
- ❑ Native Hawaiian and other Pacific Islander
- ❑ Other / Multi-racial

24. What are the primary languages spoken by members your group? (*check all that apply*)

- ❑ English
- ❑ Spanish
- ❑ Tagalog
- ❑ Vietnamese
- ❑ Korean
- ❑ Other_____

25. What is your combined household income?

- ❑ Less than $14,999
- ❑ $15,000 to $24,999
- ❑ $25,000 to $34,999
- ❑ $35,000 to $49,999
- ❑ $50,000 to $74,999
- ❑ $75,000 to $99,999
- ❑ $100,000 to $149,000
- ❑ $150,000+

Your Comments: Use the space below for any feedback you would like to give to State Parks Off-Highway Motor Vehicle Recreation Division or the US Forest Service.

Appendix B: Recreation Use Observation Form

Trailhead Use Observation Form

Researcher:_____

Date: _____ Arrival Time: _____

Location:_____ Departure Time: _____

Number of passenger vehicles in parking lots
On arrival_____

On departure_____

Number of passenger vehicles without trailers

Number of passenger vehicles in overflow parking (*sides of roads instead of parking lots*)

Out-of-state license plates (*identify state and use tally marks next to state abbreviations*)

Comments:

Appendix C: Mileage Tables for Individual Sites

Distance Traveled to and from Snowmobile Trailheads

The following tables show the distance traveled to and from the ten trailheads in the study sorted by individual zip codes.

Table C-1: Distance Traveled to Lake Alpine

Zip Code	City	County	State	Number of Visits	Distance Traveled One Way
95223	Arnold	Calaveras	CA	7	28
95247	Murphys	Calaveras	CA	3	40
94061	Redwood City	San Mateo	CA	2	183
94546	Castro Valley	Alameda	CA	2	158
94551	Livermore	Alameda	CA	2	140
95224	Avery	Calaveras	CA	2	32
95831	Sacramento	Sacramento	CA	2	125
94070	San Carlos	San Mateo	CA	1	181
94402	San Mateo	San Mateo	CA	1	179
94566	Pleasanton	Alameda	CA	1	150
94583	San Ramon	Contra Costa	CA	1	154
95123	San Jose	Santa Clara	CA	1	177
95136	San Jose	Santa Clara	CA	1	177
95322	Gustine	Merced	CA	1	135
95351	Modesto	Stanislaus	CA	1	103
95361	Oakdale	Stanislaus	CA	1	88
95640	Ione	Amador	CA	1	87
95479	Unknown			1	
Total				31	3,023

Table C-2. Distance Traveled to Ashpan Snowmobile Park

Zip Code	City	County	State	Number of Visits	Distance Traveled One Way
89506	Reno	Washoe	NV	1	172
93541	Lee Vining	Mono	CA	1	307
96001	Redding	Shasta	CA	6	70
96002	Redding	Shasta	CA	6	70
96003	Redding	Shasta	CA	2	70
96007	Anderson	Shasta	CA	3	80
96008	Bella Vista	Shasta	CA	1	60
96019	Shasta Lake	Shasta	CA	1	73
96022	Cottonwood	Shasta	CA	4	70
96035	Gerber	Tehama	CA	1	108
96062	Millville	Shasta	CA	4	71
96067	Mt. Shasta	Siskiyou	CA	1	61
96073	Palo Cedro	Shasta	CA	1	66
96088	Shingletown	Shasta	CA	3	65
TOTAL				35	1,343

Table C-3. Distance Traveled to Bogard Snowmobile Trailhead

Zip Code	City	County	State	Number of Visits	Distance Traveled One Way
94521	Concord	Contra Costa	CA	1	265
94611	Oakland	Alameda	CA	1	278
TOTAL				2	534

Table C-4. Distance Traveled to Bucks Summit Trailhead

Zip Code	City	County	State	Number of Visits	Distance Traveled One Way
67410	Abilene	Dickinson	KS	(1)	(1,587)
89434	Sparks	Washoe	NV	1	94
89506	Reno	Washoe	NV	2	94
89508	unknown			1	
89509	Reno	Washoe	NV	3	94
89523	Reno	Washoe	NV	1	94
94948	Novato	Marin	CA	1	195
95005	Ben Lomond	Santa Cruz	CA	1	256
95240	Lodi	San Joaquin	CA	2	156
95608	Carmichael	Sacramento	CA	1	120
95695	Woodland	Yolo	CA	1	126
95747	Roseville	Placer	CA	2	120
95901	Marysville	Yuba	CA	1	79
95956	Meadow Valley	Plumas	CA	3	5
95966	Oroville	Butte	CA	2	53
95971	Quincy	Plumas	CA	16	12
96103	Blairsden-Graeagle	Plumas	CA	1	36
96158	S. Lake Tahoe	El Dorado	CA	1	127
TOTAL				41	3,248

Table C-5. Distance traveled to Deer Mountain

Zip Code	City	County	State	Number of Visits	Distance Traveled One Way
75119	Ennis	Ellis	TX	(1)	(1,956)
94110	San Francisco	San Francisco	CA	1	319
94558	Napa	Napa	CA	1	282
94568	Dublin	Alameda	CA	1	310
94952	Petaluma	Sonoma	CA	1	310
95123	San Jose	Santa Clara	CA	1	340
95540	Fortuna	Humboldt	CA	1	227
95926	Chico	Butte	CA	1	166
95928	Chico	Butte	CA	1	166
96001	Redding	Shasta	CA	1	95
96002	Redding	Shasta	CA	1	95
96007	Anderson	Shasta	CA	1	105
96027	Etna	Siskiyou	CA	1	36
96032	Fort Jones	Siskiyou	CA	1	24
96057	McCloud	Siskiyou	CA	1	47
96064	Montague	Siskiyou	CA	2	5
96067	Mount Shasta	Siskiyou	CA	2	35
96080	Red Bluff	Tehama	CA	1	12
96094	Weed	Siskiyou	CA	5	125
96097	Yreka	Siskiyou	CA	1	7
97502	Central Point	Jackson	OR	3	60
97504	Medford	Jackson	OR	1	56
97520	Ashland	Jackson	OR	1	45
97526	Grants Pass	Josephine	OR	1	85
97527	Grants Pass	Josephine	OR	3	85
97532	Merlin	Josephine	OR	1	92
97540	Talent	Jackson	OR	1	49
97603	Klamath Falls	Klamath	OR	1	83
98606	Brush Prairie	Clark	WA	1	353
TOTAL				38	5,570

Table C-6. Distance Traveled to Highway 108 Snowmobile Trailhead

Zip Code	City	County	State	Number of Visits	Distance Traveled One Way
93710	Fresno	Fresno	CA	1	165
94087	Sunnyvale	Santa Clara	CA	1	158
95304	Tracy	San Joaquin	CA	1	99
95316	Denair	Stanislaus	CA	1	81
95320	Escalon	San Joaquin	CA	1	72
95357	Modesto	Stanislaus	CA	3	80
95361	Oakdale	Stanislaus	CA	5	63
95370	Sonora	Tuolumne	CA	1	31
95603	Auburn	Placer	CA	1	132
95648	Lincoln	Placer	CA	1	135
95762	El Dorado Hills	El Dorado	CA	1	101
TOTAL				17	1,117

Table C-7. Distance Traveled to Iron Mountain Snow Park

Zip Code	City	County	State	Number of Visits	Distance Traveled One Way
93101	Santa Barbara	Santa Barbara	CA	1	394
94506	Danville	Contra Costa	CA	1	136
94518	Concord	Contra Costa	CA	1	150
94523	Pleasant Hill	Contra Costa	CA	1	147
94524	Concord	Contra Costa	CA	1	150
94538	Fremont	Alameda	CA	1	144
94544	Hayward	Alameda	CA	1	139
94550	Livermore	Alameda	CA	1	119
94551	Livermore	Alameda	CA	1	119
94561	Oakley	Contra Costa	CA	1	126
94565	Pittsburg	Contra Costa	CA	1	135
94566	Pleasanton	Alameda	CA	1	127
94583	San Ramon	Contra Costa	CA	1	133
94804	Richmond	Contra Costa	CA	1	161
94920	Belvedere Tiburon	Marin	CA	1	176
95118	San Jose	Santa Clara	CA	2	157
95128	San Jose	Santa Clara	CA	1	157
95136	San Jose	Santa Clara	CA	1	157
95204	Stockton	San Joaquin	CA	1	97
95207	Stockton	San Joaquin	CA	1	97
95209	Stockton	San Joaquin	CA	1	97
95212	Stockton	San Joaquin	CA	1	97
95237	Lockeford	San Joaquin	CA	1	87
95337	Manteca	San Joaquin	CA	1	84
95476	Sonoma	Sonoma	CA	1	177
95630	Folsom	Sacramento	CA	2	110
95642	Jackson	Amador	CA	2	74
95665	Pine Grove	Amador	CA	1	83
95666	Pioneer	Amador	CA	2	90
95669	Plymouth	Amador	CA	1	86\
95682	Shingle Springs	El Dorado	CA	2	105
95684	Somerset	El Dorado	CA	1	104
95685	Sutter Creek	Amador	CA	4	79
95713	Colfax	Placer	CA	1	154
95726	Pollock Pines	El Dorado	CA	1	121
95757	Elk Grove	Sacramento	CA	1	130
95758	Elk Grove	Sacramento	CA	1	130
95831	Sacramento	Sacramento	CA	1	120
97497	Wolf Creek	Josephine	OR	1	477
TOTAL				**47**	5426

Table C-8. Distance Traveled to LaPorte Snowmobile Trailhead

Zip Code	City	County	State	Number of Visits	Distance Traveled One Way
94551	Alameda	Livermore	CA	1	202
94585	Solano	Suisun City	CA	1	140
95037	Santa Clara	Morgan Hill	CA	1	248
95207	San Joaquin	Stockton	CA	1	164
95220	San Joaquin	Acampo	CA	1	132
95237	San Joaquin	Lockeford	CA	1	138
95608	Sacramento	Carmichael	CA	2	125
95624	Sacramento	Elk Grove	CA	1	140
95682	El Dorado	Shingle Springs	CA	1	134
95692	Yuba	Wheatland	CA	5	72
95693	Sacramento	Wilton	CA	2	123
95746	Placer	Granite Bay	CA	2	116
95831	Sacramento	Sacramento	CA	1	125
95901	Yuba	Marysville	CA	6	58
95917	Butte	Biggs	CA	1	62
95918	Yuba	Browns Valley	CA	3	45
95930	Butte	Clipper Mills	CA	1	16
95932	Colusa	Colusa	CA	1	93
95941	Butte	Forbestown	CA	1	27
95948	Butte	Gridley	CA	1	30
95953	Sutter	Live Oak		1	64
95961	Yuba	Olivehurst	CA	1	63
95981	Yuba	Strawberry Valley	CA	4	13
95983	Plumas	Taylorsville	CA	1	54
95991	Sutter	Yuba City	CA	5	60
95993	Sutter	Yuba City	CA	11	60
95952		unknown	CA	1	
TOTAL				58	2,504

Table C-9. Distance Traveled to Swain/Morgan Trailhead

Zip Code	City	County	State	Number of Visits	Distance Traveled One Way
89506	Reno	Washoe	NV	1	121
95442	Glen Ellen	Sonoma	CA	1	245
95501	Eureka	Humboldt	CA	1	258
95519	McKinleyville	Humboldt	CA	1	251
95687	Vacaville	Solano	CA	2	203
95688	Vacaville	Solano	CA	1	203
95901	Marysville	Yuba	CA	1	112
95918	Browns Valley	Yuba	CA	1	113
95934	Crescent Mills	Plumas	CA	1	29
95938	Durham	Butte	CA	1	73
95954	Magalia	Butte	CA	2	81
95963	Orland	Glenn	CA	1	101
95969	Paradise	Butte	CA	1	76
96001	Redding	Shasta	CA	2	110
96003	Redding	Shasta	CA	1	110
96007	Anderson	Shasta	CA	1	90
96021	Corning	Tehama	CA	9	89
96035	Gerber	Tehama	CA	3	80
96063	Mineral	Tehama	CA	2	29
96080	Red Bluff	Tehama	CA	1	71
96130	Susanville	Lassen	CA	1	35
TOTAL				35	2,480

Table C-10. Distance Traveled to Little Truckee Summit

Zip Code	City	County	State	Number of Visits	Distance Traveled One Way
86434	Peach Springs	Mohave	AZ	(1)	(710)
89402	Crystal Bay	Washoe	NV	1	14
89423	Minden	Douglas	NV	1	69
89431	Sparks	Washoe	NV	1	52
89434	Sparks	Washoe	NV	1	52
89436	Sparks	Washoe	NV	3	52
89451	Incline Village	Washoe	NV	1	32
89502	Reno	Washoe	NV	2	49
89503	Reno	Washoe	NV	1	49
89506	Reno	Washoe	NV	2	49
89509	Reno	Washoe	NV	2	49
89511	Reno	Washoe	NV	3	49
89523	Reno	Washoe	NV	6	49
89533	Reno	Washoe	NV	1	49
89704	Washoe Valley	Washoe	NV	1	71
94526	Danville	Contra Costa	CA	1	195
94583	San Ramon	Contra Costa	CA	1	199
94596	Walnut Creek	Contra Costa	CA	1	187
95003	Aptos	Santa Cruz	CA	1	269
95136	San Jose	Santa Clara	CA	1	234
95616	Davis	Yolo	CA	1	139
95630	Folsom	Sacramento	CA	1	129
95648	Lincoln	Placer	CA	1	98
95653	Madison	Yolo	CA	1	131
95712	Chicago Park	Nevada	CA	1	72
95962	Oregon House	Yuba	CA	1	109
96001	Redding	Shasta	CA	1	247
96124	Calpine	Sierra	CA	1	50
96126	Sierraville	Sierra	CA	1	41
96143	Kings Beach	Placer	CA	2	29
96145	Tahoe City	Placer	CA	1	32
96146	Olympic Valley	Placer	CA	1	30
96154	S. Lake Tahoe	El Dorado	CA	1	62
96160	Truckee	Nevada	CA	2	17
96161	Truckee	Nevada	CA	14	17
96162	Truckee	Nevada	CA	4	17
98092	Auburn	King	WA	1	83
96172	Unknown			1	
89441	Unknown			3	
TOTAL				71	3,782

Appendix D: Participant Feedback Sorted By Site

Researcher Note: Below is a listing of all comments provided by those visitors who took the time to write comments when completing the survey. It should be noted that not all visitors provided comments, so they should be seen as representative only of those visitors who wrote comments and not of all visitors who participated in the study.

Alpine

1. I work at Lark Alpine so I like the trails groomed when I walk in and out.
2. Keep it groomed and keep it coming.
3. I love the area. Come here always. Keep grooming.
4. We were up here for two weeks and trail was not groomed and unusable. It was a wasted trip. Enforce the speed limit of cars driving through the area where we park.
5. Where can we get info on grooming before we come?
6. Hwy 4 Ebbetts Pass is great and beautiful when groomed and lets all riders regardless of experience the opportunity to enjoy the beauty.
7. If it wasn't for the grooming of Lake Alpine we would lose a lot of customers from the gate at Alpine. And also coming from Markleeville, it is important to have trails groomed up at Lake Alpine.
8. Keep up the good work. We appreciate your efforts.
9. This area needs garbage service-there are many families with kids sledding and LOTS of trash; broken sleds, water bottles, food wrappers. Parking lot always has lots of trash-I think garbage service/trash bins would help. Thanks.
10. Fix parking. Not enough room. Groom slick rock and put motor homes down at Spicer during busy times. Give more tickets to those without snowpark permits.
11. We don't want anything to change here!
12. I think dogs should not be allowed. There is many times dog poo all over the trails. When machines run it over it’s messy.
13. We have been to several CA snoparks and they are great!
14. Respondent lived at Lake Alpine and rides ever day during winter Dec-Apr) "Snow Park!!!!" Something needs to be done about parking for car & RVs. There actually should be a "parking lot" and a shack for people to buy snow park passes and for general information. Grooming should be done a little more during weekends and holidays. It will help local businesses out.

Ashpan

1. Best in the state.
2. The grooming program is the best thanks to Wes Dailey.
3. Enjoy snowmobile riding and being in the outdoors.

4. I appreciate the grooming support and the parking areas. I would like to see the Ashpan parking area resurfaced as soon as possible. Thank you.

5. Snowmobiling is a healthy family and group activity. It allows people of all ages to experience the outdoors in its winter state regardless of age and physical condition. It also creates great economic conditions for local merchants-gas, food, clothing, parts and accessories etc.

6. Please, no changes. It works very well the way it is.

7. CNSA and its members and clubs look forward to a continued working relationship with the state.

8. Please keep these snoparks groomed and marked. Keeps things safe, I won't be lost on these trails. Thank you

9. Ash Pan was the best trails in the state!!!

10. Keep grooming trails

11. Please plow parking lots and roads.

12. Please plow roads and parking lots of all snowmobile parks

Bogard

1. Parking lot not really plowed. No kiosk.

2. Parking lot not completely plowed. No bulletin board for regulations or info.

Buck's Summit

1. First time here. Don't know what to answer.

2. Incomplete.

3. I don't answer income questions. Sorry.

4. More groomed trails.

5. Individual doing the survey very cordial.

6. Great use of our green sticker dollars-keep it up.

7. Plowing of the parking lot could use some additional attention.

8. Thank you, we love this area.

9. This is a very long survey-results will probably be rather unreliable.

10. More groomed areas; more plowed county road.

11. The forest is closed to OHV, keep it open for snowmobiles.

Deer Mountain

1. We really like the snowmobile rental lady. She is very helpful and loaned us a helmet.
2. Groomed trails enhance snowmobile safety. Without groomed trails we would not be able to snowmobile as often.
3. Excellent place-we love deer park!
4. Thank you for the plowing and grooming!
5. Grooming was great. Good access to maps. Had a great time. We will come back.
6. Really enjoy visiting Deer Park and its facilities in the winter months. Fun Factory really enhances the experience.
7. Like the solitude.
8. Awesome park!
9. Great place! Love the Deer Mt Lodge!
10. Keep the trails open.
11. Thanks!
1. Keep the off-road programs going!
12. Beautiful.
13. We had a great time. Thank you!
14. We are from Oregon and come to Northern California on a regular basis. We love this area for the varied terrain and trail system. This area is regularly shared with dog sledders and cross country skiers. We believe in multiple use and that each user group should have area dedicated to their specific use.
15. We love the trail heads, clean restrooms, warming huts and your trail system and the great people that groom the trails for us (thanks Val!) Also we like the snowmobile rental lady @ Deer Mtn. She is very helpful too! C-you tomorrow!
16. We appreciate everything the state of California does to keep Deer Mt snow park in the condition that it is in. We would like to see it continue.
17. More grooming if possible.
18. Wonderful service. Keep providing the funds for all to enjoy!
19. Great place-clean and kept up-would be nice if the campground was always plowed.

Hope Valley

1. More parking, RV overnight parking.
2. Loved to have camping here. Quit closing areas.
3. More parking. Night parking.
4. Nighttime availability.
5. More parking-plow further. Continue bathrooms. Some area for overnight use. Recreational users have as much right to use area.
6. Would like the time limit 7am-7pm changed back permitting overnight parking and also moonlight riding on Blue Lakes Road.
7. Snopark info-sell at trailhead.
8. Please keep Hope Valley open.
9. Should have notification board of planned riding location for safety. Would like online snowpark conditions and grooming reports. Would like to use this area 50% day/50% night. Work during day and would like to come out in evenings.
10. We need parking, more parking. Open Red Lake.
11. Snow removal in Blue Lakes area is sub par.
12. Please open Forestdale/Red Lake.
13. New trail maps-easier to read; great job on plowing now; open for night riding-blue lakes; open up camping again-blue lakes; better trail markers for snow levels.
14. Open red lake parking lot to snowmobiles.
15. Go back to overnight parking.
16. Keep up the good work.
17. Reopen nighttime and camping on Blue Lakes.
18. Thanks!
19. Oppose night closure of Blue Lakes Rd.
20. Open it up for everyone. Can't we just all get along. I don't stop you from doing anything.
21. Thank you for your support.

22. Thanks.

23. Don't close our sports.

Highway 108

1. Please keep grooming the road.

2. Expand parking lot and add parking along (parallel) outside edge of upper lot. Keep single parking in lots that are designed for that purpose. Do not let trailers without a vehicle stay in lots for extended time, i.e. Dardanelle's Resort.

3. Keep up the great grooming.

4. Please plow the parking lot.

5. It is important to keep parking lot groomed!

6. Make sure you plow the parking lot. The grooming has been great.

7. If lot wasn't plowed, parking would be a disaster.

Iron Mountain

1. More snow parks needed.

2. Very friendly and well plowed.

3. This is a great place to see nature.

4. Love the park, thanks.

5. Fun place to come. We will let our friends know about it.

6. Please keep open-our family loves it here.

7. wonder if they prep some hills (small hills) for little ones to sled down a hill on. Thanks for keeping it open for us to use.

8. I've been coming here for 25 years.

9. This is the best spot to snowmobile in this part of California.

10. First time here, beautiful park.

11. We snowboard. Snowmobiles are okay. Pollution is main problem.

12. Open Iron Mtn parking area as a snow park (old ski resort parking area).

13. Please keep it going-Cali.

14. Thanks for the ranger service. Appreciate what you do and your effort. Please help keep our trails open.

15. One loud motor can destroy the peace of an entire valley for those of us who seek peace and quiet in our forests and public lands. Muffle those motors! Require a safety test for snowmobile operation on public lands that teach caution around blind curves to avoid injury to others.

16. Complaint-people parking on the corner, cannot make turn.

17. Keep up the grooming (please). Better control on dogs (must have on leash).

18. We love that we can come to a snopark with our annual pass and camp overnight in our camper & enjoy the snow. These snoparks are great! Thank you. (Note on 1st page: Just bought snowshoes and are very excited about the snoparks because we can stay in our camper overnight and snowshoe).

19. I have been using these trails for approx 25 years.

20. Please keep Iron Mtn open.

21. Had a great time. I would like to see places like this stay open

22. We love to visit here! Only 20 miles from home.

23. You have the nicest rangers, thank you.

24. Keep up the good work-One of the best areas around to snowmobile.

25. Please keep this open!

26. Great work!

27. Better restrooms/changing facility. Better play/sledding area for kids!

LaPorte

1. No OHV money to state

2. Provide trash service for the people that are too lazy to pick up after themselves.

3. It is a good program. The new commission should be good for the sport not against it as in the past.

4. Have the groomer go out more on the trails to avoid problems.

5. Without the groomer we would not be able to use this area. We need funding for the groomer

6. Grooming looks good.

7. I'm a full time resident and we need this for our business. Thank you.

8. This area is beautiful. The local economy works hard to provide a thoroughly enjoyable environment. The local homeowners work hard to support these efforts. Please continue to support these great people and this lovely country.

9. The LaPorte area is well used as well as great for the local community. Thank you for the help of State Parks

10. Need to groom MORE! Look at Butte Meadows and do what they do!

11. More grooming please.

12. LaPorte needs more parking for trailers

13. Need more grooming more often.

14. Would like to see more groomed area. I've been to other areas and their grooming is so much better

15. We appreciate very much the grooming programs and hope that it will continue. This program uses our green sticker fees.

16. LaPorte grooming program is crucial to this area.

17. Keep up the good work.

Swain

1. Keep up the program and good work.

2. Love the groomer trail in the Lassen unit, especially Swain-Freedomyer, keep up the good work.

3. Keep it going!

4. Trails are rough from heavy use and lack of snow. Would like to see a garbage collector at Swain as some people stack garbage in restroom.

5. Excellent bulletin board at Swain and Chester. Trails were rough. Lot of this due to heavy use and lack of snow and ice conditions. Lack of warming hut in this huge winter recreation area with all its connecting snowmobile trails and ski trails.

6. Parking lot not plowed to max.

7. Need trash cans at parks. Keep the grooming going (Great job). Parking lots not completely plowed to max. Lack of warming huts.

8. We love snowmobiling with our family and friends.

9. I love sledding. 99% citizens-1% government.

10. We love to spend time snowmobiling with our kids and grandkids.

11. Snowmobiling is the only recreation we can do anymore as a family-picnic on Turner. Warming hut would be great place for lunch.

12. I use groomed trails for walking, cross country skiing and snowshoeing.

13. We simply walk Mill Creek Rd to observe the surrounding beauty and wildlife and enjoy its peace.

14. Please groom more cross country ski trails in order to encourage non-motorized, non-polluting recreation user groups
15. Thank you. We spend time cleaning the forest we love!
16. We love coming out to enjoy all activities the forests have to offer. We help pick up trash, observe rules
17. We love snowmobiling.
18. We love snowmobiling with our family and friends.
19. Thank you very much!

Little Truckee Summit

1. Road to trailheads is kept well. Signs are visible.
2. We're rich we do what we want.
3. Great place.
4. Skiers are jerks.
5. Using bathroom.
6. Thanks for the trail system and allowing sleds!
7. Don't close anymore roads or trails.
8. We enjoy this place a lot! We like the outdoors and we are environmentally cautious keep the trails open!
9. Please pay groomer in a timely manner.
10. Love it here! But need more safe parking..
11. This is a great spot for snowboarding minimum conflict with non-motorized users (snowshoe, XC skiers) vast terrain with varying difficult. Parking lot: groom trails help with access. Thanks for providing it to us-good to see our fees in use.
12. Grooming is the best ever.
13. The snowmobile access is a given in our state and should be protected and supported! Thank you.
14. Parking line, at trail head to get better parking maps would be good, even if you charge.
15. Little Truckee should be a snow park.
16. Please make Little Truckee Summit a snow park-it will help pay for you efforts. Thanks
17. I enjoy the outdoors with my motorized vehicles and applicant and respect our access.
18. Please keep 2 strokes alive!

19. Please keep grooming you do great.
20. We need more parking.
21. Keep all land open for me to enjoy and my kids.
22. Snowmobiles should retain their rights to enjoy and use the US forest.
23. Really enjoy the new 2 stroke ETEC. Clean burning, quiet, fuel and oil efficient.

APPENDIX B

CALIFORNIA REGISTERED SNOWMOBILES
California Department of Motor Vehicles

STATE OF CALIFORNIA
DEPARTMENT OF MOTOR VEHICLES
OFF HIGHWAY VEHICLES CURRENTLY REGISTERED
AS OF 30 APR 2009

	--- ACTIVE ---					--- INACTIVE ---					
COUNTIES	MOTOR CYCLE	3/4WHEEL M/C	SNOW MOBILE	ALL OTHERS	SUBTOTAL	MOTOR CYCLE	3/4WHEEL M/C	SNOW MOBILE	ALL OTHERS	SUBTOTAL	TOTALS
ALAMEDA	11,800	5,341	440	955	18,542	3,775	1,298	145	262	5,484	24,026
ALPINE	20	18	229	23	290	12	8	79	3	102	392
AMADOR	1,268	2,015	265	665	4,214	446	343	78	188	1,056	5,270
BUTTE	4,216	6,245	1,276	3,463	15,205	1,666	1,256	357	725	4,006	19,211
CALAVERAS	1,843	2,197	318	608	4,966	676	488	84	146	1,394	6,360
COLUSA	437	1,071	288	513	2,309	134	185	54	94	467	2,776
CONTRA COSTA	15,244	6,557	661	1,301	23,773	4,734	1,597	158	325	6,815	30,588
DEL NORTE	168	468	1	123	760	161	188	5	56	410	1,170
EL DORADO	7,103	5,964	1,578	2,332	17,030	2,480	1,234	645	551	4,929	21,959
FRESNO	6,979	15,847	780	2,637	26,251	2,537	4,320	216	901	7,980	34,231
GLENN	564	1,701	225	603	3,093	199	387	67	131	784	3,877
HUMBOLDT	2,522	5,460	72	1,197	9,251	1,277	1,510	19	343	3,149	12,400
IMPERIAL	1,648	6,653	4	1,891	10,208	863	2,472		730	4,071	14,279
INYO	800	1,326	116	107	2,350	359	221	32	36	650	3,000
KERN	13,265	18,515	403	7,950	40,152	5,601	4,443	114	2,204	12,375	52,527
KINGS	1,297	4,061	75	797	6,236	549	1,062	19	261	1,891	8,127
LAKE	2,055	2,303	40	399	4,798	856	566	18	109	1,549	6,347
LASSEN	737	1,028	470	1,630	3,867	370	225	175	250	1,020	4,887
LOS ANGELES	69,491	74,013	508	15,499	159,599	27,403	20,141	184	5,028	52,833	212,432
MADERA	2,145	4,607	291	610	7,661	792	1,181	81	170	2,225	9,886
MARIN	2,198	827	107	153	3,286	737	284	16	47	1,086	4,372
MARIPOSA	541	1,079	41	142	1,804	211	236	13	39	499	2,303
MENDOCINO	2,409	4,337	47	704	7,498	1,274	1,338	9	242	2,863	10,361
MERCED	2,540	5,873	135	820	9,370	1,135	1,426	13	253	2,829	12,199
MODOC	111	234	51	554	950	62	79	35	82	258	1,208
MONO	565	496	1,028	89	2,179	233	89	422	13	758	2,937
MONTEREY	4,724	4,703	72	834	10,336	2,133	1,589	13	384	4,120	14,456
NAPA	2,410	2,517	119	362	5,410	806	559	32	90	1,488	6,898
NEVADA	3,424	2,786	1,364	1,539	9,119	1,407	664	588	432	3,094	12,213
ORANGE	35,970	31,470	224	8,417	76,126	14,710	8,923	73	2,648	26,382	102,508
PLACER	10,491	7,622	1,714	2,366	22,220	3,672	1,608	596	578	6,457	28,677
PLUMAS	730	913	1,505	1,098	4,248	333	194	399	148	1,074	5,322
RIVERSIDE	37,729	50,831	90	15,375	104,078	19,543	15,669	35	5,144	40,424	144,502
SACRAMENTO	15,785	13,081	1,055	2,937	32,892	5,860	3,141	375	882	10,281	43,173
SAN BENITO	2,273	1,647	18	203	4,144	858	404	5	88	1,356	5,500
SN BERNARDINO	31,517	54,129	163	13,453	99,320	15,329	15,440	95	4,551	35,440	134,760
SAN DIEGO	37,923	53,431	129	14,401	106,010	19,624	18,829	59	4,748	43,312	149,322
SAN FRANCISCO	1,247	487	77	88	1,899	548	150	16	20	735	2,634
SAN JOAQUIN	9,433	10,232	493	1,545	21,709	3,068	2,274	149	479	5,971	27,680
SN LUIS OBSPO	6,649	4,983	53	2,398	14,099	2,706	1,510	16	836	5,082	19,181

STATE OF CALIFORNIA
DEPARTMENT OF MOTOR VEHICLES
OFF HIGHWAY VEHICLES CURRENTLY REGISTERED
AS OF 30 APR 2009

	--- ACTIVE ---					--- INACTIVE ---					
COUNTIES	MOTOR CYCLE	3/4WHEEL M/C	SNOW MOBILE	ALL OTHERS	SUBTOTAL	MOTOR CYCLE	3/4WHEEL M/C	SNOW MOBILE	ALL OTHERS	SUBTOTAL	TOTALS
SAN MATEO	6,722	2,392	327	351	9,795	1,947	629	73	102	2,751	12,546
SANTA BARBARA	5,262	4,507	31	784	10,586	2,096	1,333	18	244	3,692	14,278
SANTA CLARA	16,637	7,164	624	1,139	25,582	5,322	1,887	161	365	7,735	33,317
SANTA CRUZ	6,005	1,869	122	286	8,288	2,021	553	33	117	2,725	11,013
SHASTA	4,606	6,043	523	5,682	16,854	2,041	1,238	209	1,242	4,730	21,584
SIERRA	82	151	280	125	638	41	25	52	28	146	784
SISKIYOU	603	750	602	1,731	3,686	318	174	287	352	1,131	4,817
SOLANO	6,348	4,253	209	1,026	11,839	2,299	1,130	118	297	3,844	15,683
SONOMA	8,531	7,319	301	1,298	17,457	3,006	1,961	108	385	5,463	22,920
STANISLAUS	8,067	11,143	620	1,801	21,638	2,925	2,537	173	517	6,153	27,791
SUTTER	1,351	2,389	668	1,277	5,689	604	534	153	240	1,531	7,220
TEHAMA	1,054	2,463	134	1,800	5,454	561	550	75	430	1,616	7,070
TRINITY	401	615	35	480	1,533	177	137	15	73	402	1,935
TULARE	5,768	12,118	251	1,839	19,980	2,090	2,862	82	497	5,534	25,514
TUOLUMNE	1,919	1,503	509	925	4,859	643	347	141	133	1,264	6,123
VENTURA	18,048	11,111	133	2,357	31,669	6,122	2,657	55	702	9,546	41,215
YOLO	1,881	3,048	207	712	5,851	680	613	66	179	1,539	7,390
YUBA	1,288	2,062	398	1,124	4,878	566	442	63	240	1,312	6,190
SUBTOTALS	446,844	497,968	22,499	136,217	1,103,528	182,598	137,140	7,371	40,704	367,813	471,341
OUT OF STATE	2,982	3,725	392	1,036	8,138	9,680	8,220	435	2,372	20,717	28,855
TOTALS	449,826	501,693	22,891	137,256	1,111,666	192,278	145,360	7,806	43,086	388,530	500,196
PERCENTAGE	29.98%	33.44%	1.52%	9.14%	74.10%	12.81%	9.68%	.52%	2.87%	25.89%	100.00%

OHV ACTIVE (CURRENTLY REGISTERED) BY YEAR OF EXPIRATION:

2009 -	536,379
2010 -	508,559
2011 -	66,727

NOTE: OHV REGISTRATIONS EXPIRE ON JUNE 30TH. VEHICLES ACTIVE FOR THE CURRENT EXPIRATION YEAR BECOME INACTIVE (EXPIRED) AFTER JUNE 30TH, OR ARE RENEWED FOR A SUBSEQUENT TERM. THEREFORE, ACTIVE OHV COUNTS FOR THE CURRENT EXPIRATION YEAR WILL DROP OFF OF REPORTS PRODUCED AFTER JUNE 30TH.

3/4 WHEEL M/C COLUMN INCLUDES BODY TYPES 3W, 3WMC, 4W, ATV AND MCATV.

APPENDIX C

OSV PROGRAM MONITORING CHECKLIST
California Department of Parks and Recreation, OHMVR Division and U.S. Forest Service

OSV PROGRAM MONITORING CHECKLIST

Date:		**Trail Name/Number:**	
Evaluator:		**7.5 Min. Quad:**	
Weather Cond:		**Trail Length:**	
Notes (use, event, other):			

Rate each Groomed snowmobile trail. Briefly explain yes items in comments. A "yes" to any of the following should trigger further review. Consult with a journey-level wildlife biologist, soil scientist, or other technical specialists. Document follow-up consultation, recommendations, and actions approved by District Ranger. Attach map. Take photos before and after any repairs. NOTE: For grooming accomplished with State funds, the State requires that snow grooming occur only when snow depths are 12 inches or greater. Items not applicable to the forest shall be marked "N/A"

	YES	NO	N/A
1. A public map identifying the groomed trail is not available.			
2. The map fails to show areas closed or restricted to OSV's that are present. (Describe in comments and indicate locations here):			
3. Is there evidence of OSV use in restricted or closed areas? (If so, show on map and indicate locations here. List actions to stop intrusions in the comments section and annual report).			
4. Has grooming occurred where snow depth is less than 12 inches? (Indicate on map).			
5. Has OSV use occurred where snow depth is less than forest minimum of xxx? (Indicate on map).			
6. Is there evidence of significant damage to vegetation due to OSV use? (Indicate on map)			
7. Is there any evidence of accelerated soil erosion due to OSV use (from observations after snow has melted)? (Describe briefly and indicate location on map).			
8. Have TES plant species been damaged due to OSV use (from observations after snow has melted)?			
9. Is OSV use occurring within ¼ mile of TES nest / den sites during the breeding season? (bald eagle, spotted owl, goshawk, great gray owl fisher) (Describe briefly and indicate location on map).			

Any Other Applicable Standards and Guidelines or items on species or habitats of concern:

	YES	NO	N/A
10.			
11.			
12.			

Comments:

APPENDIX D

U.S. FOREST SERVICE MANAGEMENT PLAN POLICIES

1. **Forest-wide Standards and Guidelines**
2. **Management Prescriptions and Management Area Standards and Guidelines**

APPENDIX D

Table 1. USFS Forest-wide Standards and Guidelines Relevant to the OSV Program

Table 1. USFS Forest-wide Standards and Guidelines Relevant to the OSV Program	
1) Klamath (2007)	
Physical Environment (p. 4-18)	General. 11 Forest management activities shall comply with all applicable laws and policies described in the Organic Administration Act of 1897, the Multiple Use Sustained Yield Act of 1960, the NFMA of 1976 and Forest Service Manual (FSM) 2550. Wetlands and floodplains that exist on the Forest shall be managed according to Executive Order 11988, Floodplain Management (as amended) and Executive Order 11990, Protection of Wetlands (as amended). 12 Identify areas of unacceptable soil erosion during project planning or project implementation so project plans for restoration and improvement can be developed. Restoration efforts not completed during project implementation may be added to the Watershed Improvement Needs (WIN) inventory for future review and treatment. Keep the WIN inventory current. Watershed improvement efforts should be cost efficient and effective in meeting the management objectives. Best Management Practices. 13 Implement BMPs to meet geologic, water, soil, and air quality objectives.
Geology (p. 4-18)	Geologically Unstable Lands. 23 A geologic evaluation will be conducted for all projects involving ground or vegetation disturbing activities on potentially unstable land. Such land includes, at a minimum, all of the geologically sensitive land identified in the geologic layer of the Forest Plan database (refer to the Glossary). These investigations will include geologic hazards and resource assessments, development of management requirements and mitigation measures, and documentation.
Water (p. 4-21)	41 Use the Watershed Improvement Needs (WIN) inventory and the Forest assessment process to develop and maintain a priority list of watershed restoration projects. Give priority to projects identified in the WIN inventory that will restore, protect, or enhance domestic use waters, streams supporting populations of TE&S fish, and watersheds not meeting water quality objectives. Restoration efforts should be placed on management induced adverse impacts. "Naturally occurring" sedimentation and other adverse impacts to meeting watershed and fisheries objectives may be mitigated as opportunities arise. "Naturally occurring" sedimentation levels may not be able to be mitigated. Restoration efforts should be feasible and designed to efficiently meet management objectives.
Air Quality (p. 4-21)	51 Manage for air quality consistent with the Clean Air Act. Management activities also shall comply with the air quality standards established by the California Air Resources Board and the Siskiyou County Air Pollution Control District in California or by the Oregon Department of Environmental Quality and the Oregon State Smoke Management Plan in Oregon.
Biological Environment (p. 4-22 – 4-27)	Biological Diversity. 61 Manage to maintain the structure, composition, and function of forest, rangeland, and aquatic ecosystems within the range of natural variability. Implement management actions in a manner that complements ecological processes and promotes long term sustainability. 62 Manage for biological diversity at the forest, landscape/watershed, and site (stand) level. 63 Manage, restore, or recover ecosystems, as necessary, through project planning and implementation. 67 Manage for a distribution and abundance of plant and animal populations that contribute to healthy, viable populations of all existing native and desirable nonnative species. Maintain populations throughout their historic range. Develop strategies to determine the response of sensitive species proposed for endangered or threatened listing by the United States Fish and Wildlife Service (USFWS) or by the National Marine Fisheries Service (NMFS) as well as indicator species to management activities. 68 Sensitive species: project areas should be surveyed for the presence of sensitive species before project implementation. If surveys cannot be conducted, project areas should be assessed for the presence and condition of sensitive species habitat. 613 Management activities should be designed to maintain or increase population levels of desirable native plant species that currently have low

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	population levels, of desirable plant species with limited habitat distribution and of desirable plant species that have problems with disease. Examples include Port Orford cedar, sugar pine, Pacific yew, Brewer spruce, etc. (refer to the Timber Management section). Watershed Analysis. 638 Watershed analyses must be completed before initiating actions within a Key Watershed, except that in the short term, until watershed analysis can be completed, minor activities such as those that would be categorically excluded under NEPA regulations (except timber harvest) may proceed if they are consistent with Aquatic Conservation Strategy objectives and Riparian Reserves and standards and guidelines are applied. Timber harvest, including salvage, cannot occur in Key Watersheds without a watershed analysis.
Wildlife (p. 4-27 – 4-34)	83 Review all Forest Service planned, funded, executed or permitted programs and activities for possible effects on TE&S species. 84 Follow the requirements for consultation and conferencing with the USFWS when T&E species, species proposed for listing by the USFWS, critical habitat or proposed critical habitat are found in a project area. 86 Coordinate with the California Department of Wildlife on the management of State listed T&E species. Projects should be designed to maintain or improve State listed species habitat. Bald Eagle (Threatened). 88 Additional Special Habitat Management Areas will be established around newly discovered nest or roost areas. Coordinate with the USFWS and CDFG when establishing these areas. American Peregrine Falcon (Sensitive). 810 Additional Special Habitat Management Areas will be established around newly discovered eyries. Coordinate with the USFWS and CDFG when establishing these areas. Northern Spotted Owl (Threatened). 811 Manage spotted owl habitat consistent with direction provided in the Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl and the Final Supplemental Environmental Impact Statement on Management of Habitat for Late Successional and Old Growth Species Within the Range of the Northern Spotted Owl (FSEIS). Blacktailed Deer. 848 Provide high quality wintering, fawning/rearing and migration habitat where such habitat has been identified by the CDFG. Within wintering habitat, forage areas should simulate existing patches with distance to cover not exceeding 300 yards. Roosevelt Elk. 853 Manage key winter and spring use areas to provide good forage to cover habitat ratio. 854 When appropriate, close roads to limit activities that inhibit elk use of quality foraging, fawning/rearing or wintering areas. Miscellaneous Wildlife Sites. 856 Locate and manage habitat sites that have special value for wildlife or botanical resources and are not otherwise provided for in the standards and guidelines. Appropriate management should be determined at the site level through the environmental analysis process.
Resource Management Programs (p. 4-35 – 4-38)	Interdisciplinary Process. 101 Consider all potentially impacted resources in project planning. To the fullest extent, use the ID Team Process to provide decision making officials quality information from which they can make informed decisions. Follow the NEPA and FSM processes and analysis to determine whether a project may proceed under a categorical exclusion, or will require documentation in an EA or EIS. 103 Staff level Forest resource specialists shall provide the technical supervision, expertise and program guidance necessary to assure compliance with current laws and direction, maintain a consistent resource analysis, standard data interpretation, project implementation and monitoring methods. Recreation Management. 1211 Restrict off highway vehicle (OHV) use to protect key resource values and meet management objectives. 1212 Promote minimum impact use techniques (i.e., "Tread Lightly" and no trace) in all activities and public contacts (for example, written, through the media, face to face and signing). 1221 Manage recreation areas to minimize disturbance to species, including those listed in Table 4.3. This standard and guideline applies throughout all land allocation.

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Law Enforcement (p. 4-41)	181 Emphasize the prevention of law violations and regulations pertaining to the National Forests. The protection of Forest visitors, forest workers, and Forest employees shall be the first priority for the law enforcement organization. The second priority shall be the protection of the physical and biological resources, such as vegetation, wildlife, cultural sites, etc.
Cultural Resources Management (p. 4-60)	241 The following standards comply with all applicable legal requirements for management of cultural resources, including the National Historic Preservation Act of 1966, NEPA, the American Indian Religious Freedom Act of 1978, and the Archaeological Resources Protection Act of 1979. Standards for each aspect of the cultural resources program are provided to assure that procedural requirements are satisfied. These procedures apply to all Federal and Federally funded undertakings and undertakings requiring Federal permits (refer to the relevant cultural resource laws).
2) Modoc (1991)	
Air Quality (1) (p. 4-13)	1. (S) Maintain air quality to meet legal requirements of all levels of government. Comply with applicable Air Pollution Control Districts (APCD) agricultural burn implementation plans. F. Follow dust abatement procedures prior to and during any construction activity. G. Monitor air quality sensitivity indicators (such as visibility and lichen) to establish baseline conditions.
Cultural Resources (2) (p. 4-14)	5. (S) Protect access and use of sites and locations important to traditional Native American religious and cultural practices consistent with the American Indian Religious Freedom Act of 1978. 6. (G) Protect cultural resources largely by directing activities or use away from sensitive areas, by maintaining confidentiality, and by informing Forest users of cultural resource protection requirements.
Facilities (3) (p. 4-14)	4. (G) Plan for and provide a stable and cost efficient trail system through construction, reconstruction, and maintenance, as outlined in the trail program presented in Appendix L. Reference trail standards and guidelines under Recreation.
Law Enforcement (9) (p. 4-17)	G) Enforce laws and regulations on the Forest by ensuring an adequate internal law enforcement program and staff; and through coordination and cooperation with federal, state, and local law enforcement agencies.
Recreation (13) (p. 4-19 – 4-21)	1. (G) Establish and maintain appropriate recreation facilities and services to: A. Service present and future outdoor recreation needs, and ensure customer satisfaction. B. Prevent unsanitary conditions, water and air pollution, fires, or other impairment of resources. 3. (G) Manage a full spectrum of trail opportunities. C. Use the Recreation Opportunity Spectrum (Appendix K) system to guide decisions. Locate challenging trails within the most primitive environments and easy trails within the more roaded natural areas. E. Consider providing for diverse types of uses such as hikers, cross country skiers, horses, mountain bikes, motorcycles, snowmobiles, all terrain vehicles, and 4wheel drives. 4. (G) Design resource management activities to complement the Recreation Opportunity Spectrum (ROS) classes delineated on the ROS map and referred to in each prescription. (Refer to Appendix K and the ROS User's Guide for a full listing of activity opportunities, recreational settings, and experience opportunities by ROS class.) A. (G) Roaded Natural: Provide opportunities for such recreation activities as pleasure driving, waterskiing, hunting, and camping in areas characterized by predominantly natural appearing environments with moderate evidence of human activities. Provide developments, including interpretive or vista sites and developed recreation sites. B. (G) Semi-primitive Motorized: Provide opportunities for such recreation activities as off highway vehicle touring, hunting, and camping in areas characterized by predominantly natural or natural appearing environments with low concentrations of users. - Limit site development to resource protection.

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	- Minimize construction or reconstruction of system roads. C. (G) Semi-primitive non-motorized: Provide opportunities for such recreation activities as hiking, fishing, and tent camping in predominantly natural environments with low incidence of interactions between users. - Prohibit motorized recreation; eliminate and prevent OHV use. - Limit site development to resource protection. - Apply the Semi-primitive Non-motorized Dispersed Recreation Prescription to specified areas (generally at least 2,500 acre units). D. (G) Primitive: Provide opportunities for such recreation activities as hiking, mountain climbing, fishing, and tent camping in essentially unmodified natural environments with minimal interaction with or evidence of others. - Prohibit motorized recreation or access; eliminate and prevent OHV use. - Maintain trails and provide minimum information signs. Provide no other developments. - Eliminate accumulated evidence of human impact. - Emphasize low onsite regimentation and primarily offsite controls. 6. (G) Provide off highway vehicle (OHV) recreation where OHV activities will not cause resource damage or conflict with other uses. Reference the OHV map for use areas. 7. (G) The following concerns will be addressed and may require corrective action to OHV opportunities identified in the Plan: A. excessive soil erosion or compaction resulting in reduced productivity; B. degradation of water quality; C. unnecessary disturbance to deer and pronghorn on fall and winter range, and during fawning and kidding periods; D. adverse impacts to threatened, endangered, and sensitive species not fully accommodated in the Plan; and E. new technological changes in OHVs and their uses. Corrective actions may include, but are not limited to, improved trail maintenance, adjusting seasons of use, reducing OHV use, signing barriers to redistribute use, partially closing areas, rotating use, prohibiting specific vehicle types causing damage, or totally closing an area.
Riparian Areas (15) (p. 4-21)	1. (G) Manage lakes, perennial reservoirs, meadows, seeps, springs, and streamside management zones (including ephemerals and intermittents) according to the Riparian Area Management Prescription and Appendices M, N, and T. 2. (G) Where uses conflict, favor protection of riparian dependent resources (water, fish, vegetation, wildlife, and aesthetics) over other resources.
Sensitive Plants (16) (p. 4-21)	1. (G) Manage and conserve sensitive plant species and their habitats to ensure that viable populations are maintained. A. (G) Develop and implement a consistent, systematic, biologically sound program for sensitive plant species and their habitat so that federal listing as threatened or endangered is unnecessary. C. (G) Complete interim management recommendations for all sensitive plant species.
Water (21) (p. 4-25)	1. (S) Implement Best Management Practices (BMPs) to meet water quality objectives and maintain and improve the quality of surface water on the Forest. 2. (G) Identify methods and techniques for applying BMPs during project level environmental analysis and incorporate into the associated project plan and implementation documents (Appendix N). Monitor for compliance and effectiveness.
Wildlife and Fish (23) (p. 4-25 – 4-33)	1. *Threatened and Endangered Species* A. Within designated bald eagle habitat: (S) Manage all current suitable nesting habitat (both existing and potential) and all winter roosting areas according to the Raptor Management Prescription. (G) The Forest will assist in recovery of the species. To accomplish this goal, the Forest will survey and manage potential sites in addition to those currently occupied. B. (G) Within designated peregrine falcon habitat begin peregrine falcon reintroduction planning and program implementation in the next decade for a minimum of three suitable reintroduction sites. The environmental assessment for reintroduction provides necessary

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	direction, standards, and guidelines. E. Within potential northern spotted owl habitat: (G) Continue spotted owl surveys of habitats in and adjacent to the Medicine Lake Highlands and other habitats that are considered suitable for this species. Survey habitats where owls responded in previous years; and expand surveys into areas that are planned for timber harvest, where these include suitable habitat. (G) Manage for spotted owls using the interagency scientific committee (ISC) report as applicable to the Modoc National Forest. (G) If owls are located, consult with the U.S. Fish and Wildlife Service to determine the biological significance of the locations. (G) If a nest territory is located, establish a spotted owl habitat conservation area (RCA) using ISC standards. Coordinate sites with sites on adjacent forests (Shasta Trinity, Klamath, and Lassen). *2. Sensitive Species* A. Within designated goshawk nest stands: (S) Manage 100 suitable goshawk nest stands (of at least medium habitat capability), according to the Raptor Management Prescription. D. Within pine marten habitat, maintain a viable population by applying the following standards and guidelines for this species. (G) Develop a distribution of pine marten territories that are about 2,000 acres. Develop a minimum of 13 territories on the Forest with at least 4 territories on the Doublehead Ranger District, and 9 on the Warner Mountain Ranger District. (G) Distribute these territories so that the distance between territories is 3 miles or less within suitable marten habitat. (S) Within each territory, manage seral stages to achieve 60% of the total territory in 4 block seral stages, and 20% in 3 block seral stages. No more than 20% will be in early seral stage conditions. (G) Manage corridors so that adjacent territories are connected by stands that are in 3 block or 4 block seral stages. (S) Manage snag densities in marten territories at no less than 2 snags per acre. (S) Manage down logs for no less than ten down logs per acre. (G) Manage other habitat characteristics of pine marten stands so that they comply with the regional habitat capability model for this species, at the moderate habitat level. *3. Other Management Indicator Species* C. Within designated golden eagle, Swainson's hawk, osprey, and prairie falcon habitat manage all currently active nest territories as directed in the following: <u>Golden Eagle.</u> (S) Nests located in forested vegetation types will be managed so that at least 25 acres surrounding the nest are designated as a golden eagle nest area. (S) Disturbance from timber management activities and firewood cutting will be restricted within 1/4 to 1/2mile of the nest during the reproductive period, February to August, when they would be detrimental to nesting and fledging. (S) Such activities as DRV use and maintenance or construction of facilities, trails, and roads will be restricted within 1/4 to 1/2mile of the nest during the reproductive period, February to August, because they may be detrimental to nesting and fledging. <u>Swainson's Hawk</u>. (S) Manage 25 acres around each nest site and designate that stand as a Swainson's hawk nest area. (S) Prohibit disturbing management activities with 1/4mile of nest sites from March 1 through July 31. Disturbance from management activities include firewood cutting; range habitat improvements; and construction or maintenance of facilities, trails or roads. (G) Manage juniper stands within designated nest areas to maintain or enhance nest site conditions for Swainson's hawks. (G) Inventory suitable habitats to determine distribution of Swainson's hawks on the Forest. <u>Osprey</u>. (S) Maintain all active nesting and feeding habitat so that at least 30 acres surrounding each nest are designated as an osprey nest area. (S) Forested acres within the area will be managed to maintain an average of five trees per acre that are at least 24 to 30 inches in DBH, and preferably ponderosa or sugar pine. Two to three snags or spike topped trees per acre, 16 to 24 inches DBH or larger, will be maintained within 1/4mile of the nest. (S) Preferred nest trees are 24 to 40 inches DBH or larger and 75 to 125 feet high. Two platforms per 30acre territory may be substituted in areas deficient of suitable nest trees or where green tree replacements are not adequate. Maintain 10 to 15 trees (snags and broken top live trees) > 24" DBH, within 1/8mile of the nest (30 acres) ,and maintain an additional 10 to 15 trees,

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	> 24" DBH, within 100 feet of the water edge and within foraging range for the birds. (S) Disturbance from timber management activities and firewood cutting within 1/8 to 1/2mile of the nest may be detrimental to nesting and fledging during the reproductive period, March to August. Disturbing activities will be restricted. (S) Disturbance from human activities, including foot traffic and OHV use within 1/8 to 1/2mile of the nest, may be detrimental to nesting and fledging during the reproductive period, March to August. Disturbing activities will be restricted. Prairie Falcon. (5) Disturbance from human activities, including foot traffic and OHV use within 1/4 to 1/2mile of the nest, could be detrimental to nesting and fledging during the reproductive period, March I to August 31. Disturbing activities will be restricted. K. Within mule deer habitat: (S) Manage the winter range of each deer herd to provide a 30/70 to 50/50 ratio of thermal cover to forage. Thermal cover is defined as naturally occurring tree crown closure of at least 60%, or at least 75% crown closure of shrubs. (S) Manage the summer and transition ranges for each herd to provide a 20/80 to 40/60 ratio of thermal cover to forage on each management area. (G) Where water deficiency limits summer range, develop water sources when feasible. (G) On deer winter ranges where OHV use is demonstrated to adversely affect deer, institute OHV closures from December 1 through March 31.
General (24) (p. 4-33)	2. (G) Consider all resources in projects, regardless of size or potential impact on the environment. The environmental analysis required by FSM will determine whether a project may proceed under a categorical exclusion, or requires documentation in an Environmental Assessment or Environmental Impact Statement.
3) Shasta-Trinity (1995)	
Manage Recreation Areas to Minimize Disturbance to Species (p. 4-13)	This standard and guideline applies throughout all land allocations. It will benefit a number of fungi and lichen species whose known locations are predominantly within established recreation sites. This standard and guideline falls within the category of the Survey and Manage standard and guideline above, and species to be protected through this standard and guideline are among those shown in Appendix R at the end of this section.
Air Quality (1) (p. 4-13)	a. Protect air quality while achieving land and resource management goals and objectives, Base line levels will be established, and available technology will be used to predict and monitor changes. Activities such as burning, which are under the Forests' control, will be coordinated with affected landowners and control agencies. b. Identify, assess, and monitor significant air quality related values (AQRV) and sensitive indicators of those values in the Yolla BollyMiddle Eel Wilderness in cooperation with the Mendocino National Forest. c. Establish and maintain close coordination with Federal, State, and local officials in the research and application of new air quality standards particularly in relation to smoke and dust management.
Botany (4) (p. 4-14 – 4-15)	Sensitive and Endemic Plants. a. Map, record, and protect essential habitat for known and newly discovered sensitive and endemic plant species until conservation strategies are developed. b. Analyze the potential effects of all ground disturbing projects on sensitive and endemic plants and their habitat. Mitigate project effects to avoid a decline in species viability at the Forest level. c. Monitor the effects of management activities on sensitive and endemic plants. If monitoring results show a decline in species viability, alter management strategy. d. Provide reports of sensitive plant populations to the California Natural Diversity Data Base (Department of Fish and Game [DFG]) annually. e. Coordinate sensitive plant inventory and protection efforts with the DFG, the US. Fish and Wildlife Service, the Nature Conservancy, the California Native Plant Society, and other concerned agencies, organizations, and adjacent landowners. f. Develop at least one conservation strategy per year. g. Review the Forests' sensitive species list periodically. Recommend appropriate changes to the Regional Forester. h. Protect type localities of sensitive and endemic plants for their scientific value.

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Facilities (7) (p. 4-17)	j. Trails will be maintained as needed for specific management objectives. Erosion control and primary access will receive priority. k. Trails that go through areas that will be disturbed by management activities may be temporarily rerouted and then restored as part of the activity cleanup. l. Trails and trail bridges will be located, designed, constructed, and maintained so that they are suitable for the type of travel being served.
Recreation (16) (p. 4-23)	a. Manage developed recreation sites according to the Recreation Opportunity Spectrum (ROS) classes listed in Appendix E. e. Manage off highway vehicle (OHV) use according to direction specified in the OHV Management Plan. Allow mountain bike (non-motorized) use on most trails. Exceptions where use is prohibited include the PCT and trails within designated Wildernesses. f. Cooperate with the State, other agencies, and user groups to identify potential OHV trails. Where compatible with management objectives, develop segments of OHV trails that support the concept of a statewide OHV trail system. h. Management direction for the Whiskey town Shasta Trinity National Recreation Area (NRA) will be based on and responsive to the following (as written in Title 36, Code of Federal Regulations, Section 25 I .4O[a]): (1) provide public outdoor recreation opportunities; (2) conserve scenic, scientific, historic, and other values that contribute to public enjoyment: and (3) Manage, use, and dispose of renewable natural resources which will promote, but do not significantly impair, public recreation or conservation of scenic, scientific, historic, or other values contributing to public enjoyment. l. Create additional opportunities for winter recreation, including alpine skiing, cross country ski areas, snowmobile areas, and snow play areas.
Riparian Areas (17) (p. 4-24 – 4-25)	a. The Riparian Reserve Standards and Guidelines, found in the Management Prescription section under Riparian Reserves, apply to all 2. I million acres of the Shasta Trinity National Forests. b. Maintain riparian area values, particularly when locating and constructing new roads and trails. c. Identify and treat riparian areas that are in a degraded condition.
Wild and Scenic Rivers (23) (p. 4-28 – 4-29)	d. Manage the Upper and Lower McCloud River as well as Squaw Valley Creek in accordance with the Coordinated Resource Management Plan (CRMP). A primary objective of the Plan is to retain the characteristics of the waterways which made them eligible for wild and scenic river consideration, while at the same time recognizing the concerns of large private landowners. Should the CRMP be dissolved, the Forest Service will seek classification of the waterways into the National Wild and Scenic River System.
Wilderness (24) (p. 4-29)	a. Develop Wilderness Plans for each Wilderness using the limits of acceptable change (LAC) process. Designate management zones and allocate transition, semi primitive, primitive, and pristine opportunity classes as defined in Appendix Q. b. Post potential encroachment sites on the boundaries of the five Wildernesses within five years of Plan implementation. e. Emphasize uses that are dependent upon the wilderness environment and cannot be reasonably accommodated elsewhere. h. Maintain surface and subsurface waters at the “high quality level” as defined by U.S. Environmental Protection Agency standards. i. Manage vegetation to retain the primeval character of the wilderness environment and to allow natural ecological processes to operate freely. Remove trees only under emergency conditions such as fire, or insect and disease control. j. Maintain fish and wildlife species indigenous to wildernesses with emphasis on preserving threatened, endangered, and sensitive species. Allow natural ecological

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	dynamics of fish.
Wildlife (25) (p. 4-29)	c. Manage habitat for neotropical migrant birds to maintain viable population levels. d. Develop interpretation view sites for wildlife viewing, photography, and study. Provide Pamphlets, slide shows, and other educational material that enhance the watchable wildlife and other interpretive programs. f. BlackTail and Mule Deer. 1. Design and construct new roads to minimize potential conflicts. 2. Where possible, provide for line of sight barriers, consisting of vegetation and/or topography, along open roads in important deer areas. 3. Use seasonal or permanent road closures to reduce disturbance during critical periods such as fawning season (see road closure policy under *7e)*. g. Black Bear. Use seasonal or permanent road closures to reduce disturbance during critical cub rearing periods in selected black bear areas within Prescriptions VI and VII. Wildlife (Threatened, Endangered and Sensitive [TE&S] Species)* h. Maintain and/or enhance habitat for TE&S species consistent with individual species recovery plans. i. Survey and evaluate habitat for TE&S species at the project level in coordination with the USFWS. Place in Prescription VI1 or Prescription IX, and/or require limited operating periods or other restrictions as appropriate. j. Manage and protect potential bald eagle and peregrine falcon sites for future occupancy. k. Require Limited Operating Periods adjacent to active goshawk nesting sites until the young have fledged.
4) Lassen (1992)	
Air Quality (1) (p. 4-15)	a. Maintain air quality to meet or exceed legal requirements of appropriate levels of government. 1. Comply with the Federal Clean Air Act, as amended, and State and local air quality regulations.
Fish (8) (p. 4-19)	a. Maintain or improve habitat for all native species and compatible nonnative species. 9. Evaluate all proposed projects for potential impacts to the fishery resource, particularly projects that may affect anadromous fisheries.
Law Enforcement (12) (p. 4-21)	a. Protect Forest resources to insure public safety and retain resource values.
Recreation (15) (p. 4-24)	a. Provide a wide range of outdoor recreation opportunities to meet public demand by furnishing different levels of access, service, facilities, and information. 3. Manage recreation according to the Recreation Opportunity Spectrum (ROS) classes described in the ROS User's Guide, as specified in Appendix J, and the Management Prescriptions Refer to the separate ROS Map for the distribution of ROS classes throughout the Forest. d. Provide diverse opportunities for winter sports. 1. Continue to implement the preferred alternative of the 1989 Winter OHV Management Plan, for the construction of trailheads and trail networks for winter recreation. 2. Cooperate with the State of California to identify locations where snow removal is needed to accommodate safe, off highway parking for dispersed winter use. 3. Designate and mark trails needed for additional dispersed winter recreation. 4. Designate and sign cross country ski trails. 5. Accommodate snowmobile use over most of the Forest where not in conflict with other uses or resources. Due to the dispersed nature of the activities, do not provide regular patrols. Provide first aid services only as Forest personnel happen to be available. 6. Minimize user conflicts by specifying allowable winter use on certain roads and trails (for example cross country ski trails, snowmobile only trails or winter 4wheel drive only). 7. Prohibit snow removal on designated snowmobile and cross country ski trails between specified dates. 8. Areas for snow play will not be designated.
Wildlife (25) (p. 4-35)	a. Assist in recovery efforts for Threatened and Endangered species. (1) Provide suitable habitat for all nesting pairs of bald eagles and peregrine falcons needed to meet the Forest's share of Threatened and Endangered species recovery goals. Manage newly occupied areas to help meet species recovery goals. b. Provide for viable populations of California spotted owls and goshawks through coordinated management of an established

Table 1. USFS Forest-wide Standards and Guidelines Relevant to the OSV Program	
	network of nesting territories in appropriate habitat. California Spotted Owls. 1. Establish and maintain a network of 40 spotted owl habitat areas (SOHA'S). 2. In each spotted owl habitat area, maintain a minimum of 1,000 acres of suitable base habitat and 650 acres of replacement habitat. Where 1,000 acres currently do not exist, manage the SOHA to create it as soon as possible. 3. SOHA'S will be managed under a no scheduled timber harvest prescription. Determine the sustainability of thinning or salvage harvesting through the NEPA process and a biological evaluation to insure the quality of habitat is maintained or enhanced. 4. Use biological and silvicultural expertise in developing individual SOHA management plans. 5. Until habitat requirements within SOHAs are met and nesting pairs are found in all of them, protect 125 acres for non-network owl pairs to insure that 39 reproductive spotted owl pairs will provide for species viability throughout the planning period. 6. Manage SOHA'S by applying the Standards and Guidelines in the L Prescription. Goshawks. 7. Establish and maintain a habitat network of 113 goshawk nesting territories. 8. In each goshawk territory, provide at least 50 acres of suitable mature tree nesting habitat, including a nest stand and an alternate nest stand. 9. Limited timber management may occur in goshawk territories. Apply the Standards and Guidelines for the G Prescription. e. Contribute toward the population viability of marten and fisher through coordinated management of established habitat management areas in appropriate habitat. Marten and fisher. 1. Establish and maintain 19 habitat management areas (HMAs) for marten and 5 HMAs for fisher. 2. In each marten HMA, maintain 2,100 acres of suitable habitat. Where 2,100 acres currently do not exist, manage the HMA to create it as soon as possible 3. In each fisher HMA, maintain approximately 9,800 acres of suitable habitat. Where 9,800 acres currently do not exist, manage the HMA to create it as soon as possible. 4. Corridors linking marten and fisher habitat management areas will be a minimum 600 feet wide horizontal distance. 5. Manage habitat areas by applying the Standards and Guidelines in the L Prescription. These Standards and Guidelines are based, in part, on current habitat capability models found in Appendix 0 6. Conduct no scheduled timber harvesting in marten and fisher HMA's Determine the suitability of thinning or salvage harvesting through the NEPA process and a biological evaluation to insure that the quality of habitat is maintained or enhanced. 7. No new roads will be constructed in marten or fisher management areas until a biological evaluation determines that they will not degrade habitat quality for these species. 8. New management activities will not be permitted in habitat management areas unless supported by a biological evaluation. 9. Establish the location of HMA's by December 1992, pending additional management direction and field review of tentatively selected areas. 10. Use biological and silvicultural expertise in developing habitat management plans for each HMA, if needed for management activities to occur. d. Create desirable habitat size, shape, and distribution to provide both forage and cover for deer populations. 1. Maintain summer range to provide at least 20 percent forage and 20 percent thermal cover in 500 to 1,000 acre blocks See Glossary for definition of hiding and thermal cover. 2. Timber harvesting, thinning or biomass operations should provide hiding and thermal cover in all treatment areas as specified in the habitat capability model in Appendix 0. 3. A restricted operating period may be imposed in identified deer fawning areas.
5) Plumas (1988)	
Recreation (p. 4-23 – 4-26)	Trails. Restrict trail use according to Appendix 0, PNF trails by allowable use. Maintain these trails. On the Pacific Crest Trail; prohibit ORV use. Off Road Vehicles. Allow ORV use except where a) use is prohibited by law or b) use is incompatible with the c) management of other resources, d) resource damage is likely, e) rights of way are insufficient, f) lands are designated administrative or developed recreation sites. Restricted acreages are summarized in Table 45 and shown on the accompanying Off Road Vehicle closure map. Cooperate with the State, other agencies, and user groups to identify, and where compatible with Forest Plan management objectives, develop segments of trail that supports the concept of a statewide trail system connecting use areas and providing the opportunity for long distance trail touring.

Table 1. USFS Forest-wide Standards and Guidelines Relevant to the OSV Program	
	Cooperate with the State, other agencies, and user groups to identify, and where compatible with Forest Plan management objectives, develop segments of trail that supports the concept of a statewide trail system connecting use areas and providing the opportunity for long distance trail touring.
Wildlife, Fish and Sensitive Plants (p. 4-30 – 4-34)	Diversity. To the extent possible obtain the cooperation and concurrence of DFG and other Forests in setting priorities, schedules, sampling standards, and agency tasks and responsibilities for management of selected wildlife, fish, and plant species and habitats. This will be accomplished on a priority basis. Establish strategies to: 1) document the vegetative and other characteristics of suitable habitat for the selected species: 2) yield estimates of population(s) density and/or habitat capability; and 3) measure the change in population(s) or habitat capability due to management practices. Meadow Ecotones. During project analysis, determine the need for and kinds and amounts of vegetation to be retained. Peregrine Falcon. Provide two nest sites within suitable peregrine falcon habitat for species reestablishment. Prairie Falcon, Osprey, Golden Eagles. Maintain suitability of occupied prairie falcon, osprey, and golden eagle nesting territories. Bald Eagle. Maintain and enhance the suitability of currently occupied nesting territories, and provide sufficient potential nesting, foraging, and winter habitat to meet recovery goals of the Pacific States Bald Eagle Recovery Plan. Apply Rx11 Bald Eagle Habitat Prescription. Spotted Owl. Within the existing range of spotted owls, establish a network of 54 habitat areas containing suitable breeding, roosting, and foraging habitat. Apply Rx12. Spotted Owl Habitat Prescription. Goshawk. Provide a network of 60 nest stands containing suitable breeding habitat. Apply Rx13**,** Goshawk Habitat Prescription. Sierra Red Fox, Wolverine, Marten, Greater Sandhill Crane, Great Gray Owl. and Willow Flycatcher. In cooperation with the DFG, conduct surveys for State listed species. At minimum, provide habitat sufficient to maintain existing populations. Sensitive and Special Interest Plants. Protect sensitive and special intersensitive plant species as needed to maintain viability. Inventory and monitor sensitive plant populations on a project by project basis. Develop species management guides to identify population goals and compatible management activities/prescriptions that will maintain viability. By 1992**,** complete species management guides for *Penstemon personatus*. Continue working on the Botanical Investigations for *Lupinus dalesiae* and *Vaccinium coccinium* and assess the need for a guide for these species. Develop a priority schedule for completion of other guides based upon funding, botanical expertise, and potential for adverse impact from other resource management activities. Deer. Implement cooperative FS/DFG deer herd plans. Establish habitat manipulation priority based on the habitat capacity targets and most limiting range components. Conduct habitat manipulation projects that modify openings and species composition to benefit deer. Modify site preparation and release practices accordingly. Provide additional black oak in addition to the ***"****Oak* and Other Hardwoods" standards where needed to achieve habitat objectives of deer herd plans: up to 35 sq. ft. basal area on summer range, intermediate range, and fall holding areas, and up to 30% canopy on winter range.
Riparian Areas (p. 4-39)	Favor riparian resources over other resources, except cultural resources in cases of conflict. Apply Rx9, Riparian Area Prescription. Also see standards and guidelines for "Water".
Water (p. 4-41 – 4-42)	Watershed Protection. In areas of over steepened slopes (over 60%*)* low effective ground cover density, and very high erosion potential or having a high risk of landslide, expose no more than 5% of the areas to bare mineral soil per decade. Modify these disturbance limits upon specialist recommendation on a case by case basis. Complete the Watershed Improvement Needs Inventory (WIN) and update annually by identifying all lands contributing to watershed degradation thru analysis of NFS watersheds on a priority basis

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	and by individual project assessment. Analyze and mitigate on a total watershed basis, not only on project areas. Cooperate with local, State, and Federal agencies as well as private land owners in long range watershed planning. Use an interdisciplinary approach. Analyze no larger than 3rd order watersheds or land units of similar size. At the project planning level, assess cumulative watershed impacts within 3rd order or smaller watersheds. If the cumulative disturbance is at or near a threshold of causing disproportionate damage, limit additional disturbance by deferring activities and/or by rehabilitation.
6) Tahoe (1990)	
Recreation (p. V19 – V22)	8. ROS Primitive: Motorized use within the area is not permitted. 9. ROS Semi-primitive Non-motorized: Public motorized use is not permitted. 10. ROS Semi-primitive Motorized: Public motorized use is permitted. Roads constructed and projects planned for resource utilization will strive to maintain the character of the ROS class. Following resource utilization. Roads will be closed to public use or put to bed unless the road meets a specific recreation use in keeping with the ROS class. Permitted use: motor driven ice and snow craft. 11. ROS Roaded Natural: Opportunities for both motorized and non-motorized forms of recreation are possible. Permitted use: motor driven ice and snow craft. 12. ROS Rural**:** Facilities for intensified motorized use and parking are available. Permitted use: motor driven ice and snow craft. 13. ROS Modern – Urban**:** Facilities for highly intensified motor use and parking are available with forms of mass transit often available to carry people throughout the site. Opportunities for competitive and spectator sports and for passive uses of highly human Influenced parks and open spaces are common. Permitted use: motor driven ice and snow craft.
Biodiversity Management (p. V26 – V28)	22. Fish and Wildlife Management Direction Bald Eagle. Manage nesting and wintering habitats for target populations as specified in the species recovery plan Adopt the Recovery Plan for the Northern Bald Eagle as the guide for management on the Forest. Lahontan Cutthroat Trout. In addition to the recommendations for the harvest species (Practice C2), restrict access to watersheds containing LCT to prevent illegal harvest and the introduction of competing species. Control beaver populations where their dams keep the fish from reaching spawning areas. Cooperate with the State to explore ways to introduce Lahontan into streams that are suitable for habitation. Follow the direction set forth in the federal management recovery plan. Spotted Owl. Manage habitats to provide and maintain at least 1,000 acres of suitable habitat in a forestwide network of spotted owl habitat areas (SOHAs) as described in the Regional Planning Guide (pages 415 to 4.22). Develop detailed management plans for each SOHA that describe methods for managing the habitat over time. Pine Marten, Fisher, and Sierra Nevada Red Fox. Immediately initiate development of a forestwide habitat management program for pine marten, fisher, and Sierra Nevada red fox. Develop the program as described in Appendix D. Using the best available habitat relationships data and management prescriptions. While the program is being developed, biological evaluations will describe appropriate measures needed to conserve candidate areas for furbearer habitat management The program will be comprised of the following elements: Identification of Areas for Habitat Management. Although home range size information has been determined for Sierra Nevada populations of pine marten. It has not been validated for the fisher. Therefore, to address maintenance of viable populations of pine marten and fisher, provide for the maintenance of suitable and optimum habitats that are well distributed throughout the range of the species across the Forest that will permit individuals of each species to interact throughout the planning area. Assume that managing for viable populations of pine marten and fisher will provide a suitable mix of habitat types to support viable populations of Sierra Nevada red fox. Coordinate habitat management with neighboring national forests and other adjacent lands. Where breaks in

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	suitable habitat exist, implement appropriate management to establish habitat linkages as quickly as possible. Seek cooperative habitat management on private lands where private lands are essential for achieving the Forest furbearer habitat management objectives. Suitable and optimum pine marten habitat is characterized by moderate to dense (40 to 100 percent) canopy closure, multistoried, conifer and hardwood-conifer forests Suitable and optimum habitats provide an average of 2 to 3 large (>24' DBH) snags or stumps and 10 to 20 large logs (>IS DBH X 15' long) per acre Managed habitats should be adjacent to meadows or riparian corridors and may extend 112 to 114 mile into upland areas. Managed marten habitats may provide scattered openings that measure 2 acres or smaller. Travel ways measuring at least 150 to 300feet wide will be provided to allow interaction between animals In managed sites. Suitable and optimum fisher habitat is characterized by dense (40 to 100 percent) canopy closure which includes multistoried, conifer and hardwood-conifer forests. Suitable and optimum habitats should provide an average of 2 to 5 large (>20' DBH) snags and 2 to 4 large logs (>20 DBH X 15' long) per acre. Managed habitats should include meadows or riparian corridors and may extend well (114 to 112 mile) into upland areas. Provide travel ways with at least 50 percent crown closure in saddles to allow interaction between animals in managed areas. Minimize construction of new roads and regulate public use of roads in managed habitats. Habitat Management. Develop and implement silvicultural practices to maintain or improve furbearer habitats. The practices will be cooperatively developed by wildlife biologists and silviculturists. Appropriate silvicultural practices will be determined for specific habitat areas through the project level environmental analyses process. Great Gray Owl. Retain or establish no less than 3 snags greater than 24 Inches DBH per acre within 5 yards of meadows 30 acres or larger. Erect perch poles in the meadows, one pole per 15 acres. Restrict access and disturbance during the breeding season. Goshawk. Establish a network of goshawk nesting territories at a density of at least one territory per 18 square miles of suitable habitat. In areas managed for goshawks, retain at least 50 acres of coniferous forest with trees averaging 21' DBH or larger and at least 40 percent canopy closure. Provide areas up to 120 acres in size where merging with Voss, spotted owls, and other management programs are practical. Restrict access and disturbance during the breeding season (1 March 30 July). Plant Management Direction. Prohibit collection of sensitive plant species except when authorized by the Regional Forester. Modify or exclude activities not compatible with survival of threatened or endangered species. When revegetating disturbed sites or making improvements in landscaping, require use of plant species native to the area or species approved for local use. Plan management activities to provide for the continued existence and or enhancement of sensitive plant species. Refer to the TNF Sensitive Plant Management Guidelines and the individual species management guides (as developed) for the management of individual sensitive species. Protect known populations of *Mahonia sonnei*. Artificially supplement natural propagation on natural habitat. Details of management are found in the species recovery plan. 27. Deer Habitat Management. Limit vehicle access on key deer winter ranges when deer are present. Also limit vehicle access In key summer range habitats during periods of migration and fawning. Retain or establish roadside screening along open roads in areas Important for migration, fawning, or concentrated seasonal use. 30. Meadow Edge Habitat A. *Definitions and Management Emphasis'* Meadow edges are forested areas not included in riparian areas and sizes that are important for cover end forage for wildlife species dependent on meadows and the adjacent forest edge. Generally, the following edge measurements are thought to be the most Important for wildlife; 1) meadows 10 acres or larger and their adjacent 100 feet, and 2) meadows 0.1 to 0.9 acre in size and their adjacent 25 to 75 feet. *Direction For Management of Meadow Edges* Manage vegetation in and around meadows to meet the needs of the associated mountain meadow wildlife management indicator species: Overall goals are to 1) protect or enhance aspen, willow, alder, and other riparian vegetation, 2) Maintain habitat diversity at the meadow edge, and 3) provide sufficient snag densities. For meadows 10 acres and larger; provide vegetative structure. In the meadow edges that are consistent with the habitat needs of the associated management indicator species, desired habitat

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	objectives for meadow edges will be identified by a wildlife biologist. For meadows under 1.0 acre, management decisions will be made at the project level. Locate new landings away from meadow edges. Minimize damage to residual vegetation by controlling skid road location and practicing directional felling within meadow edges. Locate roads away from meadow edges where alternative routes ere available. Prohibit skiing in the meadow edge.
Watershed Management (p. V34)	46. Riparian Area/Perennial SMZ Management. *A. Definitions and Management Emphasis.* 1. Riparian areas are defined as (1) areas within 100foot horizontal distance from the edge of standing bodies of water: (2) areas within 100foot horizontal distance of perennial stream channels: and (3) all wetlands The width will be greater than 100 feet where needed to include the area that is recognizably dominated by riparian vegetation. 2. Streamside Management Zones (SMZs) are administratively designated zones adjacent to perennial, intermittent, and in some cases ephemeral streams. Special management practices must be used within and on nearby lands in order to maintain or improve watershed resources (e g, water quality, channel stability). SMZs may include wetlands, floodplains, and riparian areas. Inner gorges, perennial streams, intermittent streams, ephemeral streams, and the terrestrial ecosystem adjacent to these areas. *B. General Direction For Management of Riparian Areas and Perennial SMZs.* The following direction will be used to implement BMPs 18 (SMZ Designation) and 73 (Protection of Wetlands). This direction must be used concurrent with Forest S&G 30 (Water Quality Protection). FSM 2526, FSM 2530, FSH 2509 22 (Chapters 30 and 40) and the Forest Riparian Area SMZ Guides (Forest Plan Appendix F). 1. Variable width SMZs adjacent to perennial streams and lakes (including the 1 foot riparian zone) will be managed so that riparian dependent resources (water, fish, wildlife, riparian related aesthetics, and riparian related vegetation) take precedence over non-riparian related resources such as timber, grazing, mining, structures, and transportation. Where there is a conflict, it will be resolved in favor of the riparian dependent resource. The riparian dependent resource that is most limiting will dictate the amount of activity allowed in riparian area perennial SMZs. 2. Vary perennial SMZ widths (minimum 1Wfeet) by taking into account stream class, channel stability, side slope stability, flow characteristics, inner gorges, very high EHR's, and extent of existing effective ground cover (EGC). 3. To maintain suitable water temperatures for coldwater fisheries, manage vegetation along perennial streams to provide a minimum of 80 percent of the maximum July shade potential. Case by case variance from this may be allowed where all riparian dependent resource goals can be maintained. 4. Management intensity is low and minimal yields are scheduled from this zone. 47. Intermittent/Ephemeral SMZ Management. *A. Definition and Management Emphasis Streamside Management Zones (SMZs)* are administratively designated zones adjacent to perennial, intermittent, and in some cases ephemeral streams Special management practices must be used within and on nearby lands in order to maintain or improve watershed resources (e g. water quality, channel stability) SMZs may include wetlands, floodplains, riparian areas, inner gorges, perennial streams, intermittent streams, ephemeral streams, and the terrestrial ecosystem adjacent to these areas. *B. General Direction For Management of Intermittent and Ephemeral SMZs*. The following direction will be used to implement BMPs 18 (SMZ Designation) and 73 (Protection of Wetlands) This direction must be used concurrent with Forest S&G 30 (Water Quality Protection). FSM 2526, FSM 2530, FSH 2509 22 (Chapters 30 and 40) and the Forest Riparian Area SMZ Guides (Forest Plan Appendix F). 1. Vary SMZ widths by taking into account stream class, channel stability, side slope stability, flow characteristics, inner gorges, very high EHR's, and extent of existing SMZ effective ground cover (EGC). 2. Maintain the minimum EGC in Class I and II intermittent SMZs. 3. Regarding Class 111 and IV intermittents and all ephemerals, either retain the minimum SMZ EGC or include these streamside areas in harvest unit wide ground cover

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	goals as stated in S&G 55 (Maintain Soil Productivity).
Recreation Goals (p. V5 – V6)	Generally, the Forest will be open to OHV use. Closures or restrictions will occur where there is obvious conflict with other uses or where natural resource damage will occur. The following areas will be closed yearlong or seasonally to motorized use, including OHVs: Roads and trails closed by sign, gate, or barricade, including earthen barricades extending the width of the road. • Where it is necessary to remove obstacles such as rocks, logs, or soil, or where there would be damage to vegetation. • Developed recreation sites (except for routes to and from parking facilities). • Key wildlife habitats such as winter range, fawning, and nesting sites (OHV use on designated routes only). • Rights of way for electrical transmission lines, pipelines, or telephone lines (unless authorized by permit). • Riparian zones, unless OHV travel is specifically designated by a Forest Officer. • Timber plantations where trees are less than 10 feet tail. • Granite Chief Wilderness. • Areas and trails managed for non-motorized recreation uses. • Areas with highly erodible soils.
7) Eldorado (1988)	
Recreation (p. 4-74 – 4-81)	2. Recreation Opportunity Spectrum Primitive (P). Motorized vehicle use is prohibited. Recreation development would not be provided. 3. Recreation Opportunity Semi-primitive Non-motorized (SPN). Motorized use is normally prohibited. Recreation would be level 1 or two sites per acre. 4. Recreation Opportunity Semi-primitive Motorized (SPM). Motorized use is permitted and access roads to facilitate resource management shall be Maintenance level I and II local roads.
Off Road Vehicle Management (p. 4-82 – 4-85)	26. Open Off Road Vehicle Management. ORV use will generally be restricted within ½ mile of existing residences. It is recognized that this will not be feasible in all cases because of intermingled private lands and physical characteristics of the land. Therefore, the SPreD calculations will be used to establish appropriate distances from existing residences. Seasonal ORV closures, within critical deer winter range, may be established after thorough analysis and approval of deer herd management plans. Critical winter range will be as defined in the approved deer herd management plans. Over snow travel will be permitted in designated open areas when there is 12 inches of snow or more and no ground contact is made. 27. Restricted Off Road Vehicle Management. In each deer herd winter range and fawning areas, motorized trails will be limited to an average of 2.5 miles per square mile. Open roads will be limited to an average of 2.5 miles per square mile. In critical deer winter range, seasonal ORV closures may be established after thorough analysis and approval of deer herd management plans. Critical winter range will be as defined in the approved deer herd management plans. 28. Closed Off Road Vehicle Management. Primitive, semi primitive non-motorized areas, the Pacific Crest Trail, and wilderness will be closed to motorized vehicles. (See specific Management Area direction for other closures and restrictions). Temporary use of closed areas may be authorized by Special Use Permit. ORV travel and mountain bicycle use may be restricted in specific areas by Forest Supervisor order.
Wildlife and Fish (p. 4-85)	41. Early/Mid Successional Stage Management. At a minimum, maintain current deer herd population numbers by providing special consideration for winter range and deer fawning areas. Adhere to the habitat capability models available for early/mid successional stage indicator species. Apply recommendations presented in approved deer herd management plans. Forage to cover rations will be 40 to 60 with 2030 percent in mature conifer and 30

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	to 40 percent in most producing oaks in key winter ranges.
Water Resource Management (p. 4-98 – 4-99)	Identify Best Management Practices (BMP) needed to protect water quality during project assessment and design. BMPs will be implemented to meet water quality objectives and maintain and improve the quality of surface water on the Forest. Methods and techniques for applying the BMP will be identified during project level environmental assessments and incorporated into the associated project plan and implementation documents. Correct water quality problems identified in Watershed Improvement (WIN) inventory and Eldorado National Forest problem assessment, Section II, Best Management Practices Book.
Maintenance Levels – Roads (p. 4-112)	107 Trail Construction and Reconstruction – Special Purpose Separate conventional bicycle trails from other uses except when incorporated into selected roads. Over the snow trails will normally be installed, signed and maintained by Special Use Permittees.
8) Stanislaus (2005)	
Air Quality (p. 33)	Air Resource and Inventory 1. Class I air sheds Identify, inventory and monitor air quality related values (AQRVs). This includes visibility, water quality and certain trees and lichens. 2. Class II air sheds. Identify, monitor and regulate any pollutants resulting from forest management activities. This includes road dust and wood smoke and vehicle emissions from areas of concentrated use.
Fish and Wildlife (p. 40 – 43)	Fish and Wildlife Habitat Administration (5A). Management practices will allow for medium to high quality habitat for management indicator species, where potential allows, according to current habitat capability models for these species. Ensure that habitat needs of sensitive species are considered and that habitat needs of Federally listed Threatened and Endangered species are met. Cooperate with the California Department of Fish and Game, U.S. Fish and Wildlife Service and other concerned agencies in the preparation and implementation of Federal and State Endangered Species recovery plans, the California Fish and Wildlife Management Plan (Sikes Act) and other species habitat plans. Stream and Lake Fisheries – Non-Structural Improvements and Maintenance (5C). Maintain high water quality values in accordance with the Standards and Guidelines for watershed. Retain streamside vegetation so that at least 60% of the stream surface is shaded from 11 AM to 4 PM from June 1 to September 30 to maintain water temperatures at less than 65 degrees for those perennial streams which do not normally exceed this temperature. Habitat Connectivity for Old Forest Associated Species (5E) SNFPA. Minimize old forest habitat fragmentation. Assess potential impacts of fragmentation on old forest associated species (particularly fisher and marten) in biological evaluations. Assess the potential impact of projects on the connectivity of habitat for old forest associated species. Consider retaining forested linkages (with canopy cover greater than 40 percent) that are interconnected via riparian areas and ridge top saddles during project level analysis. If fishers are detected outside the southern Sierra fisher conservation area, evaluate habitat conditions and implement appropriate mitigation measures to retain suitable habitat within the estimated home range. Institute project level surveys over the appropriate area, as determined by an interdisciplinary team. Identify areas for acquisition, exchange, or conservation easements to enhance connectivity of habitat for old forest associated species. Wolverine and Sierra Nevada Red Fox Detections (5E) SNFPA. Detection of a wolverine or Sierra Nevada red fox will be validated by a forest carnivore specialist. When verified sightings occur, conduct an analysis to determine if activities within 5 miles of the detection have a potential to affect the species. If necessary, apply a limited operating period from January 1 to June 30 to avoid adverse impacts to potential breeding. Evaluate activities for a 2year period for detections not associated with a den site. Recovery Species Management (5L). Maintain information on the status and known locations of all species which are candidates or proposed for Federal listing as

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	Threatened or Endangered. Conduct a Biological Evaluation for any project which may affect a species proposed for Federal listing. Modify or mitigate projects where necessary to avoid adverse impacts to habitats for species which are candidates or proposed for Federal listing. Lahontan Cutthroat Trout (5L). Follow the management guidelines of the Forest Lahontan Cutthroat Trout Habitat Management Plan (1985) and the State of California's recovery plan (1986). Meet the Standards and Guidelines for resident trout. Maintain high water quality values and maintain or restore the integrity of riparian habitat in accordance with the Standards and Guidelines given under Watershed.
Recreation (p. 50 – 55)	Motor Vehicle Travel Management (10G) MVTM Motor Vehicle Travel Management applies Forestwide. Every acre of National Forest treated by this Forest Plan fits into either the Closed or Restricted categories as shown below. *2. Restricted Motor Vehicle Travel Management* B. Resource Setting *3. Fish and Wildlife:* Follow Forestwide Standards and Guidelines for Fish and Wildlife. In addition: a. The wildlife areas (See Wildlife Maps) subject to special management are: 1. Peregrine Falcon (not on Forest Plan Maps) a. Implement a limited operating period (LOP), from February 1 through July 31, on all peregrine falcon territories active within the preceding five years, for at least 0.5 miles from the nest. 1. Restrict motor vehicle activities and new road construction; during this LOP, according to a management plan for the area. b. Prohibit new motor vehicle activity within 200 feet of lake shorelines that are used by peregrine falcons. 2. Bald Eagle. a. Within Designated Territories (delineated bald eagle management areas, or additional territories, based on nesting occupancy): 1. Implement a LOP, from January 1 through August 31. a. Apply LOP restrictions to motor vehicle activities on level 1 roads and OHV routes open to the general public. 2. Prohibit new motor vehicle activity in wetlands, streamside management zones, and within 200 feet of lake shorelines that are used by bald eagles. b. Outside Designated Territories (new active bald eagle nests outside of designated management territories): 1. From January 1 through August 31, implement the following restrictions in a buffer area around the nest for a distance determined by the Wildlife Biologist on a site specific basis. a. Reroute existing OHV use to routes at a safe distance from the nest. b. Close or detour existing roads in the proximity of the nest site. c. Prohibit motor vehicle activities in the roost area. 4. Spotted Owl, Fisher, Marten, Goshawk, Great Gray Owl, And Western Pond Turtle. a. Active nests of sensitive raptors not otherwise protected in specified management areas (not on Forest Plan Maps): 1. Provide special measures to protect nests discovered close to motorized trails or 4WD routes where needed for nesting success. b. Within Fisher/Marten reproductive areas in Forest Plan Near Natural and Wildlife management areas (see Forest Plan Wildlife Maps). 1. Construct new roads or trails or use existing off road routes for motorized vehicles only where compatible with the road/trail density standards below, and where approved in the fisher/marten area management plan. 5. Early Successional Species. (Mule deer and associates) a. Deer winter concentration areas or critical winter deer range may be closed to motorized use from

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	11/15 to 4/15. b. Deer summer concentration areas or critical summer deer range may be closed to motorized use from 4/15 to 8/1. c. Conduct surveys, observe conditions and carry out rehabilitation, as needed, to mitigate and minimize conflicts with fish and wildlife caused by motorized use. *5. Recreation*: Follow Forestwide Standards and Guidelines (as amended) for Recreation. In addition: b. Designated Routes: include roads, routes and trails as described below. If resource damage or irresolvable conflicts are likely, the route should be repaired, relocated or closed. Designated routes may be installed, signed and maintained by Special Use Permittees. 2. Over Snow: include Wheeled Over Snow (WOS) routes and Over Snow Vehicle (OSV) routes as described below. a. Designated WOS Routes: include surfaced roads and other routes which are open for WOS use by ATVs. b. Designated OSV Routes: include roads, routes and trails which are open to motorized use. Cross-country over snow travel, by vehicles designed specifically for that purpose, will be permitted when there is 12 inches or more of snow and no contact is made with native soil or vegetation. e. Prepare California Backcountry Discovery Trail (CBDT) nominations after project level analysis and sign routes that are accepted by the California Department of Parks and Recreation. 1. Provide maps and other information on CBDT segments. Include information on segments open to OSV use and other similar OSV opportunities. f. Seek opportunities to increase OSV route grooming as additional non Forest Service funding is available. g. Conduct surveys, observe conditions and carry out rehabilitation, as needed, to mitigate and minimize conflicts with other recreationists caused by motorized use. 6. Riparian: Follow Forestwide Standards and Guidelines for Riparian. In addition: a. Conduct surveys, observe conditions and carry out rehabilitation, as needed, to mitigate and minimize damage to riparian areas caused by motorized use. 7. Sensitive Plants: Follow Forestwide Standards and Guidelines for Sensitive Plants. In addition: a. Protect sensitive plants from motorized activities which might cause the plants to become federally threatened or endangered. b. Conduct surveys, observe conditions and carry out rehabilitation, as needed, to mitigate and minimize damage to sensitive plants caused by motorized use. 8. Soils: Follow Forestwide Standards and Guidelines for Soils. In addition: a. Conduct surveys, observe conditions, and carry out rehabilitation, as needed, to mitigate and minimize soil loss caused by motorized use. 9. Special Areas: Follow Management Area Direction (as amended) for Special Interest Areas, Research Natural Areas, and Experimental Forest. In addition: a. Conduct surveys, observe conditions, and carry out rehabilitation, as needed, to mitigate and minimize damage to special area values caused by motorized use. 10. Transportation: Follow Forestwide Standards and Guidelines for Transportation. The existing direction to manage the road system to protect wildlife and riparian values also applies to OHV routes and OSV routes. In addition: a. Prohibit non-street legal vehicles on roads or routes not designated for OHV use. b. Consider closing to all motorized use those roughly graded roads that do not enhance motorized opportunities. c. Comply with the Highway Safety Act and prepare Combined Use orders as necessary. d. Utilize seasonal closures to protect road and route surfaces. e. Develop entrance strategies to discourage normal passenger vehicle travel on designated OHV routes. f. Conduct surveys, observe conditions and carry out rehabilitation, as needed, to mitigate and minimize traffic conflicts caused by motorized use. 11. Vegetation: Follow Forestwide Standards and Guidelines for Diversity. In addition:

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	a. Conduct surveys, observe conditions and carry out rehabilitation, as needed, to mitigate and minimize damage to vegetation caused by motorized use. 13. Water: Follow Forestwide Standards and Guidelines for Water. In addition: a. Conduct surveys, observe conditions, and carry out rehabilitation, as needed, to mitigate and minimize damage to water quality caused by motorized use. 15. Wilderness: Follow Management Area Direction (as amended) for Wilderness. In addition: a. Conduct surveys, observe conditions, and carry out rehabilitation, as needed, to eliminate evidence of, and access by, unauthorized motorized use. c. Management Setting: 1. Administration: b. Cross country over snow travel, by vehicles designed specifically for that purpose, is permitted when there is 12 inches or more of snow and no contact is made with native soil or vegetation. j. Provide consistent signing. 3. Over Snow: Forest roads, routes and trails are signed as described below. Designated WOS Routes: ATV symbol installed at access points from winter parking areas. Designated OSV Routes: snowmobile symbol installed at access points from winter parking areas. 4. Closed: Forest roads, routes and trails that are closed to motorized use are indicated by a. the presence of closed signs, gates or barriers. Trail Construction and Reconstruction – Special Purpose (10K) Separate bicycle trails from other uses except when incorporated into selected roads. Over snow trails may be installed, signed and maintained by special use Permittees.
Sensitive Plants (p. 57)	Sensitive Plants Interim and Recovery Management (12A). Protect sensitive plants from activities which might cause them to become Federally listed as Threatened or Endangered. Where projects may jeopardize a sensitive plant species perform a Biological Evaluation, botanical investigation and develop management guidelines, as necessary, for the species involved. Prepare species management guidelines for all sensitive species in order of the degree of risk posed by management activities. Conduct surveys and monitoring necessary to detect potentially damaging disturbances, changes in known populations and locations of new populations.
Soils (p. 57 – 58)	Best Management Practices. (BMPs) Implement BMPs to mitigate the environmental impacts of erosion, compaction, and soil displacement. Require special soil mitigation to use ground skidding equipment on slopes steeper than 35%. Require special soil mitigation to use ground skidding equipment on soils that erode, displace, or compact easily. Where actual or potential slope instability is identified, specific mitigating measures will be developed by an interdisciplinary team including a geologist.
Water (p. 61)	Water Quality Management (18A). Implement water quality Best Management Practices (BMPs) as needed for all Forest management activities. BMPs are a system of nearly 100 practices designed to minimize or prevent water pollution from Forest management activities. They cover such activities as timber harvest, road construction, mining, recreation, fire management and grazing. See Appendix K of the EIS for a discussion and listing of the water quality BMPs. Monitor the implementation and effectiveness of BMPs in selected areas to determine if they are being carried out and if they are accomplishing their objectives. Analyze cumulative watershed effects (CWE) on all applicable proposed Forest management activities to determine offsite effects on the beneficial uses of water.
9) Inyo (1988)	
Facilities (p. 78)	Provide trails for hikers, skiers, equestrians, bicyclists, snowmobilers, the handicapped, and off highway vehicle users when compatible with user needs, level of development, and Forest goals and objectives. Utilize existing developed facilities, roads, and trails for both summer and winter recreation activities, whenever possible, before developing new ones for exclusive seasonal use.

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Fish (p.78 – 79)	Threatened and Endangered Fish. Manage all stream reaches of essential habitat as depicted in the Recovery Plan to the following guidelines in consultation with the U.S. Fish and Wildlife Service. 1. Do not allow any activity that results in more than 10 percent degradation of the habitat within any given stream reach; this conclusion must be supported by data that results from the use of a quantitative survey methodology such as GAWS, COWFISH, etc. 2. Restore unstable or eroding stream banks to attain a stream bank system that is no more than 10 percent unstable at any given time. 3. Restore vegetation adjacent to perennial streams that affords stream shading and stream bank stability. Fisheries. Prohibit Stream modifying construction activities within or immediately adjacent to the aquatic zone during the following spawning seasons: 1. In streams with spring spawning species (rainbow, cutthroat, and golden trout) (February 15August 20); 2. In streams with fall spawning species (brown and brook trout), Exceptions to (1) and (2) above must be approved by the Forest Supervisor. Design stream crossings to accommodate fish passage where proposed roads and trails will cross streams that support active or potential fisheries.
Recreation (p. 88)	Allow OSV use off roads and trails unless restricted by the winter motor vehicle map. When necessary, close critical wildlife and fish habitat to OHV/OSV use. Designate OHV/OSV trails and open areas to minimize conflicts with existing or potential developed recreation sites, private property, special uses, adjacent wilderness, administrative areas, cultural areas, riparian areas, key wildlife habitat, and sensitive watershed areas. Permit OSV use only when there is sufficient snow cover to protect the soil and vegetative resources.
Riparian (p. 89)	Relocate existing roads, trails, and campsites outside riparian areas where necessary to eliminate or reduce unacceptable deterioration of riparian dependent resources. Rehabilitate and/or fence riparian areas that consistently show resource damage from any cause if conflicts cannot be resolved. Prohibit new locations of equipment staging areas in riparian zones. Phase out existing staging areas that have adverse effects on these zones. Delineate and evaluate riparian areas before implementing any planned management activity.
Sensitive Plants (p. 91)	Complete inventories of project sites and areas of disturbance if there is potential habitat or known population locations are identified. The reporting procedures for this process will be outlined in the Sensitive Plant Program Management Plan for the Forest.
Timber (p. 92, 93)	Timber sale contracts will make provision for access across timber haul roads for officially designated Nordic and snowmobile trails. Close or, where possible, obliterate unneeded roads to preclude resource conflicts, while considering OHV opportunities.
Watershed (p. 95)	Soils. Require an interdisciplinary review to avoid or mitigate adverse impacts for any projects or activities proposed in areas identified in the soil resource inventories as having an erosion hazard of nine or greater. Water. Implement Best Management Practices (BMPs) to meet water quality objectives and maintain and improve the quality of surface water on the Forest. Identify methods and techniques for applying BMPs during project level environmental analysis and incorporate into the associated project plan and implementation documents.
10) Sierra (1991)	
4.5.2.1 Recreation (p. 4-12 – 4-13)	17. Except for over snow vehicles, allow no cross country OHV travel. Designate additional OHV routes in areas where cross country travel was previously allowed. Open all Maintenance Level 1 and 2 roads for OHV use unless designated closed. Maintenance Level 3, 4 and 5 roads are closed to unlicensed OHV use unless designated as a confirmed use road. Designate those trails where motor bike use will be allowed. Restrict *snowmobile* use to designated routes in snow play areas, along major highways, within major developed recreation areas, and in popular cross country ski areas. 18. Provide protection and retainment of trails and OHV routes when land disturbing activities are planned.

Table 1. USFS Forest-wide Standards and Guidelines Relevant to the OSV Program	
	19. Provide parking and sanitation facilities for snow play, snowmobiling and cross country ski areas. 20. Limit recreational events involving motorized vehicles to established or approved routes. Approve *other* types of events on a case by case basis, all to be authorized by special use permit.
4.5.2.5 Fish, Wildlife and Sensitive Plants (p. 4-14 – 4-17)	33. Generally, riparian management areas will extend 100 feet horizontally from the edge of perennial streams, lakes and reservoirs, except along those streams designated as essential habitat in the Interagency agreement for *Collomia rawsoniana*, where the zone will be 150 feet. 46. Keep vehicle travel at low levels in deer winter ranges 2, 5, 6 and 7 from December 1 through April. (See Wildlife Element Map) 47. In key wildlife areas, regulate road use through seasonal or permanent closures. Do not close roads needed for permanent public use. (See Wildlife Element Map) 48. In key deer areas, reduce disturbance from normal traffic by leaving a screen of vegetation immediately adjacent to maintenance Level III, IV and V roads, where feasible and practical. Where screening does not *exist* or when existing screening cannot be protected during routine management activities, carryout subsequent management in a manner that will not impede the development of adequate screening. 53. Protect nests and dens of all sensitive wildlife species until young are gone. Arrange harvest units and other management activities to preserve nests and dens. 54. Protect Forest's six identified superior nest sites for peregrine falcons. 55. Protect important roost trees and feeding areas for wintering bald eagles at Shaver, Redinger, and Bass Lakes, and Pie Flat Reservoir. 56. No new management activities will be approved within goshawk nest site areas until a Forest Goshawk Network is approved. Nest site areas may encompass up to 50 acres of suitable goshawk habitat. Occupied nest sites found within areas where management activities have already been authorized shall be protected as described in S&G #53. 57. Provide 24 California spotted owl habitat areas (SOW) outside wilderness areas, each with at least 1,000 acres of suitable core habitat and 650 acres of replacement. Prior to approving new management activities within the 4,500 acre circle, as depicted on the spotted owl conservation element map, an analysis will be prepared and a SOHA plan written to identify the 1,030 acres of base habitat and 650 acres of replacement habitat. 58. Manage marten and fisher habitat management areas with the goal of maintaining sufficient amounts of habitat and habitat characteristics that contribute to the viability of these species. Validate assumptions of the Regional literature review as modified to meet Sierra National Forest conditions. Use information from research, administrative studies and monitoring to improve management for the maintenance of marten and fisher in coordination with California Department of Fish and Game. 59. Continue existing Forest uses in marten and fisher management areas when such activity will not directly or indirectly preclude use of the areas by marten and fisher. 61. Prepare biological evaluations for proposed new activities in management areas with the objectives of maintaining sufficient amounts and distribution of marten and fisher habitat and habitat characteristics to contribute to a viable population and sustain the health and vigor of timber stands. Based on the biological evaluation and environmental analysis, utilize timber harvest practices such as salvage, sanitation, individual tree and group selection that meet these stated objectives. 62. For connectivity, manage a minimum of 600 foot wide trail ways, identified and mapped, to provide linkage between marten and fisher habitat management areas. Continue existing Forest uses in and adjacent to travel ways. Allow new management activities in travel ways when they do not directly or indirectly preclude use by marten and fisher as determined by a biological survey. 63. Manage all marten and fisher reproductive sites located outside designated habitat management areas, to retain suitable habitat attributes. Include 120 acres of suitable habitat if adjacent to mature timber stands or 500 acres if adjacent to open canopy areas.

Table 1. USFS Forest-wide Standards and Guidelines Relevant to the OSV Program	
	Identify recommended acreage and habitat conditions utilizing the biological evaluation process. The biological evaluation should analyze; a) whether to move habitat management area boundaries to incorporate known marten and fisher reproduction sites, or b) modify the boundaries of the seven identified habitat management areas to accommodate the use of suitable habitat, keeping acres managed for furbearers constant. Permit no new management activities in any reproductive site that will preclude use of the area by marten and fisher for reproduction, as evaluated in a biological evaluation. 67. Develop sensitive plant species management guides to identify population goals and compatible management activities that will maintain viability. 68. Manage sensitive plant species to avoid future listing as threatened and endangered. Ensure maintenance of genetic and geographic diversity and viable populations.
4.5.2.5 Riparian (p. 4-17 – 4-18)	69. Give primary management emphasis in riparian areas to protect and enhance the riparian ecosystem, riparian vegetation, water quality, soils, fish, and wildlife resources. 70. Riparian area protection and Streamside Management Zone determination will be based on methods described in FSH 2505.22, Sierra Supplement 1 which gives specific direction for width determinations. 71. In the absence of onsite riparian area protective width determinations, riparian areas will extend 100 feet horizontally from the edge of perennial streams, lakes and reservoirs. Deviations resulting from onsite evaluations will be documented in project environmental assessments. 72. When onsite project evaluations identify the need to afford protection to intermittent and or ephemeral drainages, the protection zone widths will be defined in accordance with the Forest Streamside Management Zone determination process as described in the FSH 2509.22, Sierra Supplement 1. 75. Maintain or enhance productivity of Forest meadows to accommodate wildlife and range resources. 76. In stream reaches occupied by fish, any activity that results in trampling and chiseling of stream bed should not exceed 20% of any given stream reach. Controls such as rerouting trails, relocating dispersed campsites, and/or fencing of areas will be used to manage activities and improve riparian conditions in identified areas not meeting this standard. 79. When existing routes through riparian areas and meadows are not compatible with riparian dependent resources, consider rerouting.
4.5.2.11 Soil and Water (p. 4-20 – 4-21)	120. Preclude the impacts of cumulative watershed effects by applying appropriate BMP and mitigation measures during project implementation. Utilize regional CWE methodology when refined for application within the Forest to assess each project for potential to incur cumulative effects. 122. Improve water quality and protect soil productivity by restoring deteriorated watersheds on the basis of economic efficiency and severity of problem and its impact on downstream beneficial uses.
4.5.2.12 Cultural Resources (p. 4-24)	194. Pending completion of forestwide inventory and evaluation, conduct a cultural resource survey adequate to make a determination of effect in all areas where land disturbance activities are planned, pursuant to 36 CFR 800. 200. Plan Forest projects so impacts to significant cultural resource sites are avoided or develop appropriate and adequate mitigation plans where impacts are unavoidable.
11) Sequoia (1988)	
Recreation (p. 4-20)	Winter Snow Dispersed Recreation. Permit both wheeled ATV's and tracked over snow vehicles to travel cross country on snow throughout the Sequoia National Forest except where closed by law (wilderness and PCT) or by Forest Supervisor order to prevent resource damage, facility damage and/or user conflicts. Manage over snow vehicles and cross country ski opportunities recognizing the need for segregating conflicting uses.

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	Explore development of commercial opportunities such as overnight/hut system for winter activities. Undertake a planning effort to identify the specifics of winter recreation activities including motorized and non-motorized uses.
(p. 4-27)	Minimize resource and air quality impacts from air pollutants generated by management activities through use of the following control measures: b) Conduct an air quality analysis for all projects that may impair air quality to determine impacts, mitigations, and/or controls. Coordinate management activities that potentially impact the air quality of adjacent Class I areas and military facilities with the responsible agency (i.e., Sequoia and Kings Canyon National Parks, Edwards Air Force Base and China Lake Naval Weapons Center).
Fish, Wildlife and Plants (p. 4-27 – 4-33)	General. Maintain habitat to insure all native fish, wildlife, and plant species will have adequate population levels and distribution to provide for their continued existence throughout their current range. Follow recovery and management plans for the following species: California condor, peregrine falcon, bald eagle, Little Kern golden trout. Emphasize habitat management for wildlife species that utilize riparian, hardwood, snags, and down log habitats. Fish, Wildlife and Plant Habitat Coordination. Protect sensitive, proposed for listing, and California species of special concern with the long term objective for removal from Federal listing or to prevent them from being listed. Participate, when requested, with the Regional Office, the US Department of Fish and Wildlife Service, and the California Department of Fish and Game in the development of recovery or management plans for species listed in Chapter 3. Section c.8 of the Plan (i.e., Table 3.5; and subsection, Sensitive Plants). Restore and enhance fisheries habitat through implementation of "Rise to the Future" (an action plan for the National Forest fisheries program). Old growth Habitat. Provide habitat for wildlife species associated with late successional and old growth forest stands by retaining five percent of old growth outside of riparian area habitats, well dispersed over the Forest. Maintain a network of 40 Spotted Owl Habitat Areas. Manage 1,000 acres of suitable habitat plus approximately 650 acres of replacement habitat for each network site using a "No Scheduled Timber Harvest" prescription. Manage according to the Regional Spotted Owl Guidelines, Appendix H. See the SOHA location map for the general location of the existing and replacement acres associated with each network site. In the event of future network adjustments. areas for which existing habitat and/or replacement acres have not been identified will receive no vegetation management that might be detrimental to spotted owl habitat within a 1.5 mile radius of the nest or center of the core area until existing and replacement acres have been identified, mapped, and verified on the ground. Activities within the network spotted owl habitat acres will not occur until a spotted owl management plan has been prepared, approved, and signed by the Forest Supervisor. Include in spotted owl management plans on the Sequoia: a) Mapping and field verification of existing suitable habitat and specific replacement stands within a 1.5 mile radius of the nest or the center' of the core area; specification of the composition and percent makeup of vegetation components to be managed. b) Direction for other resource management or uses such that they will be compatible with the primary objective of maintaining habitat for a reproductive pair of spotted owls at the site. c) Direction, if appropriate, about the amount and frequency of vegetation manipulation that will be permitted/needed for the purpose of maintaining or enhancing habitat conditions for the spotted owls. Maintain goshawk habitat according to LMP direction in the Regional Guide. Provide a total of 1,050 acres of habitat for at least 21 pairs. Riparian Areas. Within riparian area, protect stream courses and adjacent vegetation to maintain or improve overall wildlife and fish habitat, water quality, and recreational opportunities. Give preferential consideration to riparian area dependent resources over

Table 1. USFS Forest-wide Standards and Guidelines Relevant to the OSV Program	
	other nondependent resources in case of irresolvable conflicts. Delineate and evaluate riparian areas prior to implementing any project activity. Monitor the effectiveness of the Sequoia National Forest's Riparian Standards and Guidelines. Meadows. Maintain or enhance all meadows. Consider meadows smaller than two acres as part of the riparian areas. Develop Meadow Management Standards and Guidelines. Sensitive Plants. Manage sensitive plants to prevent the need for Federal listing as threatened and endangered. Conserve all sensitive plants on the Regional Forester's Sensitive Plant List (Chapter 3. Section 8, Fisheries, Wildlife and Sensitive Plants of the Plan).
Soil and Water (p. 4-35)	Identify areas of watershed damage and abandoned roads. These areas will be added to the Watershed Improvement Needs (WIN) program for rehabilitation. Water quality improvement will receive first priority, followed by priorities established by the management prescriptions. Utilize the Sequoia NF Cumulative Watershed Effects (CWE) methodology for application within the Forest to assess each project for potentials to incur cumulative effects. Secure water rights annually for existing and foreseeable future Forest consumptive uses following appropriate Federal and State filing procedures. Protect water quality and soil productivity through the implementation of Best Management Practices (BMPs) in accordance with the most current version of "Water Quality Management for National Forest System Lands in California." Determine methods and techniques for applying the BMPs at the project level and identify in the associated project documents and plans. (See Appendix Q in FEIS.) Utilize administrative studies on small watersheds to evaluate water yield improvement in cooperation with other agencies. Conduct management actions within or in proximity to floodplains, wetlands, and riparian area to comply with E.O. 11990 and E.O. 11988 requirements, processes and procedures. Manage to maintain long term soil productivity.

APPENDIX D

Table 2. USFS Management Prescriptions and Management Area Standards and Guidelines Relevant to OSV Program

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1) Klamath (2007)	
Research Natural Areas (p. 4-68)	Recreation. *MA1-9* Close these areas to OHV use.
Wilderness Areas (p 4-71 – 4-75)	Water. *MA2-11* Do not alter or manipulate watersheds to increase water quantity, water quality, or timing of discharge, except as provided for in section 4(d)(4) of the Wilderness Act. Recreation. *MA2-24* Motorized and non-motorized recreational use shall be consistent with the 1964 Wilderness Act.
Butte Valley National Grassland (p 4-80 – 4-81)	Recreation Management. *MA4-5* Manage recreational settings to generally achieve semi-primitive motorized or roaded natural conditions.
Special Habitat (p 4-82 – 4-94)	Late Successional Reserves (LSRs). *Management Assessment for Late-Successional Reserves*. Projects and activities within LSRs (including restoration, recreation, projects for public safety, thinning and salvage) may proceed in FYs 1994-96 using initial LSR assessments done at a level of detail sufficient to assess whether the activities are consistent with the objectives of the LSRs. Biological Diversity. *MA5-4* Activities should be evaluated by local interdisciplinary teams and appropriate guidelines should be written and documented. Activities deemed to have potentially adverse effects on LSR objectives are subject to review of the Regional Ecosystem Office. The Regional Ecosystem Office may develop additional criteria for exempting some additional activities from review. Recreation. *MA5-17* Manage recreational settings to generally achieve semi-primitive or roaded natural ROS conditions. Bald Eagle. *Recreation Management*. *MA5-48* Develop no new recreation sites in nest protection areas or in eastside winter roost protection areas. Exceptions may occur along Westside winter roost areas if they pose no conflict with wintering birds. *MA5-49* Direct dispersed recreational activities away from nesting and roosting habitat. *MA5-50* Maintain the existing developed recreation sites, trails or other existing facilities. *MA5-51* Manage recreational settings to generally achieve semi-primitive or roaded natural ROS conditions. Peregrine Falcon. *Recreation Management. MA5-65* Develop no new recreation sites in nest protection areas. *MA5-66* Dispersed recreation activities should be directed away from nesting and foraging habitat. *MA5-67* Maintain the existing developed recreation sites, trails or other existing facilities. *MA5-68* Manage recreational settings to generally achieve semi-primitive or roaded natural ROS conditions.
Managed Wildlife Area (p. 4-95 – 4-96)	Wildlife Management. *MA6-3* Minimize the potential for disturbance during critical periods through delineation of a disturbance zone around known fisher den sites. Impose disturbance restrictions around active den sites between February 1 and May 31. Recreation Management. *MA6-6* Manage recreational settings to generally achieve semi-primitive or roaded natural ROS conditions.
Special Interest Areas (p. 4-97 – 4-100)	General. *MA7-1* FSM 2360 and the Forest Plan shall provide the general management direction for SIAs. Project developments within each SIA will be provided in individual implementation strategies, which should be completed during this planning period (FSM 2372).

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	Recreation Management. *MA7-7* Develop recreational use that is compatible with the goals and objectives of the SIA. Where there is established recreational use of an area, develop the SIA to accommodate that use. *MA7-8* Restrict OHV use. *MA7-10* Manage recreational settings to generally achieve semi-primitive or roaded natural ROS conditions. Transportation and Facilities Management. *MA7-14* Develop facilities or trails to promote recreational use of SIAs. Facilities may include buildings, information displays, road construction or improvement, restrooms or parking areas. *MA7-15* Maintain facilities and trails at a level appropriate to the degree of the desired recreational use.
Cultural Areas (p. 4-101 -- 4-102)	General. *MA8-1* All coordination will be facilitated through the Tribal Government Program. Recreation Management. *MA8-5* Do not direct recreational use to Native American cultural areas. River-related recreational use will be managed to minimize conflicts. *MA8-7* Manage recreational settings to generally achieve semi-primitive or roaded natural ROS conditions.
Backcountry Areas (Semi-primitive non-motorized) (p. 4-101 -- 4-102)	Recreation Management. *MA9-3* Close these areas to OHV use. Non-motorized opportunities (such as mountain biking, hiking, cross country skiing, horseback riding) should be encouraged. *MA9-4* Manage recreational settings to generally achieve semi-primitive non-motorized ROS conditions.
Riparian Reserves (p.4-106 -- 4-115)	Recreation Management. *MA10-22* New recreational facilities within RRs, including trails and dispersed sites, should be designed to not prevent meeting Aquatic Conservation Strategy objectives. Construction of these facilities should not prevent future attainment of these objectives. For existing recreation facilities within RRs, evaluate and mitigate impact to ensure that these do not prevent and, to the extent practicable, contribute to attainment of Aquatic Conservation Strategy objectives. *MA10-23* Adjust dispersed and developed recreation practices that retard or prevent attainment of Aquatic Conservation Strategy objectives. Where adjustment measures such as education use limitations, traffic control devices, increased maintenance, and relocation of facilities and/or specific site closures are not effective, eliminate the practice or occupancy. *MA10-26* Manage recreational settings to generally achieve semi-primitive or roaded natural ROS conditions.
Retention Visual Quality (p. 4-115 -- 4-116)	Visual Resource Management. *MA11-8* Manage recreational settings to generally achieve semi-primitive and rural natural ROS conditions.
Winter Range (p.4-123 -- 4-125)	Wildlife Management. *MA14-2* Identify deer and pronghorn use patterns and key use areas. Seasonal restrictions may be applied to activities that interfere with fawning, herd movement or behaviour. Recreation Management. *MA14-7* Manage recreational settings to generally achieve roaded natural ROS conditions. *MA14-8* Maintain existing developed recreation sites, trails or other related facilities in their current condition. *MA14-9* Access may be limited in order to affect the quality of habitat.
Partial Retention Visual Quality (p. 4-126 -- 4-127)	Recreation Management. *MA15-8* Manage recreational settings to generally achieve semi-primitive or roaded natural ROS conditions.
Forage (p. 4-128 – 4-130)	Wildlife Management. *MA16-2* Identify deer and pronghorn use patterns and key use areas. Seasonal restrictions may be applied to activities that interfere with fawning, herd movement or behaviour.

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	Recreation Management. *MA16-7* Manage recreational settings to generally achieve roaded natural or rural ROS conditions. *MA16-8* Maintain existing developed recreation sites, trails or other related facilities in their current condition. *MA16-9* Access may be limited in order to affect the quality of habitat.
General Forest (p. 4-131 – 4-132)	Recreation Management. *MA17-3* Develop recreation sites compatible with area goals. Allow OHV use. *MA17-4* Manage recreational settings to generally achieve roaded natural or rural ROS conditions. Transportation and Facilities Management. *MA17-5* Develop a transportation network that effectively and efficiently allows the transport of commodities to available markets. The system should be economical, safe and environmentally sensitive. *MA17-6* Maintain surplus or infrequently used roads in a self-maintaining condition (Level 1) to reduce watershed and wildlife impacts and to reduce road maintenance costs.
Goosenest Adaptive Management Area (p. 4-133 – 4-138)	Wildlife. *AMA-5* Unmapped LSRs within the AMA will be managed according to the standards and guidelines for such reserves except as provided elsewhere in this section. Management of these areas will comply with the standards and guidelines for LSRs and management around these areas will be designed to reduce the risk of natural disturbances.
Orr Lake Management Unit (p. 4-133 – 4-138)	Recreation Management. *ORR-11* Manage recreational settings to generally achieve Roaded Natural or Semi-Primitive, Motorized ROS conditions. *ORR-12* Manage recreation use at Orr Lake to minimize impacts to wildlife habitat (including the bald eagle use areas) and other resource values.
2) Modoc (1991)	
Minimal Level Management Prescription (1) (p. 4-35 – 4-37)	Recreation. Recreation opportunities may be semi-primitive non-motorized, semi-primitive motorized, or roaded natural as defined in the Forest-wide Standards and Guidelines. Refer to ROS map for specific ROS class. OHV use is generally open, but may be subject to restrictions identified on the OHV map. Water and Soils. Limit watershed improvement projects to those necessary to maintain water quality, instream uses and natural soil productivity. Cooperate with water users and other agencies to ensure quality and quantity of water running off the Forest. Monitor soil to prevent soil damage on the Forest or adjacent lands. Maintain basic productivity of the land. Wildlife and Fish. Cooperate with State and federal agencies to the extent necessary to support regulations of incidental hunting and fishing use.
Semi-primitive Non-motorized Dispersed Recreation (SPNM) Management Prescription (4) (p. 4-61 – 4-63)	Facilities. Maintain semi-primitive recreation opportunities by restricting road development and maintenance. 4. (G) Prohibit motorized travel on or off Forest roads except for administrative and resource management entry or for access to private land. 5. (G) Construct and maintain trails and trailheads for resource protection and distribution of recreation users. Recreation. Manage suitable areas to provide high quality semi-primitive non-motorized dispersed recreation opportunities. 1. (G) Adhere to Forest-wide Standards and Guidelines for the Semi-Primitive Non-Motorized Recreation Opportunity Spectrum class. 7. (G) Motorized travel off Forest system roads is prohibited except for administrative and resource management entry. Wildlife and Fish. Wildlife and fish management and habitat improvement projects are compatible with the recreation objectives of this prescription.
Visual Retention	Recreation. Manage for roaded natural dispersed recreation opportunities as defined in

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Management Prescription (7) (p. 4-77 – 4-79)	the Forest-wide Standards and Guidelines. 1. (G) Random entry from main roads is discouraged by maintenance of ditches, natural barriers, vegetation, signing, etc. Use is subject to restrictions identified on the OHV map. Areas within this prescription are open to OHV use if impacts cannot be seen from the primary roads. Wildlife and Fish. Wildlife coordination efforts and habitat improvement projects will be compatible with the management objectives of this prescription. Apply Forest-wide Standards and Guidelines.
Special Areas Management Prescription (8) (p. 4-81 – 4-83)	Facilities. Maintain roads, trails and other facilities to serve administrative, scientific, and recreation purposes. 3. (G) Maintain trails and trailheads for resource protection. Recreation. Provide recreation and public education opportunities which are compatible with the management objectives of the specific type of Special Area. Manage for semi-primitive non-motorized recreation opportunity class, as defined in Forest-wide Standards and Guidelines. 1. Research Natural Areas a. (G) Sign or fence RNAs as necessary to discourage general recreational use and especially restrict off-highway vehicle use. 2. Special Interest Areas and National Natural Landmarks a. (S) Encourage public use and enjoyment of SIAs where resource damage is unlikely. Wildlife and Fish. Develop wildlife management and habitat improvement projects which are compatible with RNA and SIA objectives. Apply Forest-wide Standards and Guidelines.
Raptor Management Prescription (9) (p. 4-85 – 4-91)	Facilities. Facilities management within or near wildlife habitats emphasized in this prescription will be compatible with the wildlife direction. 1. Within bald eagle nesting and wintering habitat: a. (G) Whenever possible, existing roads will be relocated outside of primary zones of active nest territories. When roads cannot be relocated outside of nesting and wintering areas, the roads may be reconstructed and maintained only when the birds are not wintering or nesting. b. (S) New roads will not be constructed in winter roosts. Existing roads in winter roosts will be closed during the wintering period. New roads will not be constructed within primary zones of active nest territories. Construction within secondary zones will be determined on a case-by-case basis. c. (G) Seasonal or permanent road closures maybe necessary to limit human disturbance during the reproductive or wintering period, depending on the area. 2. Within goshawk habitat: b. (G) New roads should not be constructed within nest stands. c. (G) Roads may be maintained, constructed and reconstructed within 1/4-mile of nest stands from August through February. Recreation. Management of recreational activities within or near wildlife habitats emphasized in this prescription will be compatible with the wildlife direction. Manage for semi-primitive non-motorized, roaded natural, or semi-primitive motorized recreation opportunities in a predominantly natural or natural-appearing environment, as defined in the Forest-wide Standards and Guidelines. Refer to ROS map for specific class. Refer to OHV map for seasonal closure areas. 1. Within bald eagle nesting and wintering habitat: a. (G) Disturbance from existing recreational facilities will be assessed on a case-by-case basis. Where human activity limits reproductive success or disturbs wintering bald eagles, facilities and areas may be recommended for restrictions including closure. b. (G) Motorized vehicles will be permitted September through December in nesting territories and April through October in wintering areas. Other times of the year these areas maybe administratively closed. 2. Within and near goshawk habitat: a. (G) Disturbance from recreational facilities may limit reproductive success. New or expanding facilities should be at least 1/2-mile from nest stands. Maintenance or reconstruction of existing facilities within 1/4-mile of nest stands will be scheduled August through February. b. (G) Disturbance from trail users

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	may also limit reproductive success. New trails should be constructed at least 1/4-mile from nest stands. Maintenance or reconstruction of trails within 1/4-mile of nest stands will be scheduled August through February. c. (G) Within 1/4-mile of nest stands, motorized vehicles will be permitted August through February. Other times of the year these areas may be administratively closed. Wildlife and Fish. Bald Eagle (Nesting and Wintering Areas). For all identified nest territories, primary and secondary zones will be established in accordance with the variable identified as suitable in the Bald Eagle Habitat Capability Model. Bald eagle nesting territory plans will be developed for each identified territory. These plans will give special consideration to bald eagles during the reproductive period, January to August. 1. (G) Where opportunities arise, maintain and enhance fish, waterfowl, and other prey-base populations within the nest territory, within the closest known forage areas, and within winter foraging areas. Utilize the presence of bald eagles and the Habitat Capability Model to establish boundaries of wintering areas, including winter roosts, foraging areas, and daytime perches. Bald eagle wintering area plans will be developed for each wintering area. These plans will give special consideration to bald eagles from November to March. Goshawk. Within its habitat range, manage goshawk territories to maintain a density of at least one territory per 18 square miles. Distances between territories or clumps of territories should not exceed 12 miles. (The habitat range is defined as the area of land containing active or potential nesting habitat as described in the Goshawk Habitat Capability Model.) 1. (G) Each territory will contain at least 100 acres of habitat suitable for the nest stand and an alternate nest stand. If the nest stand and alternate nest stand are known, delineate at least 50 acres around each stand. If only the nest stand is known, either (a) delineate at least 100 acres around the nest stand, or (b) delineate at least 50 acres around the nest stand, and, within a l/2-mile radius, delineate an additional 50 acres around a potential alternate nest stand. 2. (G) Active nest territories will take preference in delineation of a population network. Where possible, nest stands will not be located in areas of intensive timber management. The primary objective, however, is to designate the highest capable and currently suitable nest stands. The secondary objective is to locate them in areas that will least conflict with intensive timber management. 3. (G) As opportunities arise, enhance prey base populations within two miles of nest stands. All Threatened, Endangered, and Sensitive Species - Cooperate with State and federal agencies in wildlife related matters. 4. (G) A free exchange of information between the Forest and State agencies relative to status reviews, listing of species, critical habitat proposals, and threatened and endangered species programs and activities shall be maintained at all times. The Forest Service will cooperate with State agencies to inventory, protect, manage, and plan for threatened, endangered, and sensitive species. As part of coordination responsibilities with the U.S. Fish and Wildlife Service, cooperate in monitoring active bald eagle nest territories at least three times during the reproductive period (territory occupancy, incubation hatching, and fledging) and participate in the California winter bald eagle survey. 5. (S) The Forest will cooperate with the U.S. Fish and Wildlife Service on critical habitat determinations, on consultation needed when management affects threatened and endangered species, and in developing and implementing recovery plans.
Rangeland Management Prescription (10) (p. 4-93 – 4-98)	Recreation. Manage for semi-primitive motorized or roaded natural dispersed recreation opportunities as defined in the Forest-wide Standards and Guidelines. See ROS map for specific class.

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Rangeland Management with Forage Improvements(Range-Forage) Management Prescription (11) (p. 4-99 – 4-108)	Recreation. Manage for semi-primitive motorized or roaded natural dispersed recreation opportunities as defined in the Forest-wide Standards and Guidelines. See ROS map for specific class. Permit OHV use subject to restrictions identified on the OHV map.
Even-Age Timber Management Prescription (12) (p. 4-109 – 4-111)	Recreation. Manage for roaded natural dispersed recreation opportunities as defined in the Forest-wide Standards and Guidelines. Refer to ROS map for specific class. Permit OHV use subject to restrictions identified on the OHV map. Wildlife and Fish. Wildlife coordination efforts and all habitat improvement projects will be compatible with the timber objectives of this prescription. Apply Forest-wide Standards and Guidelines.
Timber Management with Partial Retention Visual Quality (Timber-Visuals) Management Prescription (13) (p. 4-113 – 4-115)	Recreation. Manage for semi-primitive motorized or roaded natural dispersed recreation opportunities, as defined in the Forest-wide Standards and Guidelines. Refer to ROS map for specific class. Permit OHV use subject to restrictions identified on The OHV map. 1. (G) Apply this prescription to popular dispersed recreation sites and their immediate surroundings. Special consideration will be given to the needs and values of the site when other management activities are planned and implemented nearby.
Timber Management with Forage Production (Timber-Forage) Management Prescription (14) (p. 4-117 – 4-125)	Recreation. Manage for semi-primitive motorized or roaded natural dispersed recreation opportunities as defined in the Forest-wide Standards and Guidelines. Refer to ROS map for specific class. Refer to OHV map to locate areas of seasonal closure. 1. (G) When conflicts with deer use occur, prohibit camping by signing within 1/4-mile of water developments. Probable conflict areas are summer and fall ranges for the Glass Mountain deer herd. Wildlife and Fish. Apply Forest-wide Standards and Guidelines for fish. Non-structural and structural practices will be applied to improve habitat for wildlife species.
Uneven-aged Timber Management Prescription (15) (p. 4-127 – 4-129)	Recreation. Manage for semi-primitive motorized or roaded natural dispersed recreation opportunities as defined in the Forest-wide Standards and Guidelines. Refer to ROS map for specific class. Permit OHV use subject to restrictions identified on the OHV map. 1. (G) This prescription may be applied to popular dispersed recreation sites and their immediate surroundings. It may also be applied to meet partial retention visual quality objectives where other prescriptions cannot meet them. Wildlife and Fish. Wildlife coordination efforts and all habitat improvement projects will be compatible with the timber objectives of this prescription. Apply Forest-wide Standards and Guidelines.
Timber Management on Low Productivity Lands (< 20 Timber) Management	Recreation. Manage for semi-primitive motorized or roaded natural dispersed recreation opportunities as defined in the Forest-wide Standards and Guidelines. Refer to ROS map for specific class. Permit OHV use subject to restrictions identified on the OHV map. Wildlife and Fish. Wildlife coordination efforts and all habitat improvement projects will be compatible with

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Prescription (16) (p. 4-131– 4-133)	the timber objectives of this prescription. Apply Forest-wide Standards and Guidelines.
Riparian Area Management Prescription (17) (p. 4-135 – 4-145)	Recreation. Lands under this prescription will be managed for the roaded natural or semi-primitive motorized ROS class. Refer to the ROS map to identify the adopted class. Limit 0 HV use to trails, roads and designated crossings. Apply Forest-wide Standards and Guidelines. Water and Soils. Monitor water quality to detect and prevent on- and off-Forest problems. 2. (S) Monitor water quality to determine baseline conditions and the effects of resource management. Apply the following directions and associated standards and guidelines when recreation, wildlife, range, and timber projects are implemented. - Conserve soil and water resources through implementation of Best Management Practices. 1. (S) Place no substance in or near riparian areas that would adversely affect water quality. 2. (G) Coordinate with the California Department of Fish and Game to enhance fish habitat. Maintain or improve stream fish habitat through structural and non-structural improvement work. 4. (G) Activities within the stream should be restricted to the following periods, adjustable by a biologist: a. Redband and rainbow trout: Activities within streams are allowed between August 1 and September 15. d. If a stream contains a combination of trout species, the most restrictive time period applies.
Medicine Management Area (61) (p. 4-212 – 4-214)	Soil. On sensitive soil areas, allow OHV use only on established roads and trails. Rehabilitate areas causing watershed degradation. Restrict use or obliterate roads and trails when necessary to protect the soil resource and maintain water quality. Special Interest Areas. Medicine Lake Glass Flow Geologic Special Interest Area is located within this management area. Forest activities should not alter the scenic and scientific value of this resource. This direction is applied by the Klamath National Forest on their share of the Flow. Recommend this SIA for nomination as an NNL. Water and Riparian. Maintain the water quality of Medicine Lake. Evaluate the potential of each project in the watershed to degrade the lake's water quality. Periodically monitor water quality to establish background data and detect changes. Wildlife and Fish. Manage four territories for pine marten. Also manage down logs, snags and riparian areas for marten habitat. Maintain habitat for marten during geothermal exploration and development. Inventory and protect active goshawk territories needed to meet population targets. Develop a bald eagle nest territory management plan.
Black Mountain Management Area (62) (p. 4-216 – 4-217)	Special Interest Areas. Burnt Lava Flow SIA and Glass Mountain Glass Flow SIA are located in this management area. Forest activities should not alter the scenic and scientific values of these resources. This direction is applied by the Shasta-Trinity National Forest on their share of the Burnt Lava Glass Flow. Recommend Burnt Lava Flow SIA for nomination as an NNL. Wildlife and Fish. Manage for 640 acres of old growth in the mixed conifer type, 655 acres in the eastside pine type, and 130 acres in the red fir type. Develop a management plan and improve condition of stands at the bald eagle roost through silvicultural treatments. Install big game guzzlers to improve habitat capability for deer. Inventory and protect active goshawk nests needed to meet target populations.
Tionesta Management Area (63) (p. 4-220 – 4-222)	Wildlife and Fish. Provide for 1365 acres of old growth in the eastside pine type. Develop a management plan to implement improvements on the bald eagle winter roost.
3) Shasta-Trinity (1995)	
Late-successional	Standards and Guidelines for Multiple-Use Activities Other Than Silviculture. Recreational Uses - Dispersed recreational uses, including hunting and fishing, generally

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reserves, managed late-successional areas, and other threatened, endangered, or sensitive species (Bald Eagle and Peregrine Falcon) Level 2 and 3 (2) (4-37 -4-44)	are consistent with the objectives of Late-Successional Reserves. Use adjustment measures such as education, use limitations, traffic control devices, or increased maintenance when dispersed and developed recreation practices retard or prevent attainment of Late-Successional Reserve objectives. Protection Buffers. Birds: Great Gray Owl -Within the range of the northern spotted owl, the great gray owl is most common in lodge pole pine forests adjacent to meadows. However, it is also found in other coniferous forest types. In some locations, such as on the Willamette National Forest west of the crest of the Cascade Range, at least some shelter wood harvesting seems to be beneficial for the species by opening up otherwise closed canopy cover for foraging. In doing so, consequences to species such as northern goshawk and American marten must be evaluated. Specific mitigation measures for the great gray owl, within the range of the northern spotted owl, include the following: provide a no-harvest buffer of 300 feet around meadows and natural openings and establish 1/4-mile protection zones around known nest sites. Within one year of the signing of the Record of Decision for these standards and guidelines, develop and implement a standardized protocol for surveys: survey for nest locations using the protocol. Protect all future discovered nest sites as previously described. Standards and Guidelines created during the forest planning process. 3. Management activities should be compatible with Semi-primitive Non-Motorized or Semi- Primitive Motorized Recreation Opportunity Spectrum (ROS) guidelines. 4. Off-highway vehicle (OHV) use may occur only on designated trails. This use will be located and scheduled to avoid conflicts with wildlife objectives. Refer to the OHV Management Plan map for specific use areas. Bald Eagles: 6. Maintain and/or enhance the habitat necessary to provide for 32 pair of bald eagles (Shasta-Trinity prorated share of the Regional Recovery Plan). 7. Survey populations and habitat annually to determine status and trend. 8. Update or develop and implement management plans for all known and newly discovered nesting and roosting sites. Such plans will have site specific management direction established for the benefit of the bald eagles and will be coordinated with the Bald Eagle Recovery Plan. Peregrine Falcons: 9. Maintain and/or enhance the habitat necessary to provide for 9 pair of peregrine falcons (Shasta-Trinity share of the Regional Recovery Plan). 10. Survey populations and habitat annually to determine status and trend. 11. Develop and implement specific territory management plans for all known and future. These plans will be coordinated with the Peregrine Falcon Recovery Plan. Goshawks: 12. Exclude management activities within occupied nest stands during the nesting period. Sensitive Plants: 13. Conduct inventories of known populations, habitat analysis, and field reconnaissance for potential populations in project influence zones. 14. Known sensitive plants, and those identified in the future, will be afforded the protection necessary to maintain or increase populations. Suitable habitat will be maintained or increased at a level that will assure the successful survival of the species throughout their range. 15. Modify projects so that sensitive plants will not be jeopardized; document such action. If actions that may have an adverse effect on sensitive species cannot be avoided, the activity will be deferred until such time as the affect of the proposed action can be assessed. Subsequent action will follow the recommendation resulting from such study, (i.e., protection, mitigation or action as planned). 16. Information pertaining to numbers, distribution, population dynamics, and response to the management of Forest sensitive plant species will be recorded and communicated to the Regional Office annually. Forest personnel will make recommendations to the Region for status revision or retention.
Administratively Withdrawn Areas Level 2	I. Unroaded-Non-motorized Recreation. 7. Management activities will be compatible with Semi- Primitive Non- Motorized Recreation Opportunity Spectrum (ROS) guidelines. II. Limited Motorized Recreation. 8. Management activities will be compatible with Semi-

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and 3 (3) (4-45– 4-51)	primitive Motorized Recreation Opportunity Spectrum (ROS) guidelines. 9. Designate suitable trails and areas for OHV use. Such use should be located and scheduled to minimize conflicts with other recreation use and wildlife needs. Refer to the OHV Management Plan map for special use areas. 16. Use this Prescription to help provide additional habitat and connecting corridors for fisher and marten and to provide additional habitat for goshawk. IV. Roaded High-Density Recreation. 4. Locate and schedule OHV use to minimize conflicts. 5. Management activities should be accomplished in accordance with Rural Recreation Opportunity Spectrum (ROS) guidelines. X. Special Area Management. 3. Allow off-highway vehicle (OHV) use on existing, designated roads only. Where no existing roads occur, prohibit OHV use. Close roads if necessary to maintain RNA and SIA values. 4. Management activities should be compatible with Semi-primitive Non-Motorized Recreation Opportunity Spectrum (ROS) guidelines. 14. Use this Prescription to help provide additional habitat for fisher, marten, and goshawk. XI. Heritage Resource Area Management. 8. Off-highway vehicle (OHV) use will be prohibited. 10. Management activities should be compatible with Semi-primitive Non-Motorized or Semi- Primitive Motorized Recreation Opportunity Spectrum (ROS) guidelines dependent on the level of interpretation proposed for the sites.
Riparian Preserves and Key Watersheds Level 2 and 3 (4) (4-53– 4-60)	General. 1. Maintain and restore the distribution, diversity, and complexity of watershed and landscape scale features to ensure protection of the aquatic systems to which species, populations and communities are uniquely adapted. 2. Maintain and restore spatial and temporal connectivity within and between watersheds. Lateral, longitudinal, and drainage network connections include floodplains, wetlands, upslope areas, headwater tributaries, and intact refugia. These network connections must provide chemically and physically unobstructed routes to areas critical for fulfilling life history requirements of aquatic and riparian-dependent species. 3. Maintain and restore the physical integrity of the aquatic system, including shorelines, banks, and bottom configurations. 4. Maintain and restore water quality necessary to support healthy riparian, aquatic, and wetland ecosystems. Water quality must remain within the range that maintains the biological, physical, and chemical integrity of the system and benefits survival, growth, reproduction, and migration of individuals composing aquatic and riparian communities. Standards and Guidelines for Resource Activities. 4. Recreation Management: a. New recreational facilities within Riparian Reserves, including trails and dispersed sites, should be designed to not prevent meeting Aquatic Conservation Strategy objectives. Construction of these facilities should not prevent future attainment of these objectives. For existing recreation facilities within Riparian Reserves, evaluate and mitigate impact to ensure that these do not prevent, and to the extent practicable contribute to, attainment of Aquatic Conservation Strategy objectives. b. Adjust dispersed and developed recreation practices that retard or prevent attainment of Aquatic Conservation Strategy objectives. Where adjustment measures such as education, use limitations, traffic control devices, increased maintenance, relocation of facilities, and/or specific site closures are not effective, eliminate the practice or occupancy. c. Wild and Scenic Rivers and Wilderness management plans will address attainment of Aquatic Conservation Strategy objectives. 10. Fish and Wildlife Management. C. Cooperate with other federal, tribal, and state wildlife management agencies to identify and eliminate wild ungulate impacts that are inconsistent with attainment of Aquatic Conservation Strategy objectives.
Matrix Lands Level 2 and 3 (5) (4-61– 4-67)	Known Northern Spotted Owl Activity Centers. Standards and Guidelines in the Late-Successional Reserve portion of these Standards and Guidelines specify the protection of 100-acres of owl habitat around all known owl activity centers within the range of the northern spotted owl. Management of stands in the Matrix surrounding these areas will be designed to reduce risks of natural disturbance. Protection Buffers. These standards and guidelines incorporated from the Scientific

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	Analysis Team Report will result in protection for specific species and should be implemented in Matrix lands within the range of the northern spotted owl. The following rare and locally endemic species are likely to be assured viability if they occur within designated areas. However, where these species occur in the Matrix, the following standards and guidelines will be applied. For the birds listed below, activities that are implemented in I994 should use this information to the greatest degree possible. Activities implemented in I995 and later must include these provisions. For the Lynx, implementation should follow the schedule described for survey and manage component 2. Birds: *White- headed Woodpecker, Black- backed Woodpecker, Pygmy Nuthatch, and Flammulated Owl* -These species will not be sufficiently aided by application of mitigation measures for riparian habitat protection or for marbled murrelets alone. They all occur on the periphery of the range of the northern spotted owl on the east slope of the Cascade Range in Washington or Oregon. Additionally, the white-headed woodpecker and flammulated owl occur in the Klamath Province in northwestern California and southwestern Oregon. The viability of all four species within the range of the northern spotted owl was rated as a medium risk on National Forests, although they each are much more widely distributed elsewhere. Apply the following mitigation standards and guidelines to ensure that the distribution and numbers of all four species do not severely decline on National Forests and BLM Districts within the range of the northern spotted owl. These guidelines apply to the forest Matrix outside designated habitat for the northern spotted owl and Riparian Reserves. Maintain adequate numbers of large snags and green-tree replacements for future snags within the four species' ranges in appropriate forest types. Where feasible, green-tree replacements for future snags can be left in groups to reduce blowdown. Specifically, the Scientific Analysis Team recommends that no snags over 20 inches dbh be marked for cutting. The Scientific Analysis Team recognizes, however, that safety considerations may prevent always retaining all snags. Use of standardized definitions of hazard trees is required. For the longer term, provide for sufficient numbers of green trees to provide for the full (I 00 percent) population potential of each species. As depicted by Neitro in Management of Wildlife and Fish Habitats in Forest of Western Oregon and Washington (1985), the 100 percent population potential for white-headed woodpeckers is 0.60 conifer snags (ponderosa pine or Douglas-fir) per acre in forest habitats; these snags must be at least I5 inches dbh (or largest available if 15 inch dbh snags are not available) and in soft decay stages, and must be provided in stands of ponderosa pine and mixed pine/Douglas-fir. The IO0 percent population potential for black-backed woodpeckers is 0. I2 conifer snags per acre in forest habitats: these snags must be at least 17 inches dbh (or largest available if 17 inch dbh snags are not available) and in hard decay stages, and must be provided in stands of mixed conifer and lodgepole pine in higher elevations of the Cascade Range. Provision of snags for other cavity-nesting species, including primary cavity-nesters, must be added to the requirements for these two woodpecker species. Site-specific analysis, and application of a snag recruitment model (specifically, the Forest Service's Snag Recruitment Simulator) taking into account tree species, diameters, falling rates, and decay rates, will be required to determine appropriate tree and snag species mixes and densities. If snag requirements cannot be met, then harvest must not take place. As identified by the expert panel, black-backed woodpeckers also require beetle infested trees for foraging: some such trees should be provided in appropriate habitat, and sanitation harvest of all such trees will be detrimental to the species. More information is needed on habitat use, seasonal occurrence, and use of forest age classes and burns, for the black-backed woodpecker. Pygmy nuthatches use habitat very similar to those of white-headed woodpeckers. Pygmy nuthatches require large trees, typically ponderosa pine within the range of the northern spotted owl, for roosting. Provision of snags for white-headed woodpeckers is assumed to provide for the needs of pygmy nuthatch, as no species-specific guidelines for the species have been developed. Additional information on ecology of pygmy nuthatch within the range of the northern spotted owl is needed to develop more precise standards and guidelines. Flammulated owls are secondary cavity-nesters and use cavities, in snags and live trees,

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	created by woodpeckers or, less often, that occur naturally. It is assumed that standards and guidelines for snags and green-tree replacements for woodpeckers and other primary cavity-nesting species, as provided by existing National Forest and ELM District Land and Resource Management Plans and for the woodpeckers in this species group, will provide for flammulated owls. III. Roaded Recreation. 1. Roads and trails should be located, designed, constructed and maintained so that they are compatible with Roaded Natural Recreation Opportunity Spectrum (ROS) activities. These activities include hiking, auto touring, wildlife viewing, OHV use, cross-country skiing, snowmobiling, and horseback riding. 7. Designate suitable trails and areas for OHV use. Such use should be located and scheduled to minimize conflicts with other recreation use and deer winter range. Refer to the OHV Management Plan map for specific use areas. VI. Wildlife Habitat Management. 2. Off-highway vehicle (OHV) use may occur only in designated areas and on trails. Use will be located and scheduled to minimize conflicts with wildlife objectives. Refer to the OHV Management Plan map for specific use areas. 3. Management activities should be compatible with Roaded Natural Recreation Opportunity Spectrum (ROS) guidelines. 9. Use this Prescription to help provide additional habitat for fisher, marten, and goshawk. VI. Commercial Wood Products Emphasis. 3. Recreation Opportunity Spectrum (ROS) experiences will be compatible with timber objectives. In most cases this will be the Roaded Natural Recreation ROS class.
Adaptive Management Areas Level 2 and 3 (6) (4-69 – 4-71)	Unmapped Late-Successional Reserves within Adaptive Management Areas will be managed according to the standards and guidelines for such reserves except as provided elsewhere in this section. Management of these areas will comply with the Standards and Guidelines for Late-Successional Reserves, and management around these areas will be designed to reduce risk of natural disturbances. Riparian protection in Adaptive Management Areas should be comparable to that prescribed for otherfedera1 land areas. For example, Key Watersheds with aquatic conservation emphasis within Adaptive Management Areas must have a full watershed analysis and initial Riparian Reserves comparable to those for Tier I Key Watersheds. Riparian objectives (in terms of ecological functions) in other portions of Adaptive Management Areas should have expectations comparable to Tier 2 Key Watersheds where applicable. However, flexibility is provided to achieve these conditions, if desired, in a manner different from that prescribed for other areas and to conduct bonafide research projects within riparian zones. At the same time, any analysis of Riparian Reserve widths must also consider the contribution of these reserves to other, including terrestrial, species. Watershed analysis should take into account all species that were intended to be benefited by the prescribed Riparian Reserve widths. Those species include fish, mollusks, amphibians, lichens, fungi, bryophytes, vascular plants, American marten, red tree voles, bats, marbled murrelets, and northern spotted owls. The specific issue for spotted owls is retention of adequate habitat conditions for dispersal.
Porcupine Butte Management Area Level 4 (Area 1) (4-75 – 4-78)	D. Supplemental Management Direction. 1. Pending development of a conservation strategy, protect the collomia population from road maintenance operations and foot traffic. 13. Emphasize seasonal vehicle closures for wildlife management in the East McCloud Road Management Area. Reduce road density and rejuvenate browse species to enhance big game species habitat.
McCloud Management Area Level 4 (Area 2) (4-79 – 4-82)	D. Supplemental Management Direction. 1. Survey for additional populations of long-haired star tulip, Salmon Mountains wake robin, and Columbia cress. Pending completion of conservation strategies, identify key habitat for the three plants and manage these areas for maintenance or enhancement of the species. 8. Protect and enhance redband trout habitat in Trout, Sheephaven, Edson, and Swamp Creeks through implementation of riparian management standards, evaluation of watershed characteristics, and construction of in stream habitat structures. This will be done in cooperation with the California Department of Fish and Game (DFG). Pursue acquisition

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	of private lands along these streams. 19. Consider expanding the East McCloud Road Management Area to emphasize seasonal vehicular closures for wildlife management. Reduce road density and rejuvenate browse to enhance big game species habitat.
Mount Shasta Management Area Level 4 (Area 3) (4-83 – 4-86)	D. Supplemental Management Direction. 2. Pending completion of a conservation strategy for Wilkins' harebell, limit recreational impacts to the harebell in the Panther Creek area. 12. Review options and develop winter OHV facilities. Coordinate this effort with the existing sites on adjacent National Forests and other lands to provide a cohesive network of trails and facilities. 13. Study opportunities for winter sports including snowmobiling, nordic and alpine skiing, and snow play. Designate appropriate roads as snowmobile and skiing routes. 14. Maintain winter OHV closure above Everitt Memorial Highway from Cascade Gulch to Panther Meadows. 15. Monitor recreation use, minimize impacts, and restore vegetation in high use areas such as Panther Meadow.
Wilderness Management Area Level 4 (Area 4) (4-90 – 4-92)	Mount Shasta Wilderness. D. Supplemental Management Direction. 2. Pending completion of a conservation strategy, protect Wilkins' harebell from recreational impacts in Squaw Creek meadows. 5. Complete and implement the Environmental Impact Statement and Wilderness Management Plan. The Plan will include the following; a. Provide visitor interpretation of the unique features of the mountain; b. Pending completion of a species management guide, protect Wilkins' harebell from recreation impacts in Squaw Creek Meadows; and c. Develop a fire plan for the area which uses planned and unplanned ignition to restore and maintain natural conditions.
4) Lassen (1992)	
Non-timber Wildlife Prescription (A) (p. 4-40)	Facilities. 2. Seasonally close roads where necessary to protect wildlife during critical periods. Recreation. 2. Manage recreation according to the specified Recreation Opportunity Spectrum classes (See Forest Standards and Guidelines). Wildlife. 1. Maximize the sustainable carrying capacity of winter deer range by directly improving habitat and coordinating resource use activities. Where feasible, provide a continual supply of forage, and maintain at least 40 percent of the area as cover. 2. Uniformly distribute escape cover in 10 to 40 acre units throughout the area, giving priority to areas adjacent to meadows and openings.
Range/Wildlife Prescription (B) (p. 4-42 – 4-43)	Recreation. 1. Manage recreation according to the specified Recreation Opportunity Spectrum class, which is primarily Roaded Natural. Wildlife. 1. Through allotment management practices, provide sufficient quantities of suitable forage, cover and water for wildlife needs
Developed Recreation Prescription (D) (p. 4-45 – 4-47)	Forest Health. 1 Do not use chemical forms of animal control within or immediately adjacent to a site, unless the animals pose a significant hazard to human health (for example, bubonic plague in squirrels)
Early Successional Prescription (E) (p. 4-48 – 4-49)	Facilities. 1. Emphasize screening of important forage areas, resting and escape cover, water sources, and travel routes for deer when locating and designing roads. 2. Close roads to motorized vehicles as appropriate to meet the needs of deer, black bear, and other emphasized species listed in the Management Area direction. Recreation. 1. Manage recreation according to the Recreation Opportunity Spectrum class of Roaded Natural (see Forest Standards and Guidelines). Wildlife. 1. Uniformly distribute 10 to 40 acre escape cover units, giving priority to ecotone areas adjacent to meadows and openings Implement at the rate of 600 acres per year.
Riparian/Fish Prescription (F) (p. 4-50 – 4-53)	Facilities. 1. Limit stream crossings to stable rock or gravel areas or where stream bank damage will be minimal Where this is not feasible, develop crossings that minimize disturbance to riparian-dependent resources Crossings will be as near right angles as possible. 2. Disperse flows from ditches or culverts to keep upland area run off from

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	reaching riparian zones. 3. Route roadside drainage through armored ditches or culverts across erodible areas. 4. Minimize short-term degradation of water quality from channel-altering projects by installing flow deflectors or riprap; building stream crossings, dams, and weirs; excavating pools, and placement of boulders. Fish. 1. Where site Capability permits, provide "high" habitat capability for Chinook salmon, steelhead, and rainbow trout in areas where these species can occur. 3. Where natural conditions permit, achieve or maintain stable channel conditions over at least 80 percent of the total linear distance of stream channels. Recreation. 3. Confine off-highway vehicles, except over-snow-vehicles, to designated roads, trails, and stream crossings in riparian areas. 4. Coordinate with the California Department of Fish and Game during planning of recreational facilities that could affect fish and wildlife populations or local demand for planted trout. Water and Riparian Areas. 1. Protect perennial, intermittent, and ephemeral streams within project areas by using Best Management Practices (see Appendix Q) to limit adverse effects of logging road construction, maintenance, and other activities. 2. Restrict operations in floodplains and wetlands in compliance with Executive Orders. 3. In degraded riparian areas identified during project planning or watershed monitoring and inventory, adjust grazing systems, reduce livestock numbers, limit public use, and or plant riparian vegetation as necessary to rehabilitate each area. 4. Manage designated ephemeral stream channels by minimizing ground disturbance and soil compaction within SMZs from roads, timber harvesting, fuel removal, and site preparation activities.
Old Growth/ Goshawk Prescription (G) (p. 4-54 – 4-55)	Facilities. 2. In cooperation with the California Department of Fish and Game, close roads to motorized vehicles as appropriate Coordinate road closure and motorized vehicle access needs with the Department to meet the needs of deer, black hear, and other wildlife emphasis species listed in the Management Area direction. Recreation. 1. Manage recreation according to the Recreation Opportunity Spectrum classes of Semi-Primitive Non-Motorized, Semi-Primitive Motorized, or Roaded Natural (see Forest Standards and Guidelines).
Rocky/Sparse Timber Production Prescription (K) (p. 4-56 – 4-57)	Recreation. 1. Manage recreation according to the Recreation Opportunity Spectrum classes of Semi-Primitive Non-Motorized and Roaded Natural (see Forest Standards and Guidelines).
Late Successional Prescription (L) (p. 4-58 – 4-59)	Recreation. 1 Manage recreation according to the Recreation Opportunity Spectrum classes of Semi-Primitive Non-Motorized and Roaded Natural (see Forest Standards and Guidelines).
Semi-primitive Motorized Prescription (M) (p. 4-60 – 4-62)	Facilities. 3. Close specific areas or travel routes seasonally or year-round as needed to facilitate management of adjacent areas, prevent damage to other resources, prevent use conflicts, and avoid unnecessary costs. Recreation. 3. Monitor and limit visitor use through a quota permit system when other resources are damaged or recreation experiences are reduced. Soils. Rehabilitate areas of significant soil degradation caused by OHVs. Close trails and areas to motorized use if necessary to protect soils. Wildlife. 1. Provide "high" habitat capability for harvest species and other species that have a relatively low tolerance to human activity.
Semi-primitive Non-motorized Recreation Prescription (N) (p. 4-63 – 4-65)	Recreation. 3. Monitor and limit visitor use when other resources are damaged or recreation experiences are reduced. Wildlife. 1. Provide "high" habitat capability for harvest species and other species that have a relatively low tolerance to human activity. 2. Let natural vegetative succession occur unless specific vegetation treatments are necessary to meet fish and wildlife

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	objectives
Range Prescription (R) (p. 4-66 – 4-67)	Recreation. 1. Manage recreation according to the specified Recreation Opportunity Spectrum class which is primarily Roaded Natural (see Forest Standards and Guidelines). Water and Riparian. 1. See the Range, and Water and Riparian Areas Standards and Guidelines for detailed riparian zone management standards Wildlife. 1. Allotment management practices will provide sufficient quantities of suitable forage species for wildlife needs.
Special Areas Prescription (S) (p. 4-68 – 4-70)	Recreation. 1. Manage recreation according to the designated Recreation Opportunity Spectrum classes (see Forest Standards and Guidelines). 2. Prohibit motorized vehicles within Research Natural Areas. Special Areas. 3. Protect each recommended RNA as if it were an approved RNA until completion of Establishment Records and final decision by the Chief of the Forest Service.
Timber Prescription (T) (p. 4-71 – 4-72)	Recreation. 1. Manage recreation according to the Recreation Opportunity Spectrum (ROS) class of Roaded Natural or Rural (see Forest Standards and Guidelines). Wildlife. 1. Provide at least "medium" suitable habitat as identified in the Habitat Capability Models for emphasized wildlife species listed in the Management Area direction.
View/Timber Prescription (V) (p. 4-73 – 4-75)	Wildlife. 1. Provide at least "medium" suitable habitat as identified in the Habitat Capability Models for emphasized wildlife species listed in the Management Area direction.
Wilderness Prescription (W) (p. 4-76 – 4-78)	General. 3. Prohibit motorized vehicles except where authorized for emergencies or for other purposes, based on environmental analysis.
Hat Creek Management Area (4) (p. 4-98 – 4-99)	A. Standards and Guidelines Cultural Resources. 1. Protect the cultural features of Sugarloaf Mountain and Lost Creek Canyon Special Areas. 1. Prepare and implement a plan for the Murken Special Interest Area, to protect and highlight the botanical area's distinctive features. Water and Riparian Areas. 1. Maintain and improve riparian habitat along Hat Creek. Wildlife. 2. Protect and enhance foraging and nesting habitat for osprey. D. Wildlife Habitat Allocations. Peregrine Falcon Territories: 1. Goshawk Territories: 1. Other Emphasis Species. Deer (winter range), rainbow trout
Logan Management Area (9) (p. 4-117 – 4-118)	A. Standards and Guidelines Recreation. 1. Continue designation of trails and restrict snow plowing of snowmobile trails for timber sales between December 1 and April 1. D. Wildlife Habitat Allocations. Fisher HMA 1. Marten HMA 5. Spotted Owl Habitat Areas 6. Goshawk Territories: 7. Other Emphasis Species Osprey, pileated woodpecker.
Eagle Management Area (14) (p. 4-138– 4-140)	A. Standards and Guidelines Cultural Resources. 4. Protect archaeological sites by signing, patrol, and/or other methods. Recreation. 1. Develop a composite recreation plan addressing the future of the manna, provision of any new facilities, and development of bicycle and off-highway vehicle trails. Sensitive Plants. 1. Monitor and protect populations of Egg Lake monkey flower (Mimulus pygmaeus) Inventory for additional populations in seasonally wet areas. Water and Riparian Areas. 1. Maintain or improve stream corridors, channels, and other riparian areas along Pine Creek, Merrill Creek, Papoose Creek and the lakeshore.

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	Wildlife. 1. Enhance habitat within the Eagle Lake basin for breeding and wintering bald eagles. Close nesting and wintering areas to vehicles, as needed, to protect the eagles. 2. Continue to implement the 1971 management plan for the Eagle Lake Osprey Management Area and the lands allocated to the Non-Timber Wildlife Prescription (A). D. Wildlife Habitat Allocations. Bald Eagle Territories: 4. Goshawk Territories: 1. Other Emphasis Species Osprey, deer (summer range), mallard, rainbow trout (including the Eagle Lake rainbow rout), sandhill crane, bufflehead, pileated woodpecker, pronghorn antelope.
Thousand Lakes Management Area (15) (p. 4-143 – 4-144)	A. Standards and Guidelines Sensitive Plants. 1 Inventory for possible populations of short-petalled campion (Silene invisia) in red fir stands. 2. Inventory for possible talus collomia (Collomia debills spp larsenii) on the higher peaks. D. Wildlife Habitat Allocations. Fisher HMA 1. Marten HMA 2. Spotted Owl Territories: 1. Goshawk Territories: 1. Other Emphasis Species: pileated woodpecker, rainbow trout.
Red Management Area (16) (p. 4-148 – 4-149)	A. Standards and Guidelines Recreation. 1. Continue designation of certain roads for winter over-snow use, and restrict snowplowing of snowmobile trails between December 1 and April 1. Sensitive Plants. 1. Inventory for talus collomia (Collomia deilis spp larsenii) populations in alpine or subalpine areas. 2. Monitor and protect populations of northern spleenwort (Asplenium septentrionale) and inventory for additional populations on rocky outcrops. 3. Inventory for possible short-petalled campion (Silene invisia) in red fir stands. Wildlife. 3. Apply special silvicultural prescriptions to enhance potential nesting habitat for bald eagles at the North Battle Creek Reservoir. 4. Monitor cliff sites in Blue Lake Canyon for peregrine falcon. D. Wildlife Habitat Allocations. Marten HMA 1. Bald Eagle Territories: 1. Peregrine Falcon Territories: 1 Spotted Owl Habitat Areas: 2. Goshawk Territories: 6. Other Emphasis Species. Osprey, pileated woodpecker, deer (summer range), fisher, rainbow trout.
Grays Management Area (18) (p. 4-155 – 4-156)	A. Standards and Guidelines Sensitive Plants. 1. Monitor and protect Egg Lake monkey flower (Mimulus pygmaeus) near Robbers Spring, and inventory for additional populations in seasonally wet areas. Wildlife. 2. Manage the riparian corridor along Butte Creek to support old growth dependent species. D. Wildlife Habitat Allocations. Spotted Owl Habitat Areas1. Goshawk Territories: 3. Other Emphasis Species: Deer (summer range), black bear, rainbow trout, pileated woodpecker, marten, and fisher.
Crater Management Area (19) (p. 4-159 – 4-160)	A. Standards and Guidelines Sensitive Plants. 1. Monitor and protect Egg Lake monkey flower (Mimulus pygmaeus) populations Inventory for additional populations in seasonally wet areas. Water and Riparian Areas. 1. Restore and improve riparian conditions along Pine Creek Consider fencing, grazing management and improvement projects. Wildlife. 1. Close selected roads on Crater and Logan Mountains to protect fawning deer.
Caribou Management Area (20) (p. 4-163 – 4-164)	A. Standards and Guidelines Recreation. 1. In areas of concentrated use adversely affecting soil, vegetation or water resources, reduce these impacts by dispersing use and relocating trails, as appropriate. D. Wildlife Habitat Allocations. Goshawk Territories: 3. Other Emphasis Species Marten, hairy woodpecker, bufflehead, osprey, rainbow trout, bald eagle.
Cone Management	A. Standards and Guidelines Water and Riparian Areas. 1. Restore and improve riparian conditions along Pine Creek

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Area (21) (p. 4-167 – 4-168)	Consider fencing, grazing management and improvement projects. D. Wildlife Habitat Allocations. Goshawk Territories: 1. Other Emphasis Species: Deer (summer range), pronghorn antelope, rainbow trout, pileated woodpecker, marten, and fisher.
Swain Management Area (22) (p. 4-172 – 4-173)	A. Standards and Guidelines Recreation. 1. Cooperate with Lassen County to plow snow at National Forest road intersections along County Road A-21, to allow cross-country skiers and snowmobilers to park off the traveled way. 3. Prohibit snowmobile use by the public in the Swain Mountain Experimental Forest. 4. Restrict snow plowing within the management area to provide opportunities for winter sports. D. Wildlife Habitat Allocations. Fisher HMA 1. Spotted Owl Habitat Areas: 1. Goshawk Territories: 2. Other Emphasis Species 'Deer (summer range), marten, bufflehead, willow flycatcher, rainbow trout.
Campbell Management Area (23) (p. 4-175 – 4-177)	A. Standards and Guidelines Sensitive Plants. 1. Monitor and protect populations of Egg Lake monkey flower (Mimulus pygmaeus) Inventory for additional Egg Lake monkey flower populations in meadow areas. Water and Riparian Areas. 1. Restore and improve riparian conditions along Pine Creek Consider fencing, grazing management and improvement projects. Wildlife. 2. Restore riparian vegetation in selected reaches of Pine and Martin Creeks.. D. Wildlife Habitat Allocations. Goshawk Territories: 1. Other Emphasis Species Deer (summer range), mallard, bufflehead, pronghorn antelope, rainbow trout, sandhill crane.
Hog Management Area (25) (p. 4-183 – 4-185)	A. Standards and Guidelines Water and Riparian Areas. 1. Restore and improve riparian conditions along the Susan River. D. Wildlife Habitat Allocations. Fisher HMA 1. Spotted Owl Habitat Areas: 2. Goshawk Territories: 3. Other Emphasis Species Deer (summer range), mallard, pileated woodpecker, rainbow trout, black bear, bufflehead, and marten.
Mineral Management Area (26) (p. 4-187 – 4-188)	A. Standards and Guidelines Sensitive Plants. 1. Inventory for possible short-petalled campion (Silene invisia) and closed throated heard tongue (Penstemon personatus) in red fir stands. 2. Monitor and protect populations of northern spleenwort (Asplenium septentrionale) Inventory for additional populations in dacite rock outcrops. D. Wildlife Habitat Allocations. Spotted Owl Habitat Areas: 2. Goshawk Territories: 2. Other Emphasis Species Deer (summer range), marten, and rainbow trout.
Upper Mill Creek Management Area (27) (p. 4-191 – 4-193)	A. Standards and Guidelines Recreation. 2. Close the Mill Creek Trail to motorized use below Big Bend and maintain the trail at Maintenance Level 2. 3. Restrict plowing along roads that comprise the trail system within the Morgan Summit Snowmobile Park between December 1 and April 15. Sensitive Plants. 1. Inventory for short-petalled campion (Silene invisia) in red fir stands. Wild and Scenic Rivers. 1. Preserve the "outstandingly remarkable" values of Mill Creek until congressional action on the proposed inclusion in the Wild and Scenic Rivers System, commensurate with recommended classifications. D. Wildlife Habitat Allocations. Marten HMA 1. Spotted Owl Habitat Areas: 2. Goshawk Territories: 2. Other Emphasis Species Deer (summer range), Chinook salmon, steelhead trout, rainbow trout.
Feather River Management Area (28) (p. 4-196 – 4-	A. Standards and Guidelines Sensitive Plants. 1. Monitor and protect populations of American scheuchzeria (Scheuchzeria palustris var. americana) at Willow and Domingo Lakes. Inventory for additional populations at other lake and bog areas. Monitor and protect short-petalled

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197)	campion (Silene invisia) near Rice Creek and inventory for additional populations in red fir areas. D. Wildlife Habitat Allocations. Marten HMA 1. Bald Eagle Territories: 1. Spotted Owl Habitat Areas: 2. Goshawk Territories: 3. Other Emphasis Species Deer (summer range), mallard, black bear, rainbow trout, and osprey.
Benner Management Area (29) (p. 4-199 – 4-200)	A. Standards and Guidelines D. Wildlife Habitat Allocations. Marten HMA 1. Spotted Owl Habitat Areas: 1. Goshawk Territories: 2. Other Emphasis Species Deer (summer range), mallard, black bear, rainbow trout, and sandhill crane.
Baily Creek Management Area (30) (p. 4-203 – 4-204)	A. Standards and Guidelines Wildlife. 1. Protect and enhance the bald eagle nesting territory. D. Wildlife Habitat Allocations. Marten HMA 1. Bald Eagle Territories: 1, Spotted Owl Habitat Areas: 3. Goshawk Territories: 3. Other Emphasis Species Deer (summer range), black bear, rainbow trout, willow flycatcher, bufflehead.
Hamilton Management Area (31) (p. 4-207 – 4-208)	A. Standards and Guidelines Recreation. 1 Develop a plan to take advantage of the dispersed winter recreation potential in the Fredonyer Pass area. 2. Establish a snowmobile recreation facility at Fredonyer Summit. 3. Restrict plowing (and log hauling) on designated snowmobile and cross country ski routes between December 1 and April 15. D. Wildlife Habitat Allocations. Fisher HMA 1. Spotted Owl Habitat Areas: 1. Goshawk Territories: 1. Other Emphasis Species pileated woodpecker, blue grouse, deer (summer range), and black bear.
Willard Management Area (32) (p. 4-211 – 4-212)	A. Standards and Guidelines Sensitive Plants. 1. Inventory for possible occurrences of short-petalled campion (Silene invisia) in red fir stands. Water and Riparian Areas. 1. Restore and improve riparian conditions along Willard Creek and its tributaries. Consider fencing, grazing management and improvement projects. D. Wildlife Habitat Allocations. Fisher HMA 1. Spotted Owl Habitat Areas: 2. Goshawk Territories: 2. Other Emphasis Species: pileated woodpecker, blue grouse, deer (summer range), rainbow trout, and black bear.
Upper Deer Creek Management Area (36) (p. 4-227 – 4-229)	A. Standards and Guidelines Fish. 1. Protect habitat and evaluate for enhancement opportunities for anadromous and resident fisheries along Deer Creek and its tributaries. Recreation. 2. Assess the need for snowmobile and cross-country skiing facilities. 3. Manage recreation use on acquired lands to protect riparian habitat and streamside management zones. Sensitive Plants. 1. Inventory for possible occurrences of short-petalled campion (Silene invisia) and closed throated beard tongue (Penstemon personatus) in red fir stands. 2. Inventory for possible occurrences of Wilkin's harebell (Campanula wilkinsiana) at Deer Creek and other meadows. Inventory for Cantelow's lewisia (Lewisia cantelovii) on wet rock faces. Wild and Scenic Rivers. 1. Preserve the "outstandingly remarkable" values of Deer Creek until congressional action on the proposed inclusion in the Wild and Scenic Rivers System, commensurate with recommended classifications. Wildlife. 1. Maintain or enhance potential bald eagle nesting habitat near Wilson Lake. 2. Control access and minimize impacts to the area around Wilson Lake. 3. Maintain or enhance potential willow flycatcher habitat. D. Wildlife Habitat Allocations. Bald Eagle Territories: 1, Spotted Owl Habitat Areas: 2.

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	Goshawk Territories: 2. Other Emphasis Species. Deer (summer range), mallard, Chinook salmon, steelhead trout, rainbow trout, willow flycatcher, and marten.
Butt Creek Management Area (37) (p. 4-231 – 4-232)	A. Standards and Guidelines Fish. 1. Protect fish habitat and evaluate restoration opportunities for resident fish of the Butt Creek and Yellow Creek drainages. Sensitive Plants. 1. Inventory for possible occurrences of short-petalled campion (Silene invisia) and closed throated beard tongue (Penstemon personatus) in red fir stands. 2. Inventory for Cantelow's lewisia (Lewisia cantelovii) on wet rock faces. 3. Inventory for Quincy lupine (Lupinus dalesiae) in open, rocky areas. Wildlife. 1. Continue improvement of riparian, meadow, and stream habitats along Soldier, Yellow, and Butt Creeks.
Lower Mill Creek Management Area (40) (p. 4-243 – 4-245)	A. Standards and Guidelines Fish. 1. Protect and maintain habitat conditions for anadromous fish. Sensitive Plants. 1. Inventory for possible occurrences of Butte County fritillary (Fritillaria eastwoodiae) populations in foothill woodlands. Inventory for Cantelow's lewisia (Lewisia cantelovii) on wet rock faces. Wildlife. 1. Monitor cliff sites in the Mi11 Creek drainage for peregrine falcon nesting use. Use artificial propagation to insure success of active nest sites if necessary to meet population recovery goals. D. Wildlife Habitat Allocations. Spotted Owl Habitat Areas: 1. Peregrine Falcon Territories: 1. Other Emphasis Species Deer (winter range), gray squirrel, Chinook salmon, steelhead trout.
Jonesville Management Area (44) (p. 4-259 – 4-260)	A. Standards and Guidelines Sensitive Plants. 1. Inventory for possible occurrences of short-petalled (Silene invisia) and closed throated beard tongue (Penstemon personatus) in red fir stands. D. Wildlife Habitat Allocations. Goshawk Territories: 1. Other Emphasis Species. Deer (summer range), black bear, rainbow trout, spotted owls.
5) Plumas (1988)	
Rx-1 Wilderness Prescription (4-63)	Recreation. Allow no motor vehicle use. Post boundaries and establish physical controls to prevent motorized entry.
Rx-2 Wilderness Prescription (4-68 – 4-74)	Recreation. Manage lands within the Wild and Scenic River according to their appropriate Recreation Opportunity Class. Wild Zone: Permit no additional motorized access routes to the river and no motorized transportation along the river. Permit motorized access on the Cleghorn Bar, Stag Point, Deadman Springs, and Little California Mine roads and close all others at their junctions with system roads. Wildlife. Coordinate with Calif. Dept. of Fish and Game for all projects affecting the Scenic and Wild Zones of the river. Prepare and implement a wild trout habitat management plan. Maintain sufficient flows in the river to meet needs of the Wild Trout fishery. Soil and Water. Work closely with the Regional Water Quality Control Board to detect and control pollutant emissions and spills. In cooperation with the Regional Water Quality Control Board, establish water quality objectives for the river that meet Federal standards.
Rx-3 Feather Falls Scenic Area Prescription (4-75 – 4-77)	Recreation. Maintain ROS classes of Roaded Natural and Semi-primitive Non-motorized as mapped in the Planning Records. Allow ORV's wherever user conflict or resource damage is unlikely. Close all trails to motorized use.

Table 2. USFS Management Prescriptions and Management Area Standards and Guidelines Relevant to OSV Program

<table>
<tr><td>Rx-4 Challenge Experimental Forest Prescription
(4-78)</td><td>Recreation. Prohibit ORV use.</td></tr>
<tr><td>Rx-5 Recreation Area Prescription
(4-80)</td><td>Recreation. Restrict vehicle use and prohibit off road use. Restrict wheeled vehicles to designated routes.</td></tr>
<tr><td>Rx-6 Developed Recreation Site Prescription
(4-83)</td><td>Recreation. Confine vehicle use to interior roads and spurs. Allow ORV use of trails which lead to adjacent off-road vehicle routes or acceptable cross-country areas.</td></tr>
<tr><td>Rx-8 Semi-primitive Area Prescription
(4-88 – 4-90)</td><td>Recreation. Allow no motorized travel except over-the-snow and management access.</td></tr>
<tr><td>Rx-9 Riparian Area Prescription
(4-91 – 4-94)</td><td>Water. Prohibit the use, handling, or storage of any hazardous material within riparian areas unless no other alternative is available and suitable containment structures and spill cleanup contingency plans have been approved by the Forest Service.</td></tr>
<tr><td>Rx-11 Bald Eagle Habitat Prescription
(4-96 – 4-98)</td><td>Recreation. Close the areas to ORV use.</td></tr>
<tr><td>Rx-12 Bald Eagle Habitat Prescription
(4-99 – 4-102)</td><td>Wildlife. Provide suitable habitat for a network for 54 pairs of spotted owls according to Management Area direction. Space groups of territories 6 to 12 miles apart, except single-territory areas, which must be no more than 6 miles from adjacent groups. Extend the network throughout the current range of spotted owls. Allow density reduction within the range, but maintain the range perimeter. Provide 1000 acres of suitable habitat for each spotted owl territory during every decade within the planning horizon. Include in each a 300 acre nesting core, a contiguous 300-acre replacement core, and 400 additional acres in no more than three units each 60 acres or larger. Consider as "suitable habitat" (for nesting, roosting, and feeding) lands with the following characteristics: the average size distribution is:
<table>
<tr><th>Number of Trees/Ac.</th><th>Diameter Class (inches)</th></tr>
<tr><td>90</td><td>6-12</td></tr>
<tr><td>38</td><td>12-18</td></tr>
<tr><td>8</td><td>18-24</td></tr>
<tr><td>9</td><td>24-30</td></tr>
<tr><td>5</td><td>30-36</td></tr>
<tr><td>7</td><td>36+</td></tr>
</table>
And an average of 7 snags per acre are over 12" DBH within a 100 acre area containing the nest site, mature tree canopy closure exceeds 40% and total closure exceeds 70%, obvious decadence is present (broken tops and defective trees), dead and down material is present, and core areas are located within 3/4 miles of water. Identify owl territories that meet the intent of the network. Develop spotted owl management plans for each</td></tr>
</table>

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	territory before any planned management activities occur. In this: 1. Identify existing owl use areas and replacement stands; 2. Specify target vegetation composition; 3. Prescribe silvicultural practices including systems, cutting methods, entry schedules, and rotations. Between April 1 and June 30 limit activities within occupied core areas to minimize disturbance.
Rx-13 Goshawk Habitat Prescription (4-103 – 4-104)	Wildlife and Fish. Provide suitable habitat for goshawks according to Management Area Direction. When additional nest sites are discovered, maintain suitable habitat at least until Management Area direction for goshawks is fully implemented. Within the existing goshawk range, provide sufficient suitable nesting habitat to maintain a density of at least one nest stand per 18 square miles. Allow variation in distances between stands, not exceeding 12 miles. Limit disturbance to occupied nest stands from March 1 to August 31. If compatible with this direction, manage for other species dependent upon late successional timber stands, especially sensitive species.
Management Area 5: Bucks (4-143 – 4-148)	Recreation. Apply Rx-1 to the Bucks Lake Wilderness Area. Wildlife. Limit dispersed recreation in the Bucks Lake Bald Eagle Territory when the nest site is active. Water. Evaluate the potential of each project in the watershed to degrade the Lake's water quality. Upon replacement, modification, or transfer, require permittee to meet all County, State, and Federal requirements for water quality. Periodically monitor lake water quality in cooperation with State and County agencies. Develop a monitoring plan to establish background data and detect changes.
Management Area 7: Axford (4-154 – 4-157)	Wildlife. Maintain or enhance deer summer range habitat for the Bucks Mountain deer herd.
Management Area 12: Pinchard (4-184 – 4-187)	Recreation. Manage the Wild Zone consistent with the Wild and Scenic Rivers Act; employ Rx-2. Allow ORV's on the Stag Point 4WD trail. Maintain the character of the Middle Fork semi-primitive area: employ Rx-8. Wildlife. For projects affecting the MFFR Wild Trout Stream, coordinate with California Department of Fish and Game. Maintain or enhance deer summer range habitat and migration corridors for the Mooretown deer herd.
Management Area 14: Sawmill (4-196 – 4-200)	Recreation. Manage the Wild Zone consistent with Wild and Scenic River Act: employ Rx-2. Continue 4WD designation of the Cleghorn Bar Road. Maintain the character of the Middle Fork semi-primitive area: employ Rx-8. Prohibit ORV's below the MFFR Canyon Rim except on Cleghorn Bar Road. Wildlife. For projects affecting the MFFR Wild Trout Stream, coordinate with Calif. DFG. Maintain or enhance deer summer and winter range habitat for the Mooretown Herd. Water. See Forestwide Standards and Guidelines: WATER. Water Use and Need. Special Areas. Preserve and enhance the Fowler Lake area: employ Rx-7. Close existing road access to Fowler Lake and study the area for ORV closure. Provide directional signing from the PCT. Maintain a forage fish base for wildlife.
Management Area 19: North Fork (4-226 – 4-231)	Recreation. Maintain the North Fork Recreation Area: employ Rx-5 and -6. Apply Rx-1 to the Bucks Lake Wilderness Area. Wildlife. For projects affecting the Yellow Creek Wild Trout Stream, coordinate with California DFG; prepare and implement a wild trout habitat management plan. Maintain sufficient flows in Yellow Creek to meet needs of the Wild Trout fishery. Maintain or enhance deer summer and winter range habitat for the Bucks Mountain Herd. Cooperate with California Dept. of Fish and Game, Caltrans, and Union Pacific R.R. to remove fish barriers blocking upstream migration into the tributaries of the North Fork of the Feather River.
Management	Recreation. Apply Rx-1 to the Bucks Lake Wilderness Area. Areas closed to ORV use

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Area 21: Silver (4-238 – 4-244)	include Butterfly Valley, Snake Lake, and the Bucks Lake Wilderness. Wilderness. Maintain or enhance deer winter range for Sloat herd.
6) Tahoe (1990)	
Prescriptions	
Recreation (p. V-51 – V-52)	A4. Open OHV. Permit snow and land travel, except for system roads and trails where laws prohibit use. Travel will only occur on lands where OHV use is permitted without restriction. A5. Restricted OHV. Restrict use to designated routes for summer or winter periods or both, or use restricted by time of year. Will only occur on lands where OHV use is allowed under various restrictions. A6. Closed OHV. Prohibit all motor vehicle use. Management activities that involve vehicle use are permitted for essential resource protection, such as fire control, insect and disease problems in timber stands and recreation impacts. Will only occur on lands closed to all types of vehicle use.
Management Areas	
Carman (1) (p. V-76 – V-79)	IV. Management Area Standards and Guidelines. A. Recreation Opportunity Spectrum - Roaded natural. D. Off-highway Vehicle Restrictions ~ Designated routes only. Open to winter over-the-snow vehicles. E. Forestwide Standards and Guidelines -All apply.
Sunnyside (4) (p. V-88 – V-91)	IV. Management Area Standards and Guidelines. A. Recreation Opportunity Spectrum - Semi-primitive motorized except along the main haul route - roaded natural. D. Off-Highway Vehicle Restrictions - Designated routes only summer. Open to winter over-the-snow travel. E. Forestwide Standards and Guidelines ~ All apply.
Lavezzola (5) (p. V-92 – V-96)	IV. Management Area Standards and Guidelines. A. Recreation Opportunity Spectrum - Roaded natural and semi-primitive motorized in the Sierra Buttes area. D. Off-Highway Vehicle Restrictions - Designated routes only summer. Open to winter over-the-snow travel. E. Forest-wide Standards and Guidelines ~ All apply.
Chapman (8) (p. V-106 – V-109)	IV. Management Area Standards and Guidelines. A. Recreation Opportunity Spectrum - Roaded natural. D. Off-Highway Vehicle Restrictions - Designated routes only, summer. Open to over-the-snow in winter except area near Yuba Pass where travel confined to designated mules only. E. Forestwide Standards and Guidelines -All apply.
Lakes Basin (9) (p. V-110 – V-113)	IV. Management Area Standards and Guidelines. A. Recreation Opportunity Spectrum ~ Roaded natural except for semi-primitive motorized in the Sierra Buttes area. D. Off-Highway Vehicle Restrictions - Designated routes only summer. Open for winter use. E. Forestwide Standards & Guidelines - All apply. F. Specific Standards and Guidelines Not Stated Above - Prepare a winter sports management plan to assure orderly development and management of skiing and snowmobiling use.
Forty Niner (13) (p. V-126 – V-130)	IV. Management Area Standards and Guidelines. A. Recreation Opportunity Spectrum - Roaded natural except for a small portion of semi-primitive motorized in the Sierra Buttes area. D. Off-Highway Vehicle Restrictions ~ Designated routes only. E. Forestwide Standards and Guidelines ~ All apply.
Henness (18) (p. V-146 – V-151)	IV. Management Area Standards and Guidelines. A. Recreation Opportunity Spectrum - Roaded natural. D. Off-Highway Vehicle Restrictions ~ Designated routes only in summer: over-the snow open. E. Forestwide Standards and Guidelines - All apply.
Eighty-Nine (19) (p. V-152 – V-155)	IV. Management Area Standards and Guidelines. A. Recreation Opportunity Spectrum ~ Rural around residential areas and developed site at southern end of MA: all other areas roaded natural. D. Off-Highway Vehicle Restrictions - Designated routes only, summer, open over-the-snow. E. Forestwide Standards and Guidelines -All apply.

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Milton Jackson (25) (p. V-180 – V-183)	IV. Management Area Standards and Guidelines. A. Recreation Opportunity Spectrum ~ Roaded natural. D. Off-Highway Vehicle Restrictions - Restricted, motor vehicle travel on designated routes only: over-the-snow vehicle travel open. E. Forestwide Standards and Guidelines ~ All apply.
Pass (29) (p. V-196 – V-198)	IV. Management Area Standards and Guidelines. A. Recreation Opportunity Spectrum – Rural. D. Off-Highway Vehicle Restrictions - Designated routes only. E. Forestwide Standards and Guidelines ~ All apply.
Lola (33) (p. V-214 – V-217)	IV. Management Area Standards and Guidelines. A. Recreation Opportunity Spectrum - Roaded natural with rural around ski base facilities, if developed. D. Off-Highway Vehicle Restrictions - Designated routes only. Over-the-snow vehicle travel open. E. Forestwide Standards and Guidelines -All apply.
Sagehen Basin (36) (p. V-224 – V-226)	IV. Management Area Standards and Guidelines. A. Recreation Opportunity Spectrum - Roaded natural. D. Off-Highway Vehicle Restrictions. Designated routes only, summer Suggested routes winter (Open). E. Forestwide Standards and Guidelines -All apply.
7) Eldorado (1988)	
Wilderness (1) (p. 4-123)	28. Closed to Off-Road Vehicle Management. No motor vehicle use or mountain bicycles allowed. Post wilderness boundaries and set up physical controls to prevent unauthorized entry where trespass is likely. Exception by the Regional Forester may be made escaped fire analysis or threat to life and property dictate otherwise.
Wild and Scenic Rivers (2) (p. 4-139)	27. Restricted Off-Road Vehicle Management. Provide restricted travel in the Scenic class of river where other resources are served. Screen roads and trails from the rivers. Post the designated travel routes. 28. Closed Off-Road Vehicle Management. Close the Mokelumne Wild River to all motorized travel. Make exceptions only where escaped fire analysis or threat to life and property dictates otherwise.
Research Natural Area (3) (p. 4-138)	28. Closed to Off-Road Vehicle Management. Close research natural areas yearlong to off-road vehicles. Exception may be made where escaped fire analysis or threat of life or property dictates otherwise.
Special Areas (4) (p.4-142)	27. Restricted Off-Road Vehicle Management. Make travel compatible with Special Areas. Use restricted access as a means of protection. Establish Rubicon Springs National Recreation Trail expressly for 4-WD vehicles 28. Closed Off-Road Vehicle Management. Prevent use of certain Special Areas because of their ecological value or national policy. Close the following Special Areas: Round Top Botanical/ Geological, Pacific Crest Trail, Pony Express Trail, Emigrant Summit Trail (northeast of Horse Creek Saddle)
Primitive High Country (5) (p. 4-152)	28. Closed Off-Road Vehicle Management. Close the area to all vehicle use. Make exception when escaped fire situation analysis or threat to life and property dictate otherwise.
Semi-primitive Non-motorized High Country (6) (p. 4-156)	28. Closed Off-Road Vehicle Management. Close the area to all vehicle use during the summer season. Allow use by over-snow vehicles during the winter season by permit only. Make exceptions when escaped fire situation analysis or threat to life and property dictate otherwise. Portions of the area may be opened temporarily to salvage or harvest timber, develop mineral resources, and facilitate grazing.
Semi-primitive Motorized High-Country (7)	20. Developed Recreation and Visitor Information Services Site Construction and Reconstruction. Provide developed recreation opportunities that blend with the environment. Limit development to small, primitive sites, using native materials. Locate

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(p 4-160)	improvements near water. Provide facilities to accommodate off-road vehicle travel along designated routes.
Roaded Natural High Country (8) (p. 4-167)	28. Closed Off-Road Vehicle Management. Prevent conflicts with cross-country skiers and hikers. Close those areas near the Sierra Crest where conflicts occur.
Existing Winter Sports Sites (11) (p. 4-185)	28. Closed Off-Road Vehicle Management. Close summer and winter motor vehicle use except by winter sports permittees. In connection with operation of the ski area. Allow low standard maintenance and administration of roads and trails by the Permittees.
Potential Winter Sports Sites (12) (p. 4-192)	27. Restricted Off-Road Vehicle Management. Regulate vehicle travel to protect site capability. Confine travel to designated motorized trails and off-road vehicle routes. Do not allow unrestricted vehicle use on inventoried sites.
Private Sector Developed Recreation (13) (p. 4-197)	28. Closed Off-Road Vehicle Management. Do not allow vehicle use off of system roads and trails. Confine use to roads and trails that lead to adjacent off-road vehicle routes or areas.
Goshawk Management Area (19) (p. 4-217- 4-218)	25. Dispersed Recreation Management. Manage for a low concentration of dispersed use and restrict activities that modify goshawk habitat. Allow sightseeing, hiking, undeveloped camping, nature study, hunting and fishing. 42. Habitat Improvement – Old-Growth. Protect potential nesting territories until at least 51 active nesting territories have been identified. Above that level, consider additional analysis process. Create a primary protection zone of 25 acres around all active or recently active nest sites. The scope of the primary zone will depend on topographic and vegetative characteristics but will include the nest tree, the plucking and roosting sites, and whenever possible, the portion of the forest stand located between a nest and the closest water source. Select an alternate zone of 25 acres for each territory. Locate this area within 0.5 miles of the active nest site. Apply the same restrictions as the primary zone.
Meadow Management (28) (p.4-278)	28. Closed Off-Road Vehicle Management. Prohibit motor vehicle use on meadows. Temporarily open portions of meadows to facilitate installation of improvements or fuelwood removal when ground is firm.
Streamside Management Zone (30) (p.4-288 – 4-293)	27. Restricted Off-Road Vehicle Management. Confine ORV use to designated roads, trails, and crossings. Confine use to the dry seasons on stabilized roads and trails. Allow over-the-snow-travel. Limit stream crossings to stable rock or gravel areas where stream bank damage will be minimal. 43. Habitat Improvement – Vegetation Enhancement. Maintain an average riparian corridor width of 100 feet on both sides of perennial streams. 83. Watershed Maintenance and Rehabilitation. Manage streamside management zones to protect water sources from the impacts of upstream and upslope soil vegetation disturbance.
8) Stanislaus (2005)*	
Wilderness and Proposed Wilderness (p. 65 – p 101)	Recreation. ROS Primitive (10-B-1). Manage to a ROS Class of Primitive. This is the adopted ROS level for management of all Wilderness as shown on the ROS Map (I-5) The ROS Class of Semi-Primitive Non-Motorized is an acceptable interim level for certain areas within Wilderness. Closed Motor Vehicle Travel Management (10-G-1) MVTM. Manage to Forestwide S&Gs for Closed Motor Vehicle Travel Management. Conduct surveys, observe conditions and carry out rehabilitation, as needed, to eliminate evidence of, and access by, unauthorized motorized use.

Table 2. USFS Management Prescriptions and Management Area Standards and Guidelines Relevant to OSV Program

Wild and Scenic Rivers and Proposed Wild and Scenic Rivers (p. 103 – p 108)	Recreation. Closed Motor Vehicle Travel Management (10-G-1) MVTM. Manage to Forestwide S&Gs for Closed Motor Vehicle Travel Management. Clark Fork Headwaters – Wilderness, Clavey River, Bell Creek (6 mile Wild portion), Lily Creek (9 mile Wild portion), 3N01 - Cottonwood Road (4 mile Wild portion), Cottonwood Road - Tuolumne (14 mile Wild portion), Middle Fork Stanislaus, Kennedy Creek, Clark Fork - Donnell Reservoir, Sand Bar - North Fork Stanislaus , North Fork Mokelumne, Wilderness - Salt Springs Reservoir, North Fork Stanislaus, Highland Creek - Mckays (13 mile Wild portion), Mckays - Middle Fork Stanislaus, South Fork Tuolumne, Stanislaus, Tuolumne, Yosemite - Early Intake, Cherry Creek – Lumsden, Lumsden Area - Don Pedro, Conduct surveys, observe conditions and carry out rehabilitation, as needed, to eliminate evidence of, and access by, unauthorized motorized use. Restricted Motor Vehicle Travel Management (10-G-2) MVTM. Manage to Forestwide S&Gs for Restricted Motor Vehicle Travel Management. Use restrictions to protect Wild and Scenic River values. Clark Fork, Wilderness - Middle Fork Stanislaus, Clavey River, Bell Creek (1 mile Scenic portion), Lily Creek (2 mile Scenic portion), Bell/Lily Confluence - 3N01, 3N01 - Cottonwood Road (4 mile Scenic portion), Cottonwood Road - Tuolumne (2 mile Scenic portion), Middle Fork Stanislaus, Deadman Creek, Relief Reservoir - Clark Fork, North Fork Mokelumne, Highland Lake – Wilderness, North Fork Stanislaus, Highland Creek - Mckays (3 mile Recreational portion), Merced, Tuolumne, Early Intake - Cherry Creek, Lumsden Area, Niagara Creek, Conduct surveys, observe conditions and carry out rehabilitation, as needed, to mitigate and minimize damage to Wild and Scenic River values caused by motorized use.
Near Natural (p. 109 – p 111)	Recreation. ROS Semi-primitive Non- motorized (10-B-2). Manage to ROS Class of SPNM. This is the adopted ROS level for Near Natural as shown on the ROS Map (I-5) Closed Motor Vehicle Travel Management (10-G-1) MVTM. Manage to Forestwide S&Gs for Closed Motor Vehicle Travel Management. Conduct surveys, observe conditions and carry out rehabilitation, as needed, to eliminate evidence of, and access by, unauthorized motorized use.
Wildlife (p. 113 – p 116)	Recreation. ROS - Semi-primitive Motorized (SPM) (10-B-3). Manage to the ROS class of Semi-Primitive Motorized, consistent with wildlife values and implementation plans. This is the adopted ROS level for the Wildlife Management Areas as shown on the ROS Map (I-5). ROS - Roaded Natural (RN) (10-B-4). Manage to the ROS class of Roaded Natural, consistent with Wildlife values and implementation plans. This is the adopted ROS level for the Wildlife Management Areas, as shown on the ROS Map (I-5), where existing improvements represent the ROS Class of Roaded Natural. Restricted Motor Vehicle Travel Management (10 G-2) MVTM. Manage to Forestwide S&Gs for Restricted Motor Vehicle Travel Management. Use restrictions to protect Wildlife values. Conduct surveys, observe conditions and carry out rehabilitation, as needed, to mitigate and minimize damage to Wildlife values caused by motorized use. Wild and Scenic Rivers. Alternate Management (19-D). Manage to Wildlife guidelines all or portions of the following segments that are within Wildlife: Bell Creek, Lily Creek, Clavey Segments 3 and 4, and Pacific Creek.
Special Interest Areas (p. 117 – p 132)	Recreation. ROS Primitive (10-B-1) ROS Semi-primitive Non-motorized (10-B-2) ROS Semi-primitive Motorized (10-B-3) ROS Roaded Natural (10-B-4). Manage dispersed recreation in these areas to maintain or improve the adopted ROS classes, as shown on the ROS Map (I-5), consistent with Special Interest Area values and implementation plans Closed Motor Vehicle Travel Management (10-G-1) MVTM. Manage to Forestwide S&Gs for Closed Motor Vehicle Travel Management: ƒ Emigrant Road and Big Trees-Carson Valley Road Conduct surveys, observe conditions and carry out rehabilitation, as needed, to eliminate evidence of, and access by, unauthorized motorized use. Restricted Motor Vehicle Travel Management (10-G-2) MVTM. Manage to Forestwide

Table 2. USFS Management Prescriptions and Management Area Standards and Guidelines Relevant to OSV Program

	S&Gs for Restricted Motor Vehicle Travel Management. Use restrictions to protect SIA values: Column of the Giants: Sonora Mono Toll Road, Jordan Creek/Bower Cave, Pacific Madrone, Trumbull Peak, Windelar Cave, Bourland Trestle, Bull Run, Niagara Creek, Jawbone Falls, Conduct surveys, observe conditions and carry out rehabilitation, as needed, to mitigate and minimize damage to SIA values caused by motorized use.
Research Natural Areas (p. 133 – p 138)	Recreation. ROS - Semi-primitive Motorized (SPM) (10-B-3). Manage to the ROS class of Semi-Primitive Motorized, consistent with wildlife values and implementation plans. This is the adopted ROS level for the Wildlife Management Areas as shown on the ROS Map (I-5). Closed Motor Vehicle Travel Management (10-G-1) MVTM. Manage to Forestwide S&Gs for Closed Motor Vehicle Travel Management. Conduct surveys, observe conditions and carry out rehabilitation, as needed, to eliminate evidence of, and access by, unauthorized motorized use.
Experimental Forest (p. 139)	Recreation. ROS - Roaded Natural (RN) (10-B-4). Manage to the ROS class of Roaded Natural, consistent with Wildlife values and implementation plans. This is the adopted ROS level for the Wildlife Management Areas, as shown on the ROS Map (I-5), where existing improvements represent the ROS Class of Roaded Natural. Restricted Motor Vehicle Travel Management (10 G-2) MVTM. Manage to Forestwide S&Gs for Restricted Motor Vehicle Travel Management. Use restrictions to protect Wildlife values. Conduct surveys, observe conditions and carry out rehabilitation, as needed, to mitigate and minimize damage to Wildlife values caused by motorized use.
Scenic Corridor (p. 140 - 144)	Recreation. ROS - Roaded Natural (RN) (10-B-4). Manage to the ROS class of Roaded Natural, consistent with Wildlife values and implementation plans. This is the adopted ROS level for the Wildlife Management Areas, as shown on the ROS Map (I-5), where existing improvements represent the ROS Class of Roaded Natural. Restricted Motor Vehicle Travel Management (10 G-2) MVTM. Manage to Forestwide S&Gs for Restricted Motor Vehicle Travel Management. Use restrictions to protect Wildlife values. Conduct surveys, observe conditions and carry out rehabilitation, as needed, to mitigate and minimize damage to Wildlife values caused by motorized use.
General Forest (p. 145 - 147)	Recreation. ROS - Roaded Natural (RN) (10-B-4). Manage to the ROS class of Roaded Natural, consistent with Wildlife values and implementation plans. This is the adopted ROS level for the Wildlife Management Areas, as shown on the ROS Map (I-5), where existing improvements represent the ROS Class of Roaded Natural. Restricted Motor Vehicle Travel Management (10 G-2) MVTM. Manage to Forestwide S&Gs for Restricted Motor Vehicle Travel Management. Use restrictions to protect Wildlife values. Conduct surveys, observe conditions and carry out rehabilitation, as needed, to mitigate and minimize damage to Wildlife values caused by motorized use.
Developed Recreation Sites (p. 148 - 153)	Recreation. ROS - Roaded Natural (RN) (10-B-4). Manage to the ROS class of Roaded Natural, consistent with Wildlife values and implementation plans. This is the adopted ROS level for the Wildlife Management Areas, as shown on the ROS Map (I-5), where existing improvements represent the ROS Class of Roaded Natural. Restricted Motor Vehicle Travel Management (10 G-2) MVTM. Manage to Forestwide S&Gs for Restricted Motor Vehicle Travel Management. Use restrictions to protect Wildlife values. Conduct surveys, observe conditions and carry out rehabilitation, as needed, to mitigate and minimize damage to Wildlife values caused by motorized use.
Winter Sports Sites (p. 161 - 162)	Recreation. ROS - Roaded Natural (RN) (10-B-4). Manage to the ROS class of Roaded Natural, consistent with Wildlife values and implementation plans. This is the adopted ROS level for the Wildlife Management Areas, as shown on the ROS Map (I-5), where existing improvements represent the ROS Class of Roaded Natural. Restricted Motor Vehicle Travel Management (10 G-2) MVTM. Manage to Forestwide S&Gs for Restricted Motor Vehicle Travel Management. Use restrictions to protect Wildlife values. Conduct surveys, observe conditions and carry out rehabilitation, as

Table 2. USFS Management Prescriptions and Management Area Standards and Guidelines Relevant to OSV Program	
	needed, to mitigate and minimize damage to Wildlife values caused by motorized use.
Developed Non-recreation Sites (p. 163 - 164)	Recreation. Restricted Motor Vehicle Travel Management (10 G-2) MVTM. Manage to Forestwide S&Gs for Restricted Motor Vehicle Travel Management. Use restrictions to protect Wildlife values. Conduct surveys, observe conditions and carry out rehabilitation, as needed, to mitigate and minimize damage to Wildlife values caused by motorized use.
9) Inyo (1988)*	
Prescriptions	
Recreation (p.182 – 183)	Program and develop support facilities such as parking areas and trailheads for both nordic and snowmobile access along U.S. 395 and the Scenic Loop Road when opportunities and funding become available. OSV access to the Inyo Craters will be permitted to continue.
Proposed Wilderness Areas (p. 114)	Recreation. OSVs may be used off roads and trails unless restricted by the new winter Motor Vehicle Use Map. This map will be developed as an update of the 1977 Motor Vehicle Use Map with public participation during plan implementation.
Mountain Sheep Habitat (p. 116)	Recreation. Allow no OHV/OSV use.
Mule Deer Habitat (p. 118)	Recreation. OSVs are prohibited unless otherwise indicated on the Winter Motor Vehicle Use Map.
Research Natural Areas (p. 120)	Recreation. OSVs are prohibited unless otherwise indicated on the Winter Motor Vehicle Use Map.
Ancient Bristlecone Forest (p. 124)	Recreation. OSVs are prohibited for recreation use.
Wild and Scenic Rivers (p. 127-128)	Recreation. *Recreation Segment*. Allow the recreation activities appropriate in primitive, semi-primitive non-motorized, semi-primitive motorized, and roaded Natural ROS classes. Allow OHV use on designated roads and trails only. OSVs may be used off roads and trails unless restricted by the winter Motor Vehicle Use Map. Provide for camping at designated sites only. *Scenic Segment.* Allow the recreation activities appropriate in primitive, semi-primitive non-motorized, semi-primitive motorized and roaded Natural ROS classes. Allow OHV use on designated roads and trails only. OSVs may be used off roads and trails unless restricted by the winter Motor Vehicle Use Map. Provide for recreation in a near-natural setting while allowing other compatible uses. Allow camping and OHV use at locations at least 100 feet from the river's edge. *Wild Segment*. Allow the recreation activities included in primitive and semi-primitive non-motorized classes. Allow no OHV/OSV use. Provide for recreation in a primitive setting that offers considerable physical challenge and requires well-developed outdoor skills. Allow camping at locations at least one hundred feet from the river's edge. Provide access by trail for non-motorized use only.
Dispersed Recreation (p. 145)	Recreation. Maintain ROS Classes as inventoried. Permit OSV use in corridors as identified on the Winter Motor Vehicle Use Map. Allow OHV use only on designated roads and trails.

Table 2. USFS Management Prescriptions and Management Area Standards and Guidelines Relevant to OSV Program	
Un-even Aged Timber Management (p.130)	Recreation. OSVs are permitted on designated corridors, trails and open areas identified on the Winter Motor Vehicle Use Map. Close or re-route designated over-snow trails during active timber sale operations.
High Level Timber Management (p.132)	Recreation. Allow OSVs on designated corridors, trails and open areas identified on the Winter Motor Vehicle Use Map.
Range (p.135)	Recreation. OSVs may be used off roads and trails unless restricted by the Winter Motor Vehicle Use Map.
Concentrated Recreation Areas (p. 137)	Recreation. OSVs may be used off roads and trails unless restricted by the Winter Motor Vehicle Use Map.
Alpine Ski Area, Existing and Under Study (p.138-139)	Recreation. OSVs are prohibited except for corridors identified in the Winter Motor Vehicle Use Plan. Watershed. Monitor water quality to ensure compliance with water discharge requirements.
Potential Alpine Ski Area (p.141)	Recreation. OSVs are prohibited except for corridors identified in the Winter Motor Vehicle Use Plan.
Developed Recreation Site (p. 144)	Recreation. OSVs are prohibited for recreation use.
Semi-primitive Recreation (p. 147)	Recreation. Allow OSV use off roads and trails unless restricted by the winter Motor Vehicle Use Map.
Multiple Resource Area (p. 149)	Recreation. OSVs may be used off roads and trails unless restricted by the Winter Motor Vehicle Use Map.
Management Areas	
June Lake Loop Management Area (#4) (p.169)	Wildlife. Emphasize the importance of the Casa Diablo deer herd in management decisions.
Upper Owens River Management Area (#7) (p.182 - 183)	Recreation. OSV access to the Inyo Craters will be permitted to continue. Watershed. Manage riparian areas to maintain high habitat quality for fish, especially in threatened and endangered species waters, wild trout waters, and the meadow reaches of the streams. Wildlife. Maintain the productivity of meadows for sage grouse. Allow management activities that do not significantly interfere with key sage grouse habitat. Maintain or enhance the integrity of key winter ranges, holding areas, migration routes, and fawning areas for mule deer.
Mammoth Escarpment (#8) (p. 187 - 189)	Fish. Manage Glass Creek drainage above the campground to provide for recovery of the Lahontan cutthroat trout as approved by the Lahontan Cutthroat Trout Recovery Plan. Recreation. Encourage public transportation in the Mammoth Lakes Basin for summer and winter day-use.

Table 2. USFS Management Prescriptions and Management Area Standards and Guidelines Relevant to OSV Program	
	Water. Work with responsible agencies to assure compliance with provisions of the Water Management Plan for Mammoth Lakes Basin. Manage the Glass creek watershed above the Crestview water supply intake, and Mammoth Lakes Basin above the Mammoth Lakes Community water supply intake with all the precautions needed to ensure that water is provided at a quality level consistent and compatible with State Basin Plan objectives for domestic supply. Recognize the value of maintaining undiminished stream flows in management decisions. Manage water resources within Mammoth Lakes Basin to provide adequate protection of natural resources, and to serve recreational demand along with water supply needs. Satisfy municipal water supply needs after natural resources needs are met. Wildlife. Maintain the integrity of key winter ranges, holding areas, migration routes, and fawning areas for mule deer.
Mammoth (#9) (p. 193 - 195)	Recreation. Prohibit dispersed camping throughout the Management Area. Water. Support state water quality control requirements and local ordinances to mitigate adverse impacts of urban runoff onto National Forest System lands. Wildlife. Maintain the integrity of key winter ranges, holding areas, migration routes, and fawning areas for mule deer.
10) Sierra (1991)	
4.5.5 Applicable to developed recreation analysis area 14 (Fish Camp) (p. 4-26)	247. Limit over-snow vehicles to designated routes and areas only.
4.5.6. Applicable to developed recreation analysis area 17 (Bass Lake) (p. 4-26-4-27)	260. Limit over-snow vehicles to designated routes and areas only.
4.5.8 Applicable to developed recreation analysis area 47 (Huntington Lake) (p. 4-27)	269. Permit snow plowing on permittee roads under the following conditions: a. Roads must be constructed to a standard that allows snowplowing. b. Since the county road up to Deer Creek Tract access road near Lakeshore Resort has been plowed for many years, those recreational residence tract roads serviced by this portion of the county road may be plowed all winter. c. From the Deer Creek access road to the dam, permittee roads may be plowed from first snow through January 5 and again starting the weekend before Easter, provided snow is less than 2 feet deep. 277. Limit over-snow vehicles to designated routes and areas.
4.5.9 Applicable to developed recreation analysis areas 45 and 46 (Florence/Edison Lakes) (p. 4-27- 4-28)	285. Allow over-snow and helicopter access to resorts during winter months. 287. Limit over-snow vehicles to designated routes and areas.
4.5.11 Applicable to developed recreation	294. Maintain primitive and semi-primitive motorized and Non-motorized recreation by closing roads to general two-wheel traffic upon activity completion.

Table 2. USFS Management Prescriptions and Management Area Standards and Guidelines Relevant to OSV Program	
analysis area 55 (Courtrigh/Wishon Reservoirs) (p. 4-28)	
4.5.13 Applicable to all dispersed recreation analysis areas in management areas 2 and 11 (p. 4-28- 4-29)	303. Maintain semi-primitive recreational opportunities when they now occur by closing roads, except designated OHV routes, immediately following project activities. 305. Allow cross-country, over-snow vehicle travel except in areas where use is prohibited or restricted to designated routes or areas provided there are more than 6" snow cover and vehicle tracks do not touch the ground.
4.5.21 Applicable to analysis area 61 in management area 4 (p. 4-28)	324. Close roads not necessary for administrative purposes in the area south of Rancheria Creek to maintain integrity of the Spanish Lakes OHV route.
4.5.23 Applicable to all Front Country analysis areas in management area 5 (p. 4-30)	327. Maintain semi-primitive motorized and non-motorized recreation where they now exist by closing roads immediately following project activities.
11) Sequoia (1988)	
General Dispersed Recreation – Oak Woodland (p. 4-42 - 4-44)	Dispersed Recreation. Maintain and develop trails to meet user needs and protect resource values. Emphasize providing and maintaining a comprehensive network of OHV trails in Roaded Natural ROS Class areas. Fish and Wildlife. 5) Limit habitat management activities where concentrated OHV use occurs.
General Dispersed Recreation – Pinyon Sage (p. 4-48 - 4-49)	Dispersed Recreation. 2) Maintain and develop trails to meet user needs and protect resource values. 4) Emphasize providing and maintaining a comprehensive network of OHV trails.
General Dispersed Recreation – Conifer Forest (p. 4-50 - 4-52)	Dispersed Recreation. 2) Maintain and develop trails to meet user needs and protect resource values. 4) Emphasize providing and maintaining a comprehensive network of OHV trails. Fish and Wildlife. 1) Protect fisheries and wildlife through compliance with Riparian and Meadow Guidelines established for the Forest.
Developed Recreation – Conifer Forest (p. 4-61 - 4-63)	Dispersed Recreation. 4) Direct OHV use to areas away from concentrations of people (e.g. campgrounds). Fish and Wildlife. 1) Protect fisheries and wildlife through compliance with Riparian and Meadow Guidelines established for the Forest. 2) Manage wildlife habitat and diversity to enhance recreation
Wilderness (Natural Role of Fire)	Dispersed Recreation. Closed to motorized vehicle use.

Table 2. USFS Management Prescriptions and Management Area Standards and Guidelines Relevant to OSV Program	
(p. 4-64 - 4-65)	
Wildlife and Dispersed Recreation – Oak Woodland (p. 4-66 - 4-67)	Dispersed Recreation. 2) Maintain and develop trails to meet user needs and protect resource values. 4) Manage OHV use by location and period of use based on wildlife needs (e.g., excluding OHV's from key areas during fawning and nesting). Fish and Wildlife. 5) Give priority to habitat improvement projects that provide the greatest return for recreationists. 6) Consider fish and amphibians in habitat improvement projects.
Wildlife and Dispersed Recreation – Mixed Chaparral (p. 4-68 - 4-70)	Dispersed Recreation. 2) Maintain and develop trails to meet user needs and protect resource values. 4) Manage OHV use by location and period of use based on wildlife needs (e.g., excluding OHV's from key areas during fawning and nesting). Fish and Wildlife. 5) Give priority to habitat improvement projects that provide the greatest return for recreationists. 6) Consider fish and amphibians in habitat improvement projects.
Wildlife and Dispersed Recreation – Pinyon-Sage (p. 4-71 - 4-72)	Dispersed Recreation. 2) Maintain and develop trails to meet user needs and protect resource values. 4) Manage OHV use by location and period of use based on wildlife needs (e.g., excluding OHV's from key areas during fawning and nesting).
Wildlife and Dispersed Recreation – Conifer Forest (p. 4-73 - 4-75)	Dispersed Recreation. 2) Maintain and develop trails to meet user needs and protect resource values. 4) Manage OHV use by location and period of use based on wildlife needs (e.g., excluding OHV's from key areas during fawning and nesting). Fish and Wildlife. 2) Protect fisheries and wildlife through compliance with Riparian and Meadow Guidelines established for the Forest. 5) Create and/or maintain a vegetative buffer strip along OHV trails and areas designated for OHV use to reduce impacts on wildlife.

D. Management Standards and Guidelines

Management direction for carrying out this Decision includes standards and guidelines for project design and implementation. Note that some standards and guidelines apply to specific land allocations while others apply forest-wide (across all land allocations). The vegetation and fuels treatment standards and guidelines are intended to (1) act as sideboards for local managers as they design projects to meet fuels and vegetation management objectives and respond to site-specific conditions, and (2) retain important components of habitat that are believed to be important to species associated with old forests, including large trees, structural diversity and complexity, and moderate to high canopy cover. At the project level, these standards and guidelines are used in conjunction with desired conditions, management intents, and management objectives for the relevant land allocation to determine appropriate treatment prescriptions.

Forest-wide Standards and Guidelines

Standards and guidelines described in this section apply to all land allocations (other than wilderness areas and wild and scenic river areas) unless stated otherwise.

Fire and Fuels Management

1. Strategically place area fuels treatments across the landscape to interrupt fire spread and achieve conditions that: (1) reduce the size and severity of wildfire and (2) result in stand densities necessary for healthy forests during drought conditions. Complete a landscape-level design of area treatment patterns prior to project-level analysis. Develop treatment patterns using a collaborative, multi-stakeholder approach. Determine the size, location, and orientation of area fuels treatments at a landscape-scale, using information about fire history, existing vegetation and fuels condition, prevailing wind direction, topography, suppression resources, attack times, and accessibility to design an effective treatment pattern. The spatial pattern of the treatments is designed to reduce rate of fire spread and fire intensity at the head of the fire.

   Strategic placement of fuels treatments should also consider objectives for locating treatment areas to overlap with areas of condition class 2 and 3, high density stands, and pockets of insect and disease. Avoid PACs to the greatest extent possible when locating area treatments. Incorporate areas that already contribute to wildfire behavior modification, including timber sales, burned areas, bodies of water, and barren ground, into the landscape treatment area pattern. Identify gaps in the landscape pattern where fire could spread at some undesired rate or direction and use treatments (including maintenance treatments and new fuels treatments) to fill identified gaps.

2. Vegetation within treatment areas should be modified to meet desired surface ladder, and crown fuel conditions as well as stand densities necessary for healthy forests during drought conditions. Site specific prescriptions should be designed to reduce fire intensity, rate of fire spread, crown fire potential, mortality in dominant and co-dominant trees, and tree density. Managers should consider such variables as the topographic location of the treatment area, slope steepness, predominant wind direction, and the amount and arrangement of surface, ladder, and crown fuels in developing fuels treatment prescriptions.

3. Where young plantations (generally Pacific Southwest Region size classes 0x, 1x, 2x) are included within area treatments, apply the necessary silvicultural and fuels reduction treatments to: (1) accelerate the development of key habitat and old forest characteristics, (2) increase stand heterogeneity, (3) promote hardwoods, and (4) reduce risk of loss to wildland fire. In size class 2x

plantations, treatments should be designed to reduce fire intensity, rate of fire spread and tree mortality. Design a sequence of fuel reduction projects to achieve the standards below.

Plantations (0x-2x):

- 3 inches and smaller surface fuel load: less than 5 tons per acre,
- less than 0.5 foot fuel bed depth,
- stocking levels that provide well-spaced tree crowns (for example, approximately 200 trees per acre in 4 inch dbh trees),
- less than 50 percent surface area with live fuels (brush), and
- tree mortality less than 50 percent of the existing stocking under 90th percentile fire weather conditions (2x type only)

4. Design mechanical treatments in brush and shrub patches to remove the material necessary to achieve the following outcomes from wildland fire under 90th percentile fire weather conditions: (1) wildland fires would burn with an average flame length of 4 feet or less and (2) fire line production rates would be doubled. Treatments should be effective for more than 5 to 10 years.
5. Design a sequence of fuel reduction treatments in conifer forest types (including 3x plantation types) to achieve the following standards within the treatment area:
   - an average of 4-foot flame length under 90th percentile fire weather conditions.
   - surface and ladder fuels removed as needed to meet design criteria of less than 20 percent mortality in dominant and co-dominant trees under 90th percentile weather and fire behavior conditions.
   - tree crowns thinned to meet design criteria of less than 20 percent probability of initiation of crown fire under 90th percentile weather conditions.

Mechanical Thinning Treatments

6. For all mechanical thinning treatments, design projects to retain all live conifers 30 inches dbh or larger. Exceptions are allowed to meet needs for equipment operability.
7. For mechanical thinning treatments in mature forest habitat (CWHR types 4M, 4D, 5M, 5D, and 6) **outside WUI defense zones:**
   - Design projects to retain at least 40 percent of the existing basal area. The retained basal area should generally be comprised of the largest trees.
   - Where available, design projects to retain 5 percent or more of the total treatment area in lower layers composed of trees 6 to 24 inches dbh within the treatment unit.
   - Design projects to avoid reducing pre-existing canopy cover by more than 30 percent within the treatment unit. Percent is measured in absolute terms (for example, canopy cover at 80 percent should not be reduced below 50 percent.)
   - Within treatment units, at a minimum, the intent is to provide for an effective fuels treatment. Where existing vegetative conditions are at or near 40 percent canopy cover, projects are to be designed remove the material necessary to meet fire and fuels objectives.
   - **Within California spotted owl Home Range Core Areas:** Where existing vegetative conditions permit, design projects to retain at least 50 percent canopy cover averaged within the treatment unit. Exceptions are allowed in limited situations where additional trees must be

removed to adequately reduce ladder fuels, provide sufficient spacing for equipment operations, or minimize re-entry. Where 50 percent canopy cover retention cannot be met for reasons described above, retain at least 40 percent canopy cover averaged within the treatment unit.

- **Outside of California spotted owl Home Range Core Areas:** Where existing vegetative conditions permit, design projects to retain at least 50 percent canopy cover within the treatment unit. Exceptions are allowed where project objectives require additional canopy modification (such as the need to adequately reduce ladder fuels, provide for safe and efficient equipment operations, minimize re-entry, design cost efficient treatments, and/or significantly reduce stand density.) Where canopy cover must be reduced below 50 percent, retain at least 40 percent canopy cover averaged within the treatment unit.
- **Within California spotted owl PACs**, where treatment is necessary, remove only material needed to meet project fuels objectives. Focus on removal of surface and ladder fuels.

The standards in the bulleted list above *do not apply* to the eastside pine type.

8. For mechanical thinning treatments **outside defense zones in the eastside pine type:** in mature forest habitat (CWHR types 4M, 4D, 5M, 5D, and 6), design projects to retain 30 percent of the existing basal area. The retained basal area should be generally comprised of the largest trees. Projects in the eastside pine type have no canopy cover retention standards and guidelines.
9. Standards and guidelines # 6, 7, and 8 above apply only to mechanical thinning harvests specifically designed to meet objectives for treating fuels and/or controlling stand densities.

Snags and Down Woody Material

10. Determine down woody material retention levels on an individual project basis, based on desired conditions. Emphasize retention of wood in the largest size classes and in decay classes 1, 2, and 3. Consider the effects of follow-up prescribed fire in achieving desired down woody material retention levels.
11. Determine snag retention levels on an individual project basis for vegetation treatments. Design projects to implement and sustain a generally continuous supply of snags and live decadent trees suitable for cavity nesting wildlife across a landscape. Retain some mid- and large diameter live trees that are currently in decline, have substantial wood defect, or that have desirable characteristics (teakettle branches, large diameter broken top, large cavities in the bole) to serve as future replacement snags and to provide nesting structure. When determining snag retention levels and locations, consider land allocation, desired condition, landscape position, potential prescribed burning and fire suppression line locations, and site conditions (such as riparian areas and ridge tops), avoiding uniformity across large areas.

General guidelines for large-snag retention are as follows:

- **westside mixed conifer and ponderosa pine types** - four of the largest snags per acre
- **red fir forest type** - six of the largest snags per acre
- **eastside pine and eastside mixed conifer forest types** - three of the largest snags per acre
- **westside hardwood ecosystems** - four of the largest snags (hardwood or conifer) per acre
    - **where standing live hardwood trees lack dead branches** - six of the largest snags per acre (where they exist to supplement wildlife needs for dead material).

Use snags larger than 15 inches dbh to meet this guideline. Snags should be clumped and distributed irregularly across the treatment units. Consider leaving fewer snags strategically located in treatment areas within the WUI. When some snags are expected to be lost due to hazard removal or the effects of prescribed fire, consider these potential losses during project planning to achieve desired snag retention levels.

Tree Species Composition

12. Promote shade intolerant pines (sugar and Ponderosa) and hardwoods.

Salvage

13. Determine the need for ecosystem restoration projects following large, catastrophic disturbance events (wildfire, drought, insect and disease infestation, windstorm, and other unforeseen events). Objectives for restoration projects may include limiting fuel loads over the long term, restoring habitat, and recovering economic value from dead and dying trees. In accomplishing restoration goals, long-term objectives are balanced with the objective of reducing hazardous fuel loads in the short-term.

    Salvage harvest of dead and dying trees may be conducted to recover the economic value of this material and to support objectives for reducing hazardous fuels, improving forest health, re-introducing fire, and/or re-establishing forested conditions.

    - Design projects to reduce potential soil erosion and the loss of soil productivity caused by loss of vegetation and ground cover. Examples are activities that would: (1) provide for adequate soil cover in the short term; (2) accelerate the dispersal of coarse woody debris; (3) reduce the potential impacts of the fire on water quality; and (4) carefully plan restoration/salvage activities to minimize additional short-term effects.
    - Design projects to protect and maintain critical wildlife habitat. Examples are activities that would: (1) avoid areas where forest vegetation is still largely intact; (2) provide for sufficient quantities of large snags; (3) maintain existing large woody material as needed; (4) provide for additional large woody material and ground cover as needed; (5) accelerate development of mature forest habitat through reforestation and other cultural means; and (6) provide for a mix of seral stages over time.
    - Design projects to manage the development of fuel profiles over time. Examples are activities that would: (1) remove sufficient standing and activity generated material to balance short-term and long-term surface fuel loading; and (2) protect remnant old forest structure (surviving large trees, snags, and large logs) from high severity re-burns or other severe disturbance events in the future.
    - Design projects to recover the value of timber killed or severely injured by the disturbance. Examples are activities that would: (1) conduct timber salvage harvest in a timely manner to minimize value loss; (2) minimize harvest costs within site-specific resource constraints; and (3) remove material that local managers determine is not needed for long-term resource recovery needs.

14. In post fire restoration projects for large catastrophic fires (contiguous blocks of moderate to high fire lethality of 1,000 acres or more), generally do not conduct salvage harvest in at least 10 percent of the total area affected by fire.

15. Use the best available information for identifying dead and dying trees for salvage purposes as developed by the Pacific Southwest Region Forest Health Protection Staff.

16. Outside of WUI defense zones, salvage harvests are prohibited in PACs and known den sites unless a biological evaluation determines that the areas proposed for harvest are rendered unsuitable for the purpose they were intended by a catastrophic stand-replacing event.
17. Consider ecological benefits of retaining small patches of mortality in old forest emphasis areas.

Hardwood Management

18. Where possible, create openings around existing California black oak and canyon live oak to stimulate natural regeneration.
19. Manage hardwood ecosystems for a diversity of hardwood tree size classes within a stand such that seedlings, saplings, and pole-sized trees are sufficiently abundant to replace large trees that die.
20. Retain the mix of mast-producing species where they exist within a stand.
21. Retain all blue oak and valley oak trees except: (1) stand restoration strategies call for tree removal; (2) trees are lost to fire; or (3) where tree removal is needed for public health and safety.
22. When planning prescribed fire or mechanical treatments in hardwood ecosystems: (1) consider the risk of noxious weed spread and (2) minimize impacts to hardwood ecosystem structure and biodiversity.
23. During mechanical vegetation treatments, prescribed fire, and salvage operations, retain all large hardwoods on the westside except where: (1) large trees pose an immediate threat to human life or property or (2) losses of large trees are incurred due to prescribed or wildland fire. Large montane hardwoods are trees with a dbh of 12 inches or greater. Large blue oak woodland hardwoods are trees with a dbh of 8 inches or greater. Allow removal of larger hardwood trees (up to 20 inches dbh) if research supports the need to remove larger trees to maintain and enhance the hardwood stand.
24. Prior to commercial and noncommercial hardwood and fuelwood removal in hardwood ecosystems, pre-mark or pre-cut hardwood trees to ensure that stand goals are met. Retain a diverse distribution of stand cover classes.
25. During or prior to landscape analysis, spatially determine distributions of existing and potential natural hardwood ecosystems (Forest Service Handbook (FSH) 2090.11). Assume pre-1850 disturbance levels for potential natural community distribution. Work with province ecologists or other qualified personnel to map and/or model hardwood ecosystems at a landscape scale (approximately 30,000 to 50,000 acres). Include the following steps in the analysis: (1) compare distributions of potential natural hardwood ecosystems with existing hardwood ecosystems; (2) identify locations where existing hardwood ecosystems are outside the natural range of variability for potential natural hardwood ecosystem distribution; and (3) identify hardwood restoration and enhancement projects.
26. Include hardwoods in stand examinations. Encourage hardwoods in plantations. Promote hardwoods after stand-replacing events. Retain buffers around existing hardwood trees by not planting conifers within 20 feet of the edge of hardwood tree crowns.

Habitat Connectivity for Old Forest Associated Species

27. Minimize old forest habitat fragmentation. Assess potential impacts of fragmentation on old forest associated species (particularly fisher and marten) in biological evaluations.

28. Assess the potential impact of projects on the connectivity of habitat for old forest associated species.
29. Consider retaining forested linkages (with canopy cover greater than 40 percent) that are interconnected via riparian areas and ridgetop saddles during project-level analysis.
30. If fishers are detected outside the southern Sierra fisher conservation area, evaluate habitat conditions and implement appropriate mitigation measures to retain suitable habitat within the estimated home range. Institute project-level surveys over the appropriate area, as determined by an interdisciplinary team.
31. Identify areas for acquisition, exchange, or conservation easements to enhance connectivity of habitat for old forest associated species.

Wolverine and Sierra Nevada Red Fox Detections

32. Detection of a wolverine or Sierra Nevada red fox will be validated by a forest carnivore specialist. When verified sightings occur, conduct an analysis to determine if activities within 5 miles of the detection have a potential to affect the species. If necessary, apply a limited operating period from January 1 to June 30 to avoid adverse impacts to potential breeding. Evaluate activities for a 2-year period for detections not associated with a den site.

California Spotted Owl Surveys

33. Conduct surveys in compliance with the Pacific Southwest Region's survey protocols during the planning process when proposed vegetation treatments are likely to reduce habitat quality in suitable California spotted owl habitat with unknown occupancy. Designate California spotted owl protected activity centers (PACs) where appropriate based on survey results.

Northern Goshawk Surveys

34. Conduct surveys in compliance with the Pacific Southwest Region's survey protocols during the planning process when vegetation treatments are likely to reduce habitat quality are proposed in suitable northern goshawk nesting habitat that is not within an existing California spotted owl or northern goshawk PAC. Suitable northern goshawk nesting habitat is defined based on the survey protocol.

Great Gray Owl Surveys

35. Conduct additional surveys to established protocols to follow up reliable sightings of great gray owls.

Noxious Weeds Management

36. Inform forest users, local agencies, special use permittees, groups, and organizations in communities near national forests about noxious weed prevention and management.
37. Work cooperatively with California and Nevada State agencies and individual counties (for example, Cooperative Weed Management Areas) to: (1) prevent the introduction and establishment of noxious weed infestations and (2) control existing infestations.

38. As part of project planning, conduct a noxious weed risk assessment to determine risks for weed spread (high, moderate, or low) associated with different types of proposed management activities. Refer to weed prevention practices in the Regional Noxious Weed Management Strategy to develop mitigation measures for high and moderate risk activities.
39. When recommended in project-level noxious weed risk assessments, consider requiring off-road equipment and vehicles (both Forest Service and contracted) used for project implementation to be weed free. Refer to weed prevention practices in the Regional Noxious Weed Management Strategy.
40. Minimize weed spread by incorporating weed prevention and control measures into ongoing management or maintenance activities that involve ground disturbance or the possibility of spreading weeds. Refer to weed prevention practices in the Regional Noxious Weed Management Strategy.
41. Conduct follow-up inspections of ground disturbing activities to ensure adherence to the Regional Noxious Weed Management Strategy.
42. Encourage use of certified weed free hay and straw. Cooperate with other agencies and the public in developing a certification program for weed free hay and straw. Phase in the program as certified weed free hay and straw becomes available. This standard and guideline applies to pack and saddle stock used by the public, livestock permittees, outfitter guide permittees, and local, State, and Federal agencies.
43. Include weed prevention measures, as necessary, when amending or re-issuing permits (including, but not limited to, livestock grazing, special uses, and pack stock operator permits).
44. Include weed prevention measures and weed control treatments in mining plans of operation and reclamation plans. Refer to weed prevention practices in the Regional Noxious Weed Management Strategy. Monitor for weeds, as appropriate, for 2 years after project implementation (assuming no weed introductions have occurred).
45. Conduct a risk analysis for weed spread associated with burned area emergency rehabilitation (BAER) treatments. The BAER team is responsible for conducting this analysis. Monitor and treat weed infestations for 3 years after the fire.
46. Consult with American Indians to determine priority areas for weed prevention and control where traditional gathering areas are threatened by weed infestations.
47. Complete noxious weed inventories, based on regional protocol. Review and update these inventories on an annual basis.
48. As outlined in the Regional Noxious Weed Management Strategy, when new, small weed infestations are detected, emphasize eradication of these infestations while providing for the safety of field personnel.
49. Routinely monitor noxious weed control projects to determine success and to evaluate the need for follow-up treatments or different control methods. Monitor known weed infestations, as appropriate, to determine changes in weed population density and rate of spread.

Grazing

50. To protect hardwood regeneration in grazing allotments, allow livestock browse on no more than 20 percent of annual growth of hardwood seedlings and advanced regeneration. Modify grazing plans if hardwood regeneration and recruitment needs are not being met.

51. Grazing utilization in annual grasslands will maintain a minimum of 60 percent cover. Where grasslands are in satisfactory condition and annual precipitation is greater than 10 inches, manage for 700 pounds residual dry matter (RDM) per acre. Where grasslands are in satisfactory condition and annual precipitation is less than 10 inches, manage for 400 pounds RDM per acre. Where grasslands are in unsatisfactory condition and annual precipitation is greater than 10 inches, manage for 1,000 pounds RDM per acre; manage for 700 pounds RDM per acre where grasslands are in unsatisfactory condition and precipitation is less than 10 inches. Adjust these standards, as needed, based on grassland condition. This standard and guideline only applies to grazing utilization.
52. Where professional judgment and quantifiable measurements find that current practices are maintaining range in good to excellent condition, the grazing utilization standards above may be modified to allow for the Forest Service, in partnership with individual permittees, to rigorously test and evaluate alternative standards.

Yosemite Toad

53. Exclude livestock from standing water and saturated soils in wet meadows and associated streams and springs occupied by Yosemite toads or identified as "essential habitat" in the conservation assessment for the Yosemite toad during the breeding and rearing season (through metamorphosis). Wet meadow habitat for Yosemite toads is defined as relatively open meadows with low to moderate amounts of woody vegetation that have standing water on June 1 or for more than 2 weeks following snow melt. Specific breeding and rearing season dates will be determined locally. If physical exclusion of livestock is impractical, then exclude grazing from the entire meadow. This standard does not apply to pack and saddle stock.
54. Exclusions in standard and guideline #53 above may be waived if an interdisciplinary team has developed a site-specific management plan to minimize impacts to the Yosemite toad and its habitat by managing the movement of stock around wet areas. Such plans are to include a requirement for systematically monitoring a sample of occupied Yosemite toad sites within the meadow to: (1) assess habitat conditions and (2) assess Yosemite toad occupancy and population dynamics. Every 3 years from the date of the plan, evaluate monitoring data. Modify or suspend grazing if Yosemite toad conservation is not being accomplished. Plans must be approved by the authorized officer and incorporated into all allotment plans and/or special use permits governing use within the occupied habitat.
55. Complete one survey cycle in suitable habitat for the Yosemite toad within this species' historic range to determine presence of Yosemite toads.

Willow Flycatcher

The following definitions are needed to apply the standards and guidelines for willow flycatcher conservation. See Appendix D of the Final SEIS for a complete listing of existing willow flycatcher sites.

Definitions of Willow Flycatcher Site Occupancy

Occupied Willow Flycatcher Site: a site where willow flycatcher(s) have been observed sometime during the breeding season since 1982. For a site to be designated as an occupied site, it must meet the following criteria:

- Observation date(s) between 1982 and 2000:
    1. Willow flycatcher observed between 15 June and 1 August;

OR

2. Willow flycatcher observed between June 1 - June 14 or August 2 –August 15, unless the willow flycatcher was:
    - Absent during surveys conducted between June 15 and July 15 in the same year
    - Absent during June 15 –July 15 surveys in multiple subsequent years; or
    - Detected at a site that is clearly outside of known habitat requirements.

- For inclusion as an occupied willow flycatcher site, willow flycatcher(s) must be identified by the *Fitz-bew* song or in-hand examination. Museum skins that are identified as willow flycatchers may also be used if the collection date falls within the range of dates listed above.
- Nests and egg sets in museum collections infer site occupancy, regardless of collection month and day.
- All sites where willow flycatchers were identified using these criteria are included in the dataset, unless the site is known to have undergone an extreme site conversion rendering it incapable of supporting willow flycatchers currently and in the future (e.g., wetland conversions or inundation by reservoir).

o Observation date(s) in 2001 or later:

- Willow flycatcher site occupancy will be determined based upon the criteria defined in the standardized protocol.

Historically Occupied Willow Flycatcher Site: a site where occupancy is only known from pre-1982 or one that has been surveyed for at least six years over a 10-year period and consistently found to contain no willow flycatchers during the breeding season. For a site to be designated as historically occupied, it must meet the following criteria:

- Sighting meets the criteria of an occupied willow flycatcher site but the most recent date of detection is prior to 1982

  OR
- Surveys across a minimum of six separate years during a 10-year period must have been performed (alternatively, surveys may be conducted annually for six years within a six- to 10-year period).
  - Surveys conducted since June 2000 must be in compliance with the current standardized willow flycatcher survey protocol guidelines.
  - If a historically occupied site is determined as occupied, the site is upgraded to occupied status until or unless the site meets the definition of historically occupied again.

Conditionally Occupied Willow Flycatcher Site: a site documented in the willow flycatcher database at the time of the Record of Decision that does not meet the criteria for an occupied site or a historically occupied site. For these sites, either the month and date of detection are not known or the month and date occur outside of the breeding season as defined in the survey protocol.

There are five sites in the existing database where survey documentation necessary to determine if the observation meets the criteria for an occupied site is missing or incomplete. These sites are assigned to a temporary category of conditionally occupied until either they receive one survey cycle or the missing information is discovered and documented, at which time they will either be found to be occupied or they will be dropped from the database. Once these sites are resolved, this category is no longer used.

Standards and Guidelines

56. **For occupied and historically occupied willow flycatcher sites:** Initiate a 4-year cycle for willow flycatcher surveys. Conduct surveys to established protocols in all sites the first year. Second year surveys will be conducted in those sites where willow flycatchers were not found. Surveys will not be conducted in the third and fourth years. The survey cycle will then be repeated. **For conditionally occupied sites:** Surveys will be conducted in the first year. If willow flycatchers are found, these sites will be managed as occupied sites. If not found, these sites will be surveyed in the second year. If birds are not found in the second year, these sites will be dropped from the willow flycatcher site database.

57. In meadows with **occupied willow flycatcher sites**, allow only late-season grazing (after August 15) in the entire meadow.

58. Standard and guideline #57 above may be waived if an interdisciplinary team has developed a site-specific meadow management strategy. This strategy is to be developed and implemented in partnership with the affected grazing permittee. The strategy objectives must focus on protecting the nest site and associated habitat during the breeding season and the long-term sustainability of suitable habitat at breeding sites. It may use a mix of management tools, including grazing systems, structural improvements, and other exclusion by management techniques to protect willow flycatcher habitat.

59. In willow flycatcher sites receiving late-season grazing, monitor utilization annually using regional range analysis and planning guide. Monitor willow flycatcher habitat every 3 years using the following criteria: rooting depth cores for meadow condition, point intercepts for shrub foliar density, and strip transects for shrub recruitment and cover. Meadow condition assessments will be included in a GIS meadow coverage. If habitat conditions are not supporting the willow flycatcher or trend downward, modify or suspend grazing.

60. For **historically occupied willow flycatcher sites**, assess willow flycatcher habitat suitability within the meadow. If habitat is degraded, develop restoration objectives and take appropriate actions (such as physical restoration of hydrological components, limiting or re-directing grazing activity, and so forth) to move the meadow toward desired conditions.

61. Evaluate site condition of **historically occupied willow flycatcher sites**. Those sites that no longer contain standing water on June 1 and a deciduous shrub component and cannot be reasonably restored may be removed from the willow flycatcher site database.

62. As part of the project planning process, survey **emphasis habitat** within 5 miles of occupied willow flycatcher sites to determine willow flycatcher occupancy. Emphasis habitat is defined as meadows larger than 15 acres that have standing water on June 1 and a deciduous shrub component. Use established protocols to conduct these surveys. If these surveys determine willow flycatcher occupancy, add these to the database of occupied willow flycatcher sites and include them in the 4-year survey cycle of willow flycatcher sites described above.

63. Evaluate proposals for new concentrated stock areas (for example, livestock handling and management facilities, pack stations, equestrian stations, and corrals) located within 5 miles of occupied willow flycatcher sites.

Mining

64. Ensure that plans of operation, reclamation plans, and reclamation bonds address the costs of: (1) removing facilities, equipment, and materials; (2) isolating and neutralizing or removing toxic or

potentially toxic materials; (3) salvaging and replacing topsoil; and (4) preparing the seed bed and revegetating to meet the objectives of the land allocation in which the operation is located.

65. Ensure that mine owners and operators limit new road construction, decommission unnecessary roads, and maintain needed roads consistent with Forest Service roads policy and management direction for the land allocation.

66. Require mine reclamation to be conducted in a timely manner.

67. Inspect and monitor mining-related activities on a regular basis to ensure compliance with laws, regulations, and operating plans. Base the frequency of inspections and monitoring on the potential severity of mining activity-related impacts.

68. During mining-related activities, limit the clearing of trees and other vegetation to the minimum necessary. Clearing of vegetation should be pertinent to the approved phase of mineral exploration and development.

Wheeled Vehicles

69. Prohibit wheeled vehicle travel off of designated routes, trails, and limited off highway vehicle (OHV) use areas. Unless otherwise restricted by current forest plans or other specific area standards and guidelines, cross-country travel by over-snow vehicles would continue.

Road Construction, Reconstruction, and Relocation

70. To protect watershed resources, meet the following standards for road construction, road reconstruction, and road relocation: (1) design new stream crossings and replacement stream crossings for at least the 100-year flood, including bedload and debris; (2) design stream crossings to minimize the diversion of streamflow out of the channel and down the road in the event of a crossing failure; (3) design stream crossings to minimize disruption of natural hydrologic flow paths, including minimizing diversion of streamflow and interception of surface and subsurface water; (4) avoid wetlands or minimize effects to natural flow patterns in wetlands; and (5) avoid road construction in meadows.

Standards and Guidelines for California Spotted Owl and Northern Goshawk Protected Activity Centers

71. Within the assessment area or watershed, locate fuels treatments to minimize impacts to PACs. PACs may be re-mapped during project planning to avoid intersections with treatment areas, provided that the re-mapped PACs contain habitat of equal quality and include known nest sites and important roost sites. Document PAC adjustments in biological evaluations.

    When treatment areas must intersect PACs and choices can be made about which PACs to enter, use the following criteria to preferentially avoid PACs that have the highest likely contribution to owl productivity.

    - **lowest contribution to productivity:** PACs presently unoccupied and historically occupied by territorial singles only.
    - PACs presently unoccupied and historically occupied by pairs,
    - PACs presently occupied by territorial singles,

- PACs presently occupied by pairs,
- **highest contribution to productivity:** PACs currently or historically reproductive.

Historical occupancy is considered occupancy since 1990. Current occupancy is based on surveys consistent with survey protocol (March 1992) in the last 2-3 years prior to project planning. These dates were chosen to encompass the majority of survey efforts and to include breeding pulses in the early 1990s when many sites were found to be productive. When designing treatment unit intersections with PACs, limit treatment acres to those necessary to achieve strategic placement objectives and avoid treatments adjacent to nest stands whenever possible.

If nesting or foraging habitat in PACs is mechanically treated, mitigate by adding acreage to the PAC equivalent to the treated acres using adjacent acres of comparable quality wherever possible.

72. Mechanical treatments may be conducted to meet fuels objectives in protected activity centers (PACs) located in WUI defense zones. In PACs located in WUI threat zones, mechanical treatments are allowed where prescribed fire is not feasible and where avoiding PACs would significantly compromise the overall effectiveness of the landscape fire and fuels strategy. Mechanical treatments should be designed to maintain habitat structure and function of the PAC.

73. While mechanical treatments may be conducted in protected activity centers (PACs) located in WUI defense zones and, in some cases, threat zones, they are prohibited within a 500-foot radius buffer around a spotted owl activity center within the designated PAC. Prescribed burning is allowed within the 500-foot radius buffer. Hand treatments, including handline construction, tree pruning, and cutting of small trees (less than 6 inches dbh), may be conducted prior to burning as needed to protect important elements of owl habitat. Treatments in the remainder of the PAC use the forest-wide standards and guidelines for mechanical thinning.

74. In PACs located outside the WUI, limit stand-altering activities to reducing surface and ladder fuels through prescribed fire treatments. In forested stands with overstory trees 11 inches dbh and greater, design prescribed fire treatments to have an average flame length of 4 feet or less. Hand treatments, including handline construction, tree pruning, and cutting of small trees (less than 6 inches dbh), may be conducted prior to burning as needed to protect important elements of owl habitat.

75. **For California spotted owl PACs:** Maintain a limited operating period (LOP), prohibiting vegetation treatments within approximately ¼ mile of the activity center during the breeding season (March 1 through August 31), unless surveys confirm that California spotted owls are not nesting. Prior to implementing activities within or adjacent to a California spotted owl PAC and the location of the nest site or activity center is uncertain, conduct surveys to establish or confirm the location of the nest or activity center.

76. **For northern goshawk PACs:** Maintain a limited operating period (LOP), prohibiting vegetation treatments within approximately ¼ mile of the nest site during the breeding season (February 15 through September 15) unless surveys confirm that northern goshawks are not nesting. If the nest stand within a protected activity center (PAC) is unknown, either apply the LOP to a ¼- mile area surrounding the PAC, or survey to determine the nest stand location.

77. The LOP may be waived for vegetation treatments of limited scope and duration, when a biological evaluation determines that such projects are unlikely to result in breeding disturbance considering their intensity, duration, timing and specific location. Where a biological evaluation concludes that a nest site would be shielded from planned activities by topographic features that would minimize disturbance, the LOP buffer distance may be modified.

78. Breeding season limited operating period restrictions may be waived, where necessary, to allow for use of early season prescribed fire in up to 5 percent of **California spotted owl PACs** per year on a forest.

79. Breeding season limited operating period restrictions may be waived, where necessary, to allow for use of early season prescribed fire in up to 5 percent of **northern goshawk PACs** per year on a forest.

80. **For California spotted owl PACs:** Conduct vegetation treatments in no more than 5 percent per year and 10 percent per decade of the acres in California spotted owl PACs in the 11 Sierra Nevada national forests. Monitor the number of PACs treated at a bioregional scale.

81. **For northern goshawk PACs:** Conduct mechanical treatments in no more than 5 percent per year and 10 percent per decade of the acres in northern goshawk PACs in the 11 Sierra Nevada national forests.

82. Mitigate impacts where there is documented evidence of disturbance to the nest site from existing recreation, off highway vehicle route, trail, and road uses (including road maintenance). Evaluate proposals for new roads, trails, off highway vehicle routes, and recreational and other developments for their potential to disturb nest sites.

Standards and Guidelines for Great Gray Owl

Protected Activity Centers

83. Apply a limited operating period, prohibiting vegetation treatments and road construction within ¼ mile of an active great gray owl nest stand, during the nesting period (typically March 1 to August 15). The LOP may be waived for vegetation treatments of limited scope and duration, when a biological evaluation determines that such projects are unlikely to result in breeding disturbance considering their intensity, duration, timing and specific location. Where a biological evaluation concludes that a nest site would be shielded from planned activities by topographic features that would minimize disturbance, the LOP buffer distance may be reduced.

84. In meadow areas of great gray owl PACs, maintain herbaceous vegetation at a height commensurate with site capability and habitat needs of prey species. Follow regional guidance to determine potential prey species and associated habitat requirements at the project level.

Standards and Guidelines for Fisher Den Sites

85. Protect fisher den site buffers from disturbance with a limited operating period (LOP) from March 1 through June 30 for vegetation treatments as long as habitat remains suitable or until another Regionally-approved management strategy is implemented. The LOP may be waived for individual projects of limited scope and duration, when a biological evaluation documents that such projects are unlikely to result in breeding disturbance considering their intensity, duration, timing, and specific location.

86. Avoid fuel treatments in fisher den site buffers to the extent possible. If areas within den site buffers must be treated to achieve fuels objectives for the urban wildland intermix zone, limit treatments to mechanical clearing of fuels. Treat ladder and surface fuels to achieve fuels objectives. Use piling or mastication to treat surface fuels during initial treatment. Burning of piled debris is allowed. Prescribed fire may be used to treat fuels if no other reasonable alternative exists.

87. Mitigate impacts where there is documented evidence of disturbance to the den site from existing recreation, off highway vehicle route, trail, and road uses (including road maintenance). Evaluate proposals for new roads, trails, off highway vehicle routes, and recreational and other developments for their potential to disturb den sites.

Standards and Guidelines for Marten Den Sites

88. Protect marten den site buffers from disturbance from vegetation treatments with a limited operating period (LOP) from May 1 through July 31 as long as habitat remains suitable or until another Regionally-approved management strategy is implemented. The LOP may be waived for individual projects of limited scope and duration, when a biological evaluation documents that such projects are unlikely to result in breeding disturbance considering their intensity, duration, timing, and specific location.
89. Mitigate impacts where there is documented evidence of disturbance to the den site from existing recreation, off highway vehicle route, trail, and road uses (including road maintenance). Evaluate proposals for new roads, trails, off highway vehicle routes, and recreational and other developments for their potential to disturb den sites.

Standards and Guidelines for the Southern Sierra Fisher Conservation Area

90. Prior to vegetation treatments, design measures to protect important habitat structures as identified by the wildlife biologist, such as large diameter snags and oaks, patches of dense large trees typically ¼ to 2 acres, large trees with cavities for nesting, clumps of small understory trees, and coarse woody material. For example, use firing patterns, place fire lines around snags and large logs, and implement other prescribed burning techniques to minimize effects to these attributes.

    Use mechanical treatments when appropriate to minimize effects on preferred fisher habitat elements.

Standards and Guidelines for Riparian Conservation Areas and Critical Aquatic Refuges

91. Designate riparian conservation area (RCA) widths as described in Part B of this appendix. The RCA widths displayed in Part B may be adjusted at the project level if a landscape analysis has been completed and a site-specific RCO analysis demonstrates a need for different widths.
92. Evaluate new proposed management activities within CARs and RCAs during environmental analysis to determine consistency with the riparian conservation objectives at the project level and the AMS goals for the landscape. Ensure that appropriate mitigation measures are enacted to (1) minimize the risk of activity-related sediment entering aquatic systems and (2) minimize impacts to habitat for aquatic- or riparian-dependent plant and animal species.
93. Identify existing uses and activities in CARs and RCAs during landscape analysis. At the time of permit reissuance, evaluate and consider actions needed for consistency with RCOs.
94. As part of project-level analysis, conduct peer reviews for projects that propose ground-disturbing activities in more than 25 percent of the RCA or more than 15 percent of a CAR.

Standards and Guidelines Associated with RCO #1

95. For waters designated as "Water Quality Limited" (Clean Water Act Section 303(d)), participate in the development of Total Maximum Daily Loads (TMDLs) and TMDL Implementation Plans. Execute applicable elements of completed TMDL Implementation Plans.

96. Ensure that management activities do not adversely affect water temperatures necessary for local aquatic- and riparian-dependent species assemblages.

97. Limit pesticide applications to cases where project level analysis indicates that pesticide applications are consistent with riparian conservation objectives.

98. Within 500 feet of known occupied sites for the California red-legged frog, Cascades frog, Yosemite toad, foothill yellow-legged frog, mountain yellow-legged frog, and northern leopard frog, design pesticide applications to avoid adverse effects to individuals and their habitats.

99. Prohibit storage of fuels and other toxic materials within RCAs and CARs except at designated administrative sites and sites covered by a Special Use Authorization. Prohibit refueling within RCAs and CARs unless there are no other alternatives. Ensure that spill plans are reviewed and up-to-date.

Standards and Guidelines Associated with RCO #2

100. Maintain and restore the hydrologic connectivity of streams, meadows, wetlands, and other special aquatic features by identifying roads and trails that intercept, divert, or disrupt natural surface and subsurface water flow paths. Implement corrective actions where necessary to restore connectivity.

101. Ensure that culverts or other stream crossings do not create barriers to upstream or downstream passage for aquatic-dependent species. Locate water drafting sites to avoid adverse effects to in stream flows and depletion of pool habitat. Where possible, maintain and restore the timing, variability, and duration of floodplain inundation and water table elevation in meadows, wetlands, and other special aquatic features.

102. Prior to activities that could adversely affect streams, determine if relevant stream characteristics are within the range of natural variability. If characteristics are outside the range of natural variability, implement mitigation measures and short-term restoration actions needed to prevent further declines or cause an upward trend in conditions. Evaluate required long-term restoration actions and implement them according to their status among other restoration needs.

103. Prevent disturbance to streambanks and natural lake and pond shorelines caused by resource activities (for example, livestock, off-highway vehicles, and dispersed recreation) from exceeding 20 percent of stream reach or 20 percent of natural lake and pond shorelines. Disturbance includes bank sloughing, chiseling, trampling, and other means of exposing bare soil or cutting plant roots. This standard does not apply to developed recreation sites, sites authorized under Special Use Permits and designated off-highway vehicle routes.

104. In stream reaches occupied by, or identified as "essential habitat" in the conservation assessment for, the Lahonton and Paiute cutthroat trout and the Little Kern golden trout, limit streambank disturbance from livestock to 10 percent of the occupied or "essential habitat" stream reach. (Conservation assessments are described in the record of decision.) Cooperate with State and Federal agencies to develop streambank disturbance standards for threatened, endangered, and sensitive species. Use the regional streambank assessment protocol. Implement corrective action where disturbance limits have been exceeded.

105. At either the landscape or project-scale, determine if the age class, structural diversity, composition, and cover of riparian vegetation are within the range of natural variability for the vegetative community. If conditions are outside the range of natural variability, consider implementing mitigation and/or restoration actions that will result in an upward trend. Actions could include restoration of aspen or other riparian vegetation where conifer encroachment is identified as a problem.

106. Cooperate with Federal, Tribal, State and local governments to secure in stream flows needed to maintain, recover, and restore riparian resources, channel conditions, and aquatic habitat. Maintain in stream flows to protect aquatic systems to which species are uniquely adapted. Minimize the effects of stream diversions or other flow modifications from hydroelectric projects on threatened, endangered, and sensitive species.

107. For exempt hydroelectric facilities on national forest lands, ensure that special use permit language provides adequate in stream flow requirements to maintain, restore, or recover favorable ecological conditions for local riparian- and aquatic-dependent species.

Standard and Guideline Associated with RCO #3

108. Determine if the level of coarse large woody debris (CWD) is within the range of natural variability in terms of frequency and distribution and is sufficient to sustain stream channel physical complexity and stability. Ensure proposed management activities move conditions toward the range of natural variability.

Standards and Guidelines Associated with RCO #4

109. Within CARs, in occupied habitat or "essential habitat" as identified in conservation assessments for threatened, endangered, or sensitive species, evaluate the appropriate role, timing, and extent of prescribed fire. Avoid direct lighting within riparian vegetation; prescribed fires may back into riparian vegetation areas. Develop mitigation measures to avoid impacts to these species whenever ground-disturbing equipment is used.

110. Use screening devices for water drafting pumps. (Fire suppression activities are exempt during initial attack.) Use pumps with low entry velocity to minimize removal of aquatic species, including juvenile fish, amphibian egg masses and tadpoles, from aquatic habitats.

111. Design prescribed fire treatments to minimize disturbance of ground cover and riparian vegetation in RCAs. In burn plans for project areas that include, or are adjacent to RCAs, identify mitigation measures to minimize the spread of fire into riparian vegetation. In determining which mitigation measures to adopt, weigh the potential harm of mitigation measures, for example fire lines, against the risks and benefits of prescribed fire entering riparian vegetation. Strategies should recognize the role of fire in ecosystem function and identify those instances where fire suppression or fuel management actions could be damaging to habitat or long-term function of the riparian community.

112. Post-wildfire management activities in RCAs and CARs should emphasize enhancing native vegetation cover, stabilizing channels by non-structural means, minimizing adverse effects from the existing road network, and carrying out activities identified in landscape analyses. Post-wildfire operations shall minimize the exposure of bare soil.

113. Allow hazard tree removal within RCAs or CARs. Allow mechanical ground disturbing fuels treatments, salvage harvest, or commercial fuelwood cutting within RCAs or CARs when the activity is consistent with RCOs. Utilize low ground pressure equipment, helicopters, over the

snow logging, or other non-ground disturbing actions to operate off of existing roads when needed to achieve RCOs. Ensure that existing roads, landings, and skid trails meet Best Management Practices. Minimize the construction of new skid trails or roads for access into RCAs for fuel treatments, salvage harvest, commercial fuelwood cutting, or hazard tree removal.

114. As appropriate, assess and document aquatic conditions following the Regional Stream Condition Inventory protocol prior to implementing ground disturbing activities within suitable habitat for California red-legged frog, Cascades frog, Yosemite toad, foothill and mountain yellow-legged frogs, and northern leopard frog.

115. During fire suppression activities, consider impacts to aquatic- and riparian-dependent resources. Where possible, locate incident bases, camps, helibases, staging areas, helispots, and other centers for incident activities outside of RCAs or CARs. During pre-suppression planning, determine guidelines for suppression activities, including avoidance of potential adverse effects to aquatic- and riparian-dependent species as a goal.

116. Identify roads, trails, OHV trails and staging areas, developed recreation sites, dispersed campgrounds, special use permits, grazing permits, and day use sites during landscape analysis. Identify conditions that degrade water quality or habitat for aquatic and riparian-dependent species. At the project level, evaluate and consider actions to ensure consistency with standards and guidelines or desired conditions.

Standards and Guidelines Associated with RCO #5

117. Assess the hydrologic function of meadow habitats and other special aquatic features during range management analysis. Ensure that characteristics of special features are, at a minimum, at Proper Functioning Condition, as defined in the appropriate Technical Reports (or their successor publications): (1) "Process for Assessing PFC" TR 1737-9 (1993), "PFC for Lotic Areas" USDI TR 1737-15 (1998) or (2) "PFC for Lentic Riparian-Wetland Areas" USDI TR 1737-11 (1994).

118. Prohibit or mitigate ground-disturbing activities that adversely affect hydrologic processes that maintain water flow, water quality, or water temperature critical to sustaining bog and fen ecosystems and plant species that depend on these ecosystems. During project analysis, survey, map, and develop measures to protect bogs and fens from such activities as trampling by livestock, pack stock, humans, and wheeled vehicles. Criteria for defining bogs and fens include, but are not limited to, presence of: (1) sphagnum moss (*Spagnum spp*.), (2) mosses belonging to the genus *Meessia*, and (3) sundew (*Drosera spp*.) Complete initial plant inventories of bogs and fens within active grazing allotments prior to re-issuing permits.

119. Locate new facilities for gathering livestock and pack stock outside of meadows and riparian conservation areas. During project-level planning, evaluate and consider relocating existing livestock facilities outside of meadows and riparian areas. Prior to re-issuing grazing permits, assess the compatibility of livestock management facilities located in riparian conservation areas with riparian conservation objectives.

120. Under season-long grazing:

- For meadows in early seral status: limit livestock utilization of grass and grass-like plants to 30 percent (or minimum 6-inch stubble height).
- For meadows in late seral status: limit livestock utilization of grass and grass-like plants to a maximum of 40 percent (or minimum 4-inch stubble height).

  Determine ecological status on all key areas monitored for grazing utilization prior to establishing utilization levels. Use Regional ecological scorecards and range plant list in

regional range handbooks to determine ecological status. Analyze meadow ecological status every 3 to 5 years. If meadow ecological status is determined to be moving in a downward trend, modify or suspend grazing. Include ecological status data in a spatially explicit Geographical Information System database.

Under intensive grazing systems (such as rest-rotation and deferred rotation) where meadows are receiving a period of rest, utilization levels can be higher than the levels described above if the meadow is maintained in late seral status and meadow-associated species are not being impacted. Degraded meadows (such as those in early seral status with greater than 10 percent of the meadow area in bare soil and active erosion) require total rest from grazing until they have recovered and have moved to mid- or late seral status.

121. Limit browsing to no more than 20 percent of the annual leader growth of mature riparian shrubs and no more than 20 percent of individual seedlings. Remove livestock from any area of an allotment when browsing indicates a change in livestock preference from grazing herbaceous vegetation to browsing woody riparian vegetation.

Standard and Guideline Associated with RCO #6

122. Recommend restoration practices in: (1) areas with compaction in excess of soil quality standards, (2) areas with lowered water tables, or (3) areas that are either actively down cutting or that have historic gullies. Identify other management practices, for example, road building, recreational use, grazing, and timber harvests, that may be contributing to the observed degradation.

Standards and Guidelines for Critical Aquatic Refuges

123. Determine which critical aquatic refuges or areas within critical aquatic refuges are suitable for mineral withdrawal. Propose these areas for withdrawal from location and entry under U.S. mining laws, subject to valid existing rights, for a term of 20 years.

124. Approve mining-related plans of operation if measures are implemented that contribute toward the attainment or maintenance of aquatic management strategy goals.

E. Management Direction for the Herger-Feinstein Quincy Library Group Pilot Project Area

The Lassen and Plumas National Forests and the Sierraville Ranger District of the Tahoe National Forest will implement the HFQLG Forest Recovery Act Pilot Project, consistent with the HFQLG Forest Recovery Act and Alternative 2 of the HFQLG EIS.

The HFQLG Forest Recovery Act pilot project is designed to test and demonstrate the effectiveness of certain fuels and vegetation management activities in meeting ecologic, economic, and fuel reduction objectives. Fuels and vegetation management activities include constructing a strategic system of defensible fuels profile zones (DFPZs), group selection, and individual tree selection. A management program for riparian areas is also included in the pilot project.

APPENDIX E

AIR QUALITY, ENERGY, AND GREENHOUSE GASES ASSESSMENT – SUPPORTING CALCULATIONS
TRA Environmental Sciences, Inc.

California Department of Parks and Recreation, Division of Off-Highway Motor Vehicle Recreation
OSV Program EIR, Program Years 2010-2020

APPENDIX E

Air Quality, Energy, and Greenhouse Gases Assessment -- Supporting Calculations

TRA Environmental Sciences, Inc. 9/20/2010 Thomas Reid, Christopher Dugan

Overview **List of Tables**

Table AQ-1
On-Snow Vehicle Emissions Factors Research

LABORATORY TESTING OF SNOWMOBILE EMISSIONS Chad C. Lela
SOUTHWEST RESEARCH INSTITUTE "July 2002" Jeff J. White
in Table 9. Based on mean results, the 4-stroke snowmobile engines emitted 98 percent less HC, 85 percent less CO, and 96 percent less PM. Four-stroke NOx emissions were higher than the 2-strokes by a factor of 12. Four-stroke fuel consumption was 40 percent less than that of the 2-strokes.
TABLE 9. TWO-STROKE VS. 4-STROKE SNOWMOBILE ENGINE EMISSIONS AND FUEL CONSUMPTION COMPARISON (EEE FUEL, 5-MODE)

Snowmobile Engine	**Emissions, g/hp-hr**				**Fuel Use**
	HC	**CO**	**NOx**	**PM**	**lb/hp-hr**
Arctic Cat 4-Stroke, mean	4.62	59.6	7.93	0.065	0.602
Polaris 4-Stroke, mean	2.38	59	5.2	0.085	0.694
4-Stroke, mean	**3.5**	**59.3**	**6.57**	**0.075**	**0.648**
Arctic Cat 2-Stroke (a)	156	363.4	0.49	3.46	1.1
Polaris 2-Stroke (b)	150.7	416.4	0.44	1.35	1.05
500 cc 2-Stroke (c)	115.5	375.6	0.69	0.7	NA
2-Stroke, mean	**140.7**	**385.1**	**0.54**	**1.84**	**1.08**

a SAE 972108, 440 cc engine from 1995 Panther, mean gasoline result (6)
b SAE 972108, 488 cc engine from 1997 Indy Trail, mean gasoline result (6)
c SAE 2000-01-2003, 500 cc 2-stroke, weighted base total result

Table AQ-2
Calculate OSV emissions per unit fuel used - Baseline 2010

	Emissions, g/gallon fuel used			
	HC	**CO**	**NOx**	**PM**
4-Stroke, mean	33.35	565.09	62.61	0.71
2-Stroke, mean	804.47	2,201.84	3.09	10.52

From AQ-1		
Convert	454	g/lb
Gasoline	6.175	lb/US gal

Table AQ-3
OSV Fleet Day Use Scenario - Baseline 2010

2-stroke fuel use per Machine	8	gallons	OHMVR typical for 2-stroke user
OSV-day work output	45.74	bhp-hr	calculated from 2-stroke fuel use and AQ-1
4-Stroke relative fuel efficiency	60%	from Table AQ-1	
4-Stroke fuel use per Machine	4.8	gallons	
4-Stroke % in fleet	4%	from OHV survey	
2-Stroke % in fleet	96%	from OHV survey	
4-Stroke Fuel Use contribution	0.192	gallons	
2-Stroke Fuel Use contribution	7.68	gallons	

Table AQ-4
Average Day OSV Use Emissions per Machine (lb) - Baseline 2010

	Fuel Use	HC	CO	NOx	PM
4-Stroke contribution	0.19	0.01	0.24	0.03	0.000
2-Stroke contribution	7.68	13.61	37.25	0.05	0.18
Average	**7.87**	**13.62**	**37.49**	**0.08**	**0.18**

Table AQ-5a
Visitor Use Summary by National Forest

National Forest	Parking Capac	Max Day Vehicles (a	Seasonal Vehicles (b	Seasonal OSV (c
OSV Program Trailheads				
Klamath	95	46	2,753	5,506
Modoc	20	15	755	1,510
Shasta-Trinity	25	25	1,150	2,300
Lassen	152	106	5,474	10,948
Plumas	145	280	11,125	22,250
Tahoe	97	202	7,927	15,854
Eldorado	30	15	885	1,770
Stanislaus	330	480	20,130	40,260
Sierra	230	230	10,580	21,160
Sequoia	83	76	3,587	7,174
Subtotal	1,207	1,475	64,366	128,732
Other Non-Program Parking Areas				
Tahoe	48	43	2,043	4,086
Sierra	75	75	3,450	6,900
Inyo (d	172	452	8,576	17,152
Sequoia	16	22	934	1,868
Subtotal	311	592	15,003	30,006
Total	1,518	2,067	79,369	158,738

Notes:
a) Max Day is typical use level on a Weekend Day/Holiday as observed by the National Forests on site.
b) Season is from mid-December through March (14 weeks): 33 weekend/holidays at a maximum day use and 65 weekdays at 20% parking capacity use.
c) Typical 2 OSV/visitor vehicle average
d) Inyo NF notes that lots fill multiple times in day with some non-motorized visitors returning 2x and some staying only 1 hour. Inyo parking areas are used by non-motorized users. Seasonal totals are based on estimated OSV Program use: 50%

Table AQ-5b
Visitor Use Summary by Air District

Air District	National Forest	Trailhead Location	Vehicle Parking Capacity	Typical Max Day Vehicles	Season Vehicles	Season OSV Use
Siskiyou County APCD	Klamath	Deer Mountain and Four Corners Medicine Lake	95	46	2,753	5,506
	Modoc	Doorknob	20	15	755	1,510
	Shasta-Trinity	Pilgrim Creek	25	25	1,150	2,300
Shasta County APCD	Lassen	Ashpan	16	14	670	1,340
Lassen County APCD	Lassen	Bogard, Frednoyer, Swain Mountain, and Chester-Lak	108	68	3,648	7,296
Tehama County APCD	Lassen	Morgan Summit	16	14	670	1,340
Butte County AQMD	Lassen	Jonesville	12	10	486	972
Northern Sierra AQMD	Plumas	Bucks Summit, Big Creek, La Porte, and Gold Lake	145	280	11,125	22,250
	Tahoe	Little Truckee Summit and Bassetts	65	170	6,455	12,910
	Tahoe	Non-Program parking (Old Gold Lake Hwy, Yuba Pass	48	43	2,043	4,086
Placer County APCD	Tahoe	China Wall	32	32	1,472	2,944
El Dorado County APC	Eldorado	Iron Mountain	30	15	885	1,770
Great Basin Unified AF	Inyo	Non-Program parking (13 lots)	172	452	8,576	17,152
	Stanislaus	Lake Alpine, Spicer Reservoir, and Hwy 108	330	480	20,130	40,260
San Joaquin Valley Un	Sierra	Huntington Lake, Kaiser Pass and Tamarack Ridge	230	230	10,580	21,160
	Sierra	Non-Program parking (Coyote)	75	75	3,450	6,900
	Sequoia	Big Meadow, Quail Flat, Upper Woodward, Cherry Gap Quaking Aspen, Holby, and Sugarloaf Kern Plateau-Westside and Kern Plateau-Eastside	83	76	3,587	7,174
	Sequoia	Non-Program parking (Greenhorn, North Road)	16	22	934	1,868
		Total	1,518	2,067	79,369	158,738

Notes:
Max Day is typical use level on a Weekend Day/Holiday as observed by the National Forests on site.
Season is from mid-December through March (14 weeks): 33 weekend/holidays at a maximum day use and 65 weekdays at 20% parking capacity use. 65 33 20%
Inyo parking areas are used by non-motorized users. Season vehicle total is based on estimated 50% use of parking by motorized users.
Source: Calculations TRA Environmental Sciences, Inc.2010; Data, U.S. Forest Service 2009

Table AQ-6
OSV Max Day Use Emissions (lb)

Air District	National Forest	Trailheads	Max Day OSV	Fuel Use (gal)	Max Day Use Emissions (lb) HC	CO	NOx	PM
Siskiyou APCD	Klamath	2	92	724	1,253	3,449	7.2	16.4
	Modoc	1	30	236	409	1,125	2.4	5.3
	Shasta Trinity	1	50	394	681	1,874	3.9	8.9
Subtotal			**172**	**1,354**	**2,343**	**6,448**	**14**	**31**
Shasta County AQMD	Lassen	1	**28**	**220**	**381**	**1,050**	**2.2**	**5.0**
Lassen County APCD	Lassen	4	**136**	**1,071**	**1,853**	**5,098**	**10.7**	**24.2**
Tehama County AQMI	Lassen	1	**28**	**220**	**381**	**1,050**	**2.2**	**5.0**
Butte County APCD	Lassen	1	**20**	**157**	**272**	**750**	**1.6**	**3.6**
Northern Sierra AQMD	Plumas	4	560	4,408	7,629	20,992	44.1	99.8
	Tahoe	2	340	2,676	4,632	12,745	26.8	60.6
	Tahoe	0	86	677	1,172	3,224	6.8	15.3
Subtotal			**986**	**7,762**	**13,432**	**36,961**	**78**	**176**
Placer County APCD	Tahoe	1	**64**	**504**	**872**	**2,399**	**5.0**	**11.4**
El Dorado County APC	Eldorado	1	**30**	**236**	**409**	**1,125**	**2.4**	**5.3**
Great Basin Unified AF	Inyo	0	904	7,116	12,315	33,887	71.2	161.2
	Stanislaus	3	960	7,557	13,078	35,987	75.6	171.1
Subtotal			**1,864**	**14,673**	**25,393**	**69,874**	**147**	**332**
San Joaquin Valley Un	Sierra	3	460	3,621	6,266	17,244	36.2	82.0
	Sierra	0	150	1,181	2,043	5,623	11.8	26.7
	Sequoia	9	152	1,197	2,071	5,698	12.0	27.1
	Sequoia	0	44	346	599	1,649	3.5	7.8
Subtotal			**806**	**6,345**	**10,980**	**30,214**	**63**	**144**
	Total	34	**4,134**	**32,543**	**56,316**	**154,967**	**325**	**737**

Notes: Assume OSV per vehicle = 2
Tahoe, Inyo, Sierra, and Sequoia National Forests have non-program funded parking areas which contribute OSV use to groomed trail system. OSV use from these non-program trailheads is included in calculations. See Table AQ-5b

Table AQ-7
OSV Season Use Emissions - Baseline 2010 (tons)

Air District	National Forest	Trail heads	Season OSV-days	Fuel Use (gal)	HC	CO	NOx	PM
Siskiyou APCD	Klamath	2	5,506	43,343	38	103	0.2	0.5
	Modoc	1	1,510	11,887	10	28	0.1	0.1
	Shasta Trinity	1	2,300	18,106	16	43	0.1	0.2
Subtotal			**9,316**	**73,336**	**63**	**175**	**0.4**	**0.8**
Shasta County AQMD	Lassen	1	**1,340**	**10,548**	**9**	**25**	**0.1**	**0.1**
Lassen County APCD	Lassen	4	**7,296**	**57,434**	**50**	**137**	**0.3**	**0.7**
Tehama County AQMI	Lassen	1	**1,340**	**10,548**	**9**	**25**	**0.1**	**0.1**
Butte County APCD	Lassen	1	**972**	**7,652**	**7**	**18**	**0.0**	**0.1**
Northern Sierra AQMD	Plumas	4	22,250	175,152	152	417	0.9	2.0
	Tahoe	2	12,910	101,628	88	242	0.5	1.2
	Tahoe	0	4,086	32,165	28	77	0.2	0.4
Subtotal			**39,246**	**308,945**	**267**	**736**	**1.5**	**3.5**
Placer County APCD	Tahoe	1	**2,944**	**23,175**	**20**	**55**	**0.1**	**0.3**
El Dorado County APC	Eldorado	1	**1,770**	**13,933**	**12**	**33**	**0.1**	**0.2**
Great Basin Unified AF	Inyo	0	17,152	135,021	117	321	0.7	1.5
	Stanislaus	3	40,260	316,927	274	755	1.6	3.6
Subtotal			**57,412**	**451,947**	**391**	**1,076**	**2.3**	**5.1**
San Joaquin Valley Un	Sierra	3	21,160	166,572	144	397	0.8	1.9
	Sierra	0	6,900	54,317	47	129	0.3	0.6
	Sequoia	9	7,174	56,474	49	134	0.3	0.6
	Sequoia	0	1,868	14,705	13	35	0.1	0.2
Subtotal			**37,102**	**292,067**	**253**	**695**	**1.5**	**3.3**
	Total	34	**158,738**	**1,249,586**	**1,081**	**2,975**	**6.2**	**14.1**

Notes: Assume OSV per vehicle = 2 2000 lbs/ton
Tahoe, Inyo, Sierra, and Sequoia National Forests have non-program funded parking areas which contribute OSV use to groomed trail system. OSV use from these non-program trailheads is included in calculations. See Table AQ-5b

Table AQ-8
Federal OSV emissions regulation

US EPA 0.746 kw/bhp

		Emissions, g/kw-hr		Emissions, g/hp-hr	
		HC	CO	HC	CO
	Model Year				
Phase 1	2007-2009	100	275	74.6	205.2
Phase 2	2010-2011	75	275	56.0	205.2
Phase 3*	2012 later	75	275		

Exhaust Emission Standards for 2012 and Later Model Year Snowmobiles
Table 1 of Sec. 1051.103.--Exhaust Emission Standards for Snowmobiles
[Federal Register: June 25, 2008 (Volume 73, Number 123)]
[Page 35946-35952]
* Phase 3 incorporates a formula for a manufacturer's line to incorporate a HC/NOx combined limit; values shown are maximum line average.

Table AQ-9
Calculate OSV emissions factors - Project 2020

	Emissions, g/hp-hr				Fuel Use
	HC	**CO**	**NOx**	**PM**	**lb/hp-hr**
4-Stroke, mean	3.50	59.30	6.57	0.08	0.65
2-Stroke, mean	112.56	308.08	0.43	1.47	0.97

Note:
4-Stroke, mean is 100% values from existing data per Table AQ-1
2-Stroke, mean emissions is 80%; fuel is 90% of values from existing data 80% 90%

	Emissions, g/gallon fuel used			
	HC	**CO**	**NOx**	**PM**
4-Stroke, mean	33.35	565.09	62.61	0.71
2-Stroke, mean	715.08	1,957.20	2.74	9.35

Gasoline 6.175 lb/US gal 454 g/lb

Table AQ-10
OSV Fleet Day Use Scenario - Project 2020

OSV-day work output	45.74	bhp-hr based on average day scenario
2-stroke fuel use per Machine	7.2	gallons, assumed emissions reduction technology fuel use to 90% of current
4-Stroke relative fuel efficiency	67%	
4-Stroke fuel use per Machine	4.8	gallons, as measured, current efficiency
4-Stroke % in fleet	20%	assumed
2-Stroke % in fleet	80%	
4-Stroke Fuel Use contribution	0.96	gallons
2-Stroke Fuel Use contribution	5.76	gallons

Table AQ-11
Average Day OSV Use Emissions per Machine (lb) - Project 2020

	Fuel Use	**HC**	**CO**	**NOx**	**PM**
4-Stroke contribution	0.96	0.07	1.19	0.13	0.00
2-Stroke contribution	5.76	9.07	24.83	0.03	0.12
Average	**6.72**	**9.14**	**26.03**	**0.17**	**0.12**
Compare 2010 Baseli	7.87	13.62	37.49	0.08	0.18
2020 as % of 2010	85%	67%	69%	212%	67%

Table AQ-12
OSV Cumulative Emissions with Projected Increased Program Activity

			Annual Emissions (tons)			
	Season OSV-days	**Fuel Use (gal)**	**HC**	**CO**	**NOx**	**PM**
Baseline 2020	158,738	1,062,148	726	2,066	13.3	9.5
Project 2020	234,932	1,578,745	1,074	3,057	19.6	14.1
2020 as % of 2010	**148%**	**149%**	**148%**	**148%**	**148%**	**148%**

Note:
Project 2020 is a 48% increase over Baseline 2010 48% 2000 lb/ton
estimated by extrapolation of historical 4% annual growth in OSV registrations

Table AQ-13
Recreational Visitor Transportation

	2010 Baseline			2020 Project		
Vehicles per season	79,369			117,466		
Trip ends per visitor-da	1.2	Assume some multi-visit days per trip		Projected Increase over project 10-year term:		
Season Trip Ends	95,243			User activity	48%	
Average trip length	205	mi/trip end based on user survey		Fuel efficien	25%	
Season mileage	20	milliion miles		29	milliion miles	
Haul vehicle fuel use ra	12	mi/gal		14.94		
Transport Fuel Use	1,627,065	gallons		Transport Fu	1,818,082	gallons =

Table AQ-14
OSV Program Grooming Operations

National Forest	Location	Annual Miles	Annual Days	Annual Hours	Max Day Hours
Klamath	Deer Mountair	1564	37	272	16
Modoc (1)	Doorknob				
Shasta-Trinity (2)	Pilgrim Creek	1440	33	240	13
Lassen (3)	Ashpan	1743	n/a	249	12
Lassen	Bogard and Fr	5076	n/a	680	12
Lassen	Swain Mounta	660	n/a	94	12
Lassen	Morgan Summ	900	n/a	300	12
Lassen (4)	Jonesville	2222	34	420	25
Plumas	Bucks Lake	949	38	409	12
Plumas	La Porte	744	34	207	12
Plumas (5)	Gold Lake				
Tahoe (6)	China Wall	823	21	137	10
Tahoe	Bassetts	1050	n/a	175	12
Tahoe	Little Truckee	3600	n/a	600	15
Eldorado	Silver Bear	900	16	150	10
Stanislaus	Lake Alpine ar	356	13	59	12
Stanislaus	Highway 108	910	22	175	12
Inyo	Mammoth Lak	1264	31	195	9
Sierra	Huntington La	852	38	181	12
Sierra	Tamarack Rid	930	28	178	12
Sequoia (7)	Big Meadow/C	165	7	41	12
Sequoia (7)	Quaking Aspe	71	4	58	12
Sequoia (7)	Kern Plateau	199	7	128	12
	Total	**26,418**	**363**	**4,948**	**266**

Notes:
Based on 2008/2009 winter season grooming data submitted to OHMVR Division except as noted.
Maximum day is assumed to be 12 hours unless site-specific data were provided.
1 Trails in Modoc National Forest are groomed by Klamath and Shasta Trinity National Forests.
Snowcat hours for Modoc are included in Klamath and Shasta totals.
2 Estimated based on avg NF grooming speed of 6 miles per hour; use 2007/2008 data to represent a more accurate level of grooming activity in an average snow year. 2008/09 had 8 groom days and 68 total hours.
3 Ashpan miles based on Lassen NF average trail grooming speed of 7 mph
4 Includes operation of 2 snowcats on same day.
5 Trails in Gold Lake are groomed by Tahoe National Forest. Snowcat hours for Gold Lake are included in Bassetts totals.
6 Based on 2007/2008 winter season data. 2008/2009 data unavailable.
7 Estimated based on known fuel use and average NF rate of 7 gallons per hour (Appendix E, Table AQ-10).

Table AQ-15
OSV Program Snow Removal Operation

	Total Days	Plow Truck, T	Blower hours	All Snow Rem	Max Day Hours
Hours					
Klamath/Deer Mountai	14	61	0	61	7
Modoc/Doorknob	14	84	0	84	8
Shasta-Trinity/Pilgrim (	25	234		234	16
Lassen/Ashpan, Bogard, Fredonyer, and Morgan Summit				0	
Lassen/Swain Mountai	8	21	0	21	6
Lassen/Jonesville	18	90	90	180	18
Plumas/Bucks Summit	60	275	85	360	8
Plumas/Gold Lake	49	709	32	741	6
Plumas/La Porte	13	18	6	24	2
Tahoe/China Wall	15	28	4	32	2
Tahoe/Bassetts				0	
Tahoe/Little Truckee S	n/a	124	0	124	8
Eldorado/Iron Mountain				0	
Stanislaus/Lake Alpine, Spicer, and Highway 108				0	
Sierra/Huntington Lake, Kaiser Pass (Eastwood), and Tamarack				0	
Sequoia/Big Meadow, Quail Flat, Cherry Gap, and Upper Woodw				0	
Sequoia/Quaking Aspen, Holby (Ponderosa), and Sugarloaf				0	
Sequoia/Kern Plateau-	42	215	0	215	11
Total	**258**	**1859**	**217**	**2076**	**92**

Table AQ-16
OSV Program Activity by Air District (hours)

			Max Day		Annual	
Air District	**National Forest**		**groom**	**plow**	**groom**	**plow**
Siskiyou APCD	Klamath	Deer Mountain and Four Corners Medicin	16	7	272	61
	Modoc	Doorknob		8		84
	Shasta Trinity	Pilgrim Creek	13	16	240	234
Subtotal			**29**	**31**	**512**	**379**
Shasta County AQMD	Lassen	Ashpan	**12**		**249**	**-**
Lassen County APCD	Lassen	Bogard, Frednoyer, Swain Mountain, and	**24**	**6**	**774**	**21**
Tehama County AQMI	Lassen	Morgan Summit	**12**	**-**	**300**	**-**
Butte County APCD	Lassen	Jonesville	**25**	**18**	**420**	**180**
Northern Sierra AQMD	Plumas	Bucks Summit, Big Creek, La Porte, and (	24	16	616	1,125
	Tahoe	Little Truckee Summit and Bassetts	27	8	775	124
Subtotal			**51**	**24**	**1,391**	**1,249**
Placer County APCD	Tahoe	China Wall	**10**	**2**	**137**	**32**
El Dorado County APC	Eldorado	Iron Mountain	**10**	**-**	**150**	**-**
Great Basin Unified AF	Inyo	Mammoth Lakes	9	-	195	-
	Stanislaus	Lake Alpine, Spicer Reservoir, and Hwy 1	36	-	234	-
Subtotal			**45**	**-**	**429**	**-**
San Joaquin Valley Un	Sierra	Huntington Lake, Kaiser Pass and Tamar	24	-	359	-
	Sequoia	Big Meadow, Quail Flat, Upper Woodwarc	24	11	227	215
Subtotal			**48**	**11**	**586**	**215**
	Total		**266**	**92**	**4,948**	**2,076**

Max Day	Table 4 3. Maximum-Day Equipment Operations Per Air District	Total Hours	**7,024**
Annual groom	Table 2 2. CSA Snow Program Annual Grooming Operations		
Annual plow	Table 2 6. CSA Snow Program Annual Snow Removal Operation		

Table AQ-17
Grooming Equipment Fuel Use Sample Data

Total Hours	7,024	hr/year
Fuel use rate	8.37	gal/hour
Fuel Use	58,802	gal/year

Fuel Use Factors from Sample Data

3,568	hours
18,993	miles
5.32	miles per hour
29,870	gallons fuel
1.57	gallons per mile
8.37	gallons per hour

Source: National Forest 2008-09 Fuel Use Data

Sample Data National For	Grooming Location	Annual Groom Miles	Annual Groom Hours	Annual Grooming Fuel Use
Klamath	Deer Mountain and Four C	1,564	272	1,569
Lassen	Ashpan, Bogard, Fredonye	8,379	1,323	17,500
Lassen (Butt	Jonesville	2,222	420	2,732
Plumas	Bucks Lake, La Porte	1,693	616	2,824
Tahoe	China Wall	823	137	704
Stanislaus	Hwy 108	1,266	246	732
Inyo	Mammoth Lakes	1,264	195	1,655
Sierra	Huntington Lake, Kaiser Pa	1,782	359	2,154
	Total	18,993	3,568	29,870

Table AQ-18
OHMVR Division Snow Program Grooming Equipment

National Forest	Location	Type	Age class (TIER)
Klamath/Modoc	Goosenest	Piston Bully 260D	0
Shasta-Trinity	Mt. Shasta	Piston Bully 260D	0
Lassen	Ashpan	Piston Bully 400	3
Lassen	Fredonyer	Piston Bully 200 Edge	2
Lassen	Bogard/Swain	Piston Bully 400	3
Lassen	Mineral	Piston Bully 200	1
Lassen	Jonesville	Bombardier*	0
Lassen	Jonesville	Tucker *	0
Plumas	Bucks Lake	Bombardier BR 400	0
Plumas	La Porte	Bombardier BR 400	0
Tahoe	Foresthill	Piston Bully 200	1
Tahoe	Bassetts	Piston Bully 300	0
Tahoe	Little Truckee	Bombardier MP 275*	1
Eldorado	Peddler Hill	Piston Bully 260	0
Stanislaus	Lake Alpine	Bombardier BR 400*	0
Stanislaus	Spicer Reserv	Bombardier BR 400*	0
Stanislaus	Highway 108	Bombardier BR 200*	1
Inyo	Mammoth	Piston Bully 200	1
Sierra	Shaver Lake	Piston Bully 240D	0
Sierra	Huntington La	Bombardier BR 400*	0
Sequoia	Kernville	Piston Bully 240D	0
Sequoia	Hot Springs	Piston Bully 240D	0

* Equipment owned by contract groomers, assume Tier 0. All other equipment is state owned.
Plow equipment is owned by CalTrans, County road departments, or private contractors.

Table AQ-19
Off Road Diesel Emissions Factors
Off road diesel emissions are subject to a phased reduction strategy based on date of engine manufacture.
Emissions are set by "Tiers" for engine manufacturing year class.
Snow program equipment falls in the 175-299 and the 300-500 horsepower groups.
Emissions for the two groups are generally identical; where different, the greater is shown.

			Emissions Factor (g/bhp-h		Emissions Factor (g/gallon)	
Engine Model Year		Tier	PM	NOx	PM	NOx
Tier "0"	1988-1995	0	0.54	9.30	10.09	173.72
Tier 1	1996-2002	1	0.40	6.90	7.47	128.89
Tier 2	2003-2006	2	0.15	4.30	2.80	80.32
Tier 3	2007-2010	3	0.15	2.60	2.80	48.57
Tier 4	2011-2013	4	0.015	1.50	0.28	28.02
Tier 5*	2014-	5	0.015	0.30	0.28	5.60

* refers to final Tier 4 standards

	Conversion	
Based on typical consumption 0.38 lb/bhp-hr;	18.68	bhp-hr/gal
Diesel density 7.1 lb/gal; conversion 0.746 kw/bhp	13.94	kw-hr/gal
Data adapted from CARB	Unit Conversion	
“Emission Factor” means diesel PM or oxides of nitrogen (NOx) emission rate	Engine work output is sometimes expressed	
in grams per brake-horsepower hour (g/bhp-hr) as shown in Appendix A,	in kilowatts (kw) or in brake horsepower (bhp)	
FINAL REGULATION ORDER	0.746	kw/bhp
REGULATION FOR IN-USE OFF-ROAD DIESEL VEHICLES	Enter source in highlighted cell, read opposite	
Article 4.8 In-Use Off-Road Diesel-Fueled Fleets	g/kw-hr	g/bhp-hr
CARB_Off_Road_Diesel_Final_2007_frooal.pdf	100.00	74.60
http://www.arb.ca.gov/msprog/ordiesel/documents/PM_NOx_Emis_Factors.pdf	0.72	0.54

Table AQ-20
On Road Diesel Emissions Factors
On road diesel emissions are subject to a phased reduction strategy based on date of engine manufacture.
Actual emissions reductions are managed by vehicle fleet using a combination of replacement and retrofit.
Program related snow removal fleet information is not available; estimates are based on a model fleet.
The following table is a simplification of the schedule provided in 13 CCR § 1956.8 for heavy-duty diesel engines.

		Emissions Factor (g/bhp-h		Emissions Factor (g/gallon)	
Engine Model Year	Group	PM	NOx	PM	NOx
1994 - 2003	0	0.10	5.00	1.87	93.40
2004 - 2006	1	0.03	2.50	0.56	46.70
2007 after	2	0.01	0.20	0.19	3.74

Fuel use and conversion factors are same as for Off Road diesel equipment.
Cal. Admin. Code tit. 13, § 1956.8

Table AQ-21
OHMVR Division Snow Program Grooming Fleet Composite Emissions Factor
Emissions Factor (g/gallon)

Fleet 2010			**Fleet 2015**			**Fleet 2020**		
	Emissions Factor (g/gallon)			Emissions Factor (g/gallon)			Emissions Factor (g/gallon)	
Age class (TIER)	PM	NOx	Age class (TI	PM	NOx	Age class (TI	PM	NOx
0	10.09	173.72	3	2.80	48.57	3	2.80	48.57
0	10.09	173.72	3	2.80	48.57	3	2.80	48.57
3	2.80	48.57	3	2.80	48.57	3	2.80	48.57
2	2.80	80.32	2	2.80	80.32	2	2.80	80.32
3	2.80	48.57	3	2.80	48.57	3	2.80	48.57
1	7.47	128.89	1	7.47	128.89	1	7.47	128.89
0	10.09	173.72	0	10.09	173.72	4	0.28	28.02
0	10.09	173.72	0	10.09	173.72	4	0.28	28.02
0	10.09	173.72	4	0.28	28.02	4	0.28	28.02
0	10.09	173.72	4	0.28	28.02	4	0.28	28.02
1	7.47	128.89	1	7.47	128.89	1	7.47	128.89
0	10.09	173.72	4	0.28	28.02	4	0.28	28.02
1	7.47	128.89	1	7.47	128.89	1	7.47	128.89
0	10.09	173.72	4	0.28	28.02	4	0.28	28.02
0	10.09	173.72	0	10.09	173.72	5	0.28	5.60
0	10.09	173.72	0	10.09	173.72	5	0.28	5.60
1	7.47	128.89	1	7.47	128.89	1	7.47	128.89
1	7.47	128.89	1	7.47	128.89	1	7.47	128.89
0	10.09	173.72	4	0.28	28.02	4	0.28	28.02
0	10.09	173.72	0	10.09	173.72	5	0.28	5.60
0	10.09	173.72	4	0.28	28.02	4	0.28	28.02
0	10.09	173.72	5	0.28	5.60	5	0.28	5.60
Average	**8.50**	**147.91**		**4.72**	**89.15**		**2.49**	**52.98**

Fleet average does not reflect different levels of usage, but is indicative of progressive reduction in fleet emissions over time.
Fleet 2015 changes are replacements already scheduled through 2014.

Table AQ-22
Snow Removal Equipment Fleet Composite Emissions Factor
Emissions Factor (g/gallon)

Model Fleet 2010

	Age Class	Emissions Fa	Age Class	Age Class
Age Class	**%**	PM	**%**	NOx
1994 - 2003	70%	1.31	70%	65.38
2004 - 2006	20%	0.11	20%	9.34
2007 after or BACT	10%	0.02	10%	0.37
	Average	**1.44**	**Average**	**75.09**

Model Fleet 2015

	Age Class	Emissions Fa	Age Class	
Age Class	**%**	PM	**%**	NOx
1994 - 2003	10%	0.19	10%	9.34
2004 - 2006	0%	-	45%	21.02
2007 after or BACT	90%	0.17	45%	1.68
	Average	**0.35**	**Average**	**32.04**

Model Fleet 2020

	Age Class	Emissions Fa	Age Class	
Age Class	**%**	PM	**%**	NOx
1994 - 2003	5%	0.09	5%	4.67
2004 - 2006	0%	-	0%	-
2007 after or BACT	95%	0.18	95%	3.55
	Average	**0.27**	**Average**	**8.22**

Snow removal may be done by Forest Service staff, a private contractor, or by CalTrans.
2010 Fleet composition is unknown. Calculations are based on estimate based on a model fleet.
Future retrofit/replacement is subject to
FINAL REGULATION ORDER TO REDUCE EMISSIONS OF
DIESEL PARTICULATE MATTER, OXIDES OF NITROGEN, AND OTHER
POLLUTANTS FROM IN-USE HEAVY-DUTY DIESEL-FUELED VEHICLES
Calculations use the option Percent of Total Fleet That Must Comply with PM and NOx BACT
At 2015, a residual 10% is retained at older emissions rate to represent exempt dedicated snow removal equipment.
The remainder is 100% BACT for PM and 50% BACT for NOx
At 2020, a residual 5% is retained to represent exempt equipment, the remainder is BACT for PM and NOx.

Table AQ-23
Fleet Composite Emissions Factor Change over 10-year Program
Emissions Factor (g/gallon)

	Model Fleet Year			**2020 Fleet as**
	2010	**2015**	**2020**	**% of 2010**
PM10 Emissions Factor				
Grooming	8.50	4.72	2.49	29%
Snow-removal	1.44	0.35	0.27	19%
NOx Emissions Factor				
Grooming	147.9	89.2	53.0	36%
Snow-removal	75.1	32.0	8.2	11%

Table AQ-24
Grooming and Plowing PM Emissions - No Increase in Activity

		Max Day (pounds)				Season (pounds)		
Air District	**National Forest**	**2010**	**2015**	**2020**		**2010**	**2015**	**2020**
Siskiyou APCD	Klamath	2.7	1.4	0.8		44	24	13
	Modoc	0.2	0.1	0.0		2	1	0
	Shasta Trinity	2.5	1.2	0.7		44	22	12
Subtotal		5.4	2.7	1.5		90	47	25
Shasta County AQMD	Lassen	1.9	1.0	0.6		39	22	11
Lassen County APCD	Lassen	3.9	2.1	1.1		122	67	36
Tehama County AQMI	Lassen	1.9	1.0	0.6		47	26	14
Butte County APCD	Lassen	4.4	2.3	1.2		71	38	20
Northern Sierra AQMD	Plumas	4.2	2.2	1.2		126	61	34
	Tahoe	4.4	2.4	1.3		125	68	36
Subtotal		8.6	4.6	2.5		251	129	70
Placer County APCD	Tahoe	1.6	0.9	0.5		22	12	6
El Dorado County APC	Eldorado	1.6	0.9	0.5		24	13	7
Great Basin Unified AF	Inyo	1.4	0.8	0.4		31	17	9
	Stanislaus	5.6	3.1	1.7		37	20	11
Subtotal		7.1	3.9	2.1		67	37	20
San Joaquin Valley Un	Sierra	3.8	2.1	1.1		56	31	16
	Sequoia	4.1	2.2	1.2		41	21	11
Subtotal		7.8	4.2	2.3		98	52	28
	Total	**44.1**	**23.7**	**12.7**	pounds	**831**	**444**	**237**
		Actual Max Day total is less.			tons	0.42	0.22	0.12

Table AQ-25
Grooming and Plowing NOx Emissions - No Increase in Activity

		Max Day (pounds)				Season (pounds)		
Air District	**National Forest**	**2010**	**2015**	**2020**		**2010**	**2015**	**2020**
Siskiyou APCD	Klamath	53.3	30.4	16.7		826	483	275
	Modoc	11.1	4.7	1.2		116	50	13
	Shasta Trinity	57.6	30.8	15.1		979	533	270
Subtotal		122.0	66.0	33.0		1,921	1,066	558
Shasta County AQMD	Lassen	32.7	19.7	11.7		679	409	243
Lassen County APCD	Lassen	73.8	43.0	24.4		2,140	1,285	759
Tehama County AQMI	Lassen	32.7	19.7	11.7		818	493	293
Butte County APCD	Lassen	93.1	51.7	27.2		1,395	797	438
Northern Sierra AQMD	Plumas	87.6	48.9	25.9		3,238	1,677	772
	Tahoe	84.7	49.1	27.6		2,285	1,347	776
Subtotal		172.3	98.0	53.5		5,523	3,025	1,548
Placer County APCD	Tahoe	30.0	17.6	10.1		418	244	139
El Dorado County APC	Eldorado	27.3	16.4	9.8		409	247	147
Great Basin Unified AF	Inyo	24.5	14.8	8.8		532	321	191
	Stanislaus	98.2	59.2	35.2		638	385	229
Subtotal		122.7	74.0	44.0		1,170	705	419
San Joaquin Valley Un	Sierra	65.5	39.5	23.4		979	590	351
	Sequoia	80.7	46.0	25.1		917	500	254
Subtotal		146.1	85.4	48.6		1,896	1,090	605
	Total	**853**	**492**	**274**	pounds	**16,370**	**9,361**	**5,149**
		Actual Max Day total is less.			tons	8.19	4.68	2.57

Table AQ-26
Grooming and Plowing Cumulative Emissions with Increased Program Activity

		Season (tons)			
		2010 Baseline	**2015**	**2020**	**2020 as % of 2010**
Grooming	Hours	4,948	5,498	6,048	122%
	PM10	0.39	0.24	0.14	36%
	NOx	6.7	4.5	3.0	44%
Plowing	Hours	2,076	2,426	2,776	134%
	PM10	0.028	0.008	0.007	25%
	NOx	1.4	0.7	0.2	15%
All Program	Hours	7,024	7,924	8,824	126%
	PM10	0.42	0.25	0.15	35%
	NOx	8.2	5.2	3.2	39%

Emissions factors from Tables
10-year growth scenario: New plowing to open Four Trees; possible expand trail maintenance at existing or new locations.

increase	grooming by	1100	hours	22%
increase	plowing by	700	hours	34%

Table AQ-27
Greenhouse Gases, all sources

Source	Fuel	GHG kg/gal	Fuel Use gallons	MT CO2	MT N2O	ALL GHG MT CO2e
Baseline 2010						
Grooming and Plowing	Diesel	10.2	58,802	598	28	626
OSV Use	Gas	8.8	1,249,586	10,996	512	11,508
User Transportation	Gas	8.8	1,627,065	14,318	666	14,984
	Total		2,935,452	25,913	1,206	27,118
			Total as % of statewide GHG inventory			0.0057%
					Season OSV-days	158,738
					GHG MT CO2/OSV-use day	0.163

N2O estimated by Highway transportation ratio from CARB
Transportation was the second largest source of N2O with 6.7 MMTCO2e, the majority of which is from on-road vehicles.

N2O factor = N2O/(All Transport - N2O)			6.7	150.70	4.7% of MTCO2e		
	Fuel	**GHG kg/gal**	**Fuel Use gallons**	**MT CO2**	**MT N2O**	**ALL GHG MT CO2e**	**As % of Baseline 2010**
Project year 2020							
Grooming and Plowing	Diesel	10.2	73,871	751	35	786	126%
OSV Use	Gas	8.8	1,578,745	13,893	646	14,539	126%
User Transportation	Gas	8.8	1,818,082	15,999	744	16,744	112%
	Total		3,470,698	30,643	1,426	32,069	118%
				Total as % of GHG Roll-back Target		0.0064%	
Season OSV-days					Season OSV-days	234,932	148%
MT CO2/OSV-use day					GHG MT CO2/OSV-use day	0.130	80%

CO2 generation	8.8	kg/gal gasoline	40 CFR 600.113-78				
	10.2	kg/gal diesel					
Year 2020 No Increase in Demand							
Baseline is 68% of Gro	68%	Fuel Use	2,360,075		GHG MMT	21,807	80%
					as % of target	0.0051%	

Table AQ-28
Greenhouse Gasses California Inventory
GHG inventory in MMTCO2e

	Inventory		**Compare Baseline**	**Business-as-usual Forecast**	**Compare Project**	**GHG Target Inventory**	**Compare Project**
	2006	**category %**	**2010**	**2020**	**2020**	**1990**	**2020**
Transportation	185.77	39%	**0.014%**	225.4	**0.012%**	150.7	**0.018%**
On Road	170.55	36%	**0.015%**	209.1	**0.013%**	138	**0.020%**
Passenger Vehicles	133.37	28%	**0.019%**	160.8	**0.017%**		
State net total	479.8	100%	**0.0057%**	596.4	**0.0045%**	427	**0.0064%**

CARB estimates for 2006 from ghg_inventory_scopingplan_2009-03-13.pdf
2020 from Greenhouse Gas Inventory - 2020 Forecast (nov 16 2009) at http://arb.ca.gov/cc/inventory/data/forecast.htm
"Forecasting the amount of emissions that would occur in 2020 if no actions are taken .."
Staff Report California 1990 Greenhouse Gas Emissions Level and 2020 Emissions Limit 11/16/2007

Table AQ-29
2010 EMFAC-Derived Composite Weighted Average Emission Factors

Vehicle Class	Weight (lbs)	Percent of Fleet	ROG		NOX		PM10		CO	
			g/mi	g/trip	g/mi	g/trip	g/mi	g/trip	g/mi	g/trip
LDT1	0 - 3,750	25%	0.41	1.19	0.48	0.43	0.04	0.01	4.28	8.14
LDT2	3,751 - 5,750	48%	0.28	0.99	0.46	0.66	0.05	0.01	3.11	7.47
LDT Average	--	74%	0.32	1.06	0.47	0.58	0.04	0.01	3.52	7.70
MDV	5,751 - 8,500	21%	0.27	1.11	0.57	0.79	0.05	0.01	3.60	8.78
LHDT1	8,501 - 10,000	4%	0.71	0.65	1.72	1.60	0.04	0.00	3.57	7.48
LHDT2	10,001 - 14,00	1%	0.75	0.66	3.25	1.41	0.06	0.00	3.31	7.06
LHDT Average	--	5%	0.72	0.66	2.15	1.55	0.05	0.00	3.50	7.36
Total Fleet Avg.	-	100%	0.33	1.05	0.58	0.68	0.04	0.01	3.53	7.91

Table AQ-30
2020 EMFAC-Derived Composite Weighted Average Emission Factors

Vehicle Class	Weight (lbs)	Percent of Fleet	ROG		NOX		PM10		CO	
			g/mi	g/trip	g/mi	g/trip	g/mi	g/trip	g/mi	g/trip
LDT1	0 - 3,750	25%	0.18	0.60	0.17	0.19	0.03	0.01	1.51	3.63
LDT2	3,751 - 5,750	48%	0.18	0.60	0.20	0.31	0.05	0.02	1.58	3.87
LDT Average	--	73%	0.18	0.60	0.19	0.27	0.05	0.01	1.55	3.79
MDV	5,751 - 8,500	21%	0.19	0.71	0.26	0.40	0.05	0.02	1.97	4.96
LHDT1	8,501 - 10,000	4%	0.51	0.39	0.86	1.41	0.04	0.00	1.36	4.12
LHDT2	10,001 - 14,00	1%	0.38	0.32	1.39	1.18	0.05	0.00	0.96	3.15
LHDT Average	--	5%	0.47	0.37	1.01	1.35	0.04	0.00	1.25	3.85
Total Fleet Avg.	-	100%	0.20	0.61	0.25	0.35	0.05	0.01	1.63	4.04
	2020 as % 2010		59%	58%	43%	52%	107%	117%	46%	51%

Table AQ-31
2010 Baseline User VMT Emissions

Max Daily Vehicles:	2,067
Total Seasonal Vehicles:	79,369
Total Seasonal Trips:	95,243
Avg. Miles/Trip:	205

Daily Emissions

Vehicle Type	Max Daily Trips	Mile/trip	Total Daily VMT	Daily Emissions (lbs) ROG	NOX	CO	Total PM10
LDT Avg.	1,523	205	312,248	227	324	2,444	29
MDV	438	205	89,831	55	114	721	9
LHDT Avg.	106	205	21,655	35	103	169	2
Total	2,067		423,734	316	541	3,333	41

Seasonal Emissions

Vehicle Type	Total Seasonal Trips	Mile/trip	Total Seasonal VMT	Seasonal Emissions (tons) ROG	NOX	CO	Total PM10
LDT Avg.	70,184	205	14,387,716	5.22	7.46	56.30	0.68
MDV	20,191	205	4,139,227	1.27	2.64	16.61	0.21
LHDT Avg.	4,867	205	997,804	0.80	2.38	3.89	0.05
Total	95,243		19,524,747	7.29	12.47	76.79	0.94

Table AQ-32
2020 User VMT Emissions - No Increase in Activity

Max Daily Vehicles:	2,067
Total Seasonal Vehicles:	79,369
Total Seasonal Trips:	95,243
Avg. Miles/Trip:	205

Daily Emissions				Daily Emissions (lbs)			
Vehicle Type	Max Daily Trips	Mile/trip	Total Daily VMT	ROG	NOX	CO	Total PM10
LDT Avg.	1,523	205	312,248	125	133	1,081	31
MDV	438	205	89,831	38	52	395	10
LHDT Avg.	106	205	21,655	23	48	61	2
Total	2,067		423,734	185	233	1,536	44

Seasonal Emissions				Seasonal Emissions (tons)			
Vehicle Type	Total Seasonal Trips	Mile/trip	Total Seasonal VMT	ROG	NOX	CO	Total PM10
LDT Avg.	70,184	205	14,387,716	2.88	3.06	24.90	0.72
MDV	20,191	205	4,139,227	0.87	1.19	9.09	0.24
LHDT Avg.	4,867	205	997,804	0.52	1.11	1.39	0.05
Total	95,243		19,524,747	4.27	5.36	35.38	1.01

Table AQ-33
2020 Project User VMT Emissions - Increased Activity

Max Daily Vehicles:	3,059
Total Seasonal Vehicles:	117,466
Total Seasonal Trips:	140,959
Avg. Miles/Trip:	205

Daily Emissions — Daily Emissions (lbs)

Vehicle Type	Max Daily Trip	Mile/trip	Total Daily VMT	ROG	NOX	CO	Total PM10
LDT Avg.	2,244	205	459,977	184	196	1,592	46
MDV	655	205	134,177	56	77	590	15
LHDT Avg.	161	205	32,975	34	74	92	3
Total	3,059		627,129	275	346	2,274	65

Seasonal Emissions — Seasonal Emissions (tons)

Vehicle Type	Total Seasonal Trips	Mile/Trip	Total Seasonal VMT	ROG	NOX	CO	Total PM10
LDT Avg.	103,389	205	21,194,733	4.25	4.50	36.67	1.07
MDV	30,159	205	6,182,562	1.30	1.78	13.58	0.35
LHDT Avg.	7,412	205	1,519,407	0.79	1.69	2.12	0.07
Total	140,960		28,896,701	6.34	7.98	52.38	1.49
			2020 as % 2010	87%	64%	68%	159%

APPENDIX F

PLANT AND WILDLIFE SPECIES LISTS
TRA Environmental Sciences, Inc.

APPENDIX F

Plant and Wildlife Species Lists

A complete list of all species considered as part of this assessment, their regulatory status, habitat requirements, local occurrences, and evaluations are listed in the following table.

Species	Listing Status[1]	Habitat	Forests Where Occurs/May Occur	Potential for Species Occurrence in Biological Study Area in Winter
ANIMALS				
Little Kern golden trout (*Oncorhynchus mykiss whitei*)	FT	Native to the Little Kern River and the accessible reaches or its tributaries in Tulare County. Small, clear, cool, swift-flowing streams. Spawns in gravel riffles.	Sequoia	None. This species would only be affected if riders trespassed into the Golden Trout Wilderness from Sequoia NF trails.
Volcano Creek golden trout (aka California golden trout) (*Oncorhynchus mykiss aguabonita*)	FSS, CSSC	The California State fish. Found in Golden Trout Creek, a tributary to the Kern River, and the South Fork Kern River, which empties into Lake Isabella. Adapted to cold, clear mountain streams with temperatures usually below 22°C. Population density is greatest in low gradient meadow reaches with deep pools, undercut banks, aquatic vegetation, and streamside sedge cover.	Inyo, Sequoia	Low. Several occupied creeks are within the Kern Plateau Ranger District riding area (Figure 31).
Lahontan cutthroat trout (*Oncorhynchus clarkii henshawi*)	FT	The Nevada State fish. Generally occur in cool flowing water with available cover of well-vegetated and stable stream banks, in areas where there are stream velocity breaks, and in relatively silt free, rocky riffle-run areas. Native to the Lahontan basin of northern Nevada, eastern California, and southern Oregon.	Sierra, Stanislaus, Tahoe	Low. A few occupied tributaries are within or near riding areas.
McCloud River redband trout (*Oncorhynchus mykiss ssp. 2*)	FSS, CSSC	Habitat reduced to tributaries in the McCloud River headwaters. Clear, spring-fed streams with cold water and riparian cover for at least 2 km.	Shasta-Trinity	Low. A few occupied tributaries are within the project riding area.
Spring-run Chinook salmon (*Oncorhynchus tshawytscha spring-run*)	FT, ST	Spends one or more years as fry or parr in fresh water before migrating to sea, performs extensive offshore oceanic migrations, returns to natal river in spring or summer, several months prior to spawning.	Lassen	Low. Occupied tributaries occur near the Morgan Summit trail system.

Species	Listing Status[1]	Habitat	Forests Where Occurs/May Occur	Potential for Species Occurrence in Biological Study Area in Winter
Yosemite toad (*Anaxyrus canorus*)	FC, FSS, CSSC	Wet mountain meadows and borders of forests. Obtains shelter in rodent burrows as well as in dense vegetation. Breeds in shallow edges of snow melt pools and ponds or along edges of lakes and slow-moving streams. Active above ground for only about 4 months each year (May – September).	Eldorado, Inyo, Sierra, Stanislaus	Low. Hibernates during winter months.
Sierra Madre yellow-legged frog (*Rana muscosa*)	FE, FSS, CSSC	Lakes, ponds, meadow streams, and isolated pools, along sunny riverbanks in montane riparian, lodgepole pine, subalpine conifer, and wet meadow habitats. Occurs from 980-12,000 feet in elevation.	Sequoia	Low. Hibernates during winter months.
Sierra Nevada yellow-legged frog (*Rana sierrae*)	FC, FSS, CSSC	Sunny river margins, meadow streams, isolated pools, and lake borders in the Sierra Nevada. Most abundant in high elevation lakes and slow-moving portions of streams. Wintering sites include areas near shore under ledges and in deep underwater crevices.	Eldorado, Inyo, Plumas, Sierra, Stanislaus, Tahoe	Low. Hibernates during winter months.
Foothill yellow-legged frog (*Rana boylii*)	FSS, CSSC	Inhabits partially shaded, rocky streams at low to moderate elevations, in areas of chaparral, open woodland, and forest. It breeds in pools of streams. Inactive in cold temperatures and hot, dry weather. Occurs from 0-7,000 feet in elevation.	Eldorado, Lassen, Plumas, Sequoia, Sierra, Stanislaus, Tahoe	Low. Hibernates during winter months.
Cascades frog (*Rana cascadae*)	FSS, CSSC	Wet mountain meadows, sphagnum bogs, ponds, lakes, and streams, in open coniferous forests. Hibernates in mud at bottom of pond and in spring-water saturated ground. Breeds spring-summer, March to mid-August, soon after ice and snow melt. Prefers quiet pond for breeding.	Lassen, Plumas, Shasta-Trinity	Low. Hibernates during winter months.
Western tailed frog (*Ascaphus truei*)	CSSC	Clear, cold swift-moving mountain streams with coarse substrates. Primarily found in older forests. Often found on land during wet weather near water in humid forests or in more open habitat. During dry weather stays on moist stream-banks. Lays eggs in long strings under stones in water. Adults most active April-October depending on location.	Shasta-Trinity	Low. Hibernates during winter months.

Species	Listing Status[1]	Habitat	Forests Where Occurs/May Occur	Potential for Species Occurrence in Biological Study Area in Winter
Mount Lyell salamander (*Hydromantes platycephalus*)	CSSC	Inhabits caves, granite exposures, rock fissures, and seepages from springs and melting snow. Frequents cliff faces, vertical cavern walls, and level ground. 4,000-12,000 feet. Hibernates in winter.	Eldorado, Inyo, Sierra, Sequoia, Tahoe	Low. Species hibernates from early September to late April.
Silvery legless lizard (*Anniella pulchra*)	FSS, CSSC	Burrows in loose soil, especially in semi-stabilized sand dunes, in other areas with sandy soil, in areas vegetated with oak or pine-oak woodland, or chaparral; also wooded stream edges, and occasionally desert-scrub. Bush lupine often is an indicator of suitable conditions. Often found in leaf litter, under rocks, logs, and driftwood. Hibernates/aestivates in cold temperatures.	Sequoia	None. Riding area in winter is entirely inhospitable for this species.
Western pond turtle (*Actinemys marmorata*)	CSSC	Found in ponds, lakes, rivers, streams, creeks, marshes, and irrigation ditches, with abundant vegetation, and either rocky or muddy bottoms, in woodland, forest, and grassland. In streams, prefers pools to shallower areas. Logs, rocks, cattail mats, and exposed banks are required for basking.	Sequoia, Sierra, Tahoe	None. Rarely found at elevations above 4900 ft. Riding area in winter is entirely inhospitable for this species.
Northwestern pond turtle (*Actinemys marmorata marmorata*)	FSS, CSSC	Found in ponds, lakes, rivers, streams, creeks, marshes, and irrigation ditches, with abundant vegetation, and either rocky or muddy bottoms, in woodland, forest, and grassland. In streams, prefers pools to shallower areas. Logs, rocks, cattail mats, and exposed banks are required for basking.	Plumas	None. Rarely found at elevations above 4900 ft. Riding area in winter is entirely inhospitable for this species.
Bald eagle (*Haliaeetus leucocephalus*)	SE, SFP	Preferentially roosts in conifers or other sheltered sites in winter in some areas; typically selects the larger, more accessible trees. Wintering areas are commonly associated with open water, though in some areas eagles use habitats with little or no open water if other food resources (e.g., rabbit or deer carrion) are readily available.	Inyo, Lassen, Modoc, Plumas, Sequoia, Shasta-Trinity, Sierra, Stanislaus, Tahoe	High. Suitable habitat exists throughout range.

Species	Listing Status[1]	Habitat	Forests Where Occurs/May Occur	Potential for Species Occurrence in Biological Study Area in Winter
Golden eagle (*Aquila chrysaetos*)	SFP	Rolling foothills, mountain areas, sage-juniper flats, and desert. Cliff-walled canyons and large trees in open areas provide nesting habitat in most parts of it range.	Eldorado, Inyo, Klamath, Lassen, Modoc, Plumas, Shasta-Trinity, Sequoia, Sierra, Stanislaus, Tahoe	High. Suitable habitat exists throughout range.
Northern goshawk (*Accipiter gentilis*)	FSS, CSSC	Mature coniferous forests and riparian aspen groves serve as both nesting and foraging habitat. Nests in a wide variety of forest types including deciduous, coniferous, and mixed forests. Characteristically nests in coniferous forests including those dominated by ponderosa pine, lodgepole pine, or in mixed forests dominated by various coniferous species including fir, Douglas-fir, cedar, hemlock, spruce, and larch.	Eldorado, Inyo, Klamath, Lassen, Modoc, Plumas, Shasta-Trinity, Sequoia, Sierra, Stanislaus, Tahoe	High. Known inhabitant of trail systems.
Great gray owl (*Strix nebulosa*)	FSS, SE	Generally occurs in mature conifer stands associated with high-mountain meadows. Winter range is the same except at a lower elevation with thinner snow cover.	Lassen, Sequoia, Sierra, Stanislaus	Medium. Uncommon resident in deep snow at high elevations in winter.
California spotted owl (*Strix occidentalis occidentalis*)	FSS	Resides in dense, old growth, multi-layered mixed conifer, redwood, and Douglas-fir habitats, from sea level up to approximately 7,600 feet.	Eldorado, Lassen, Plumas, Sequoia, Sierra, Stanislaus, Tahoe	High. Known inhabitant of trail systems.
Northern spotted owl (*Strix occidentalis caurina*)	FT, CSSC	Inhabits old growth forests in the northern part of its range (Canada to southern Oregon) and landscapes with a mix of old and younger forest types in the southern part of its range (Klamath region and California).	Klamath, Modoc, Shasta-Trinity	High. Known inhabitant of trail systems.
California condor (*Gymnogyps californianus*)	FE, SE, SFP	Mountain and foothill rangeland and forest habitats; nests on cliffs and in large trees, typically below 3,300 feet.	Sequoia	None. In general, preferred habitat not present at trails.
Greater sage-Grouse (*Centrocercus urophasianus*)	FSS	Year-round residents in four areas of the Inyo National Forest. Highly dependent on healthy stands of sagebrush with no tree encroachment. Open areas (e.g., meadows) used for strutting.	Inyo	None. Leks occur near winter trails that are not accessed from Snow Program trailheads or trails.

Species	Listing Status[1]	Habitat	Forests Where Occurs/May Occur	Potential for Species Occurrence in Biological Study Area in Winter
Willow flycatcher (*Empidonax traillii*)	FSS, SE	Inhabits extensive thickets of low, dense willows on edge of wet meadows, ponds, or backwaters. 2,000-8,000 feet elevation.	Eldorado, Inyo, Lassen, Plumas, Sierra, Sequoia, Shasta-Trinity, Stanislaus, Tahoe	None. Species migrates to Central and South America in winter.
Black swift (*Cypseloides niger*)	CSSC	Nests on ledges or shallow caves in steep rock faces and canyons, usually near or behind waterfalls. Ranges widely to forage over forest and open areas in montane habitats. In California, found between 0 and 7,500 feet in elevation.	Sequoia, Tahoe	None. Species winters in South America.
Greater sandhill crane (*Grus canadensis*)	FSS, SE	Nests in isolated, open, marshes or bogs, surrounded by shrubs and forests.	Klamath, Lassen, Modoc, Plumas, Tahoe	None. Species migrates to warmer climates in winter.
American marten (*Martes americana*)	FSS	Prefers dense deciduous, mixed, or (especially) coniferous upland and lowland forests. May use rocky alpine areas. Uses mainly subnivean sites, often associated with coarse woody debris, in winter. Frequently observed by day in winter. In the Sierra Nevada, foraging activity is nocturnal in winter and diurnal in the summer.	Eldorado, Inyo, Klamath, Lassen, Modoc, Plumas, Sequoia, Shasta-Trinity, Sierra, Stanislaus, Tahoe	Medium. Suitable habitat occurs across all forests.
Pacific fisher (*Martes pannanti pacifica*)	FC, FSS, CSSC, SC	Prefers mature and late-seral forest with structural diversity, downed wood, and high canopy closure. When inactive, occupies a den in a tree hollow, under a log, or in the ground or a rocky crevice.	Modoc, Plumas, Sequoia, Shasta-Trinity, Sierra, Lassen	Low. During winter, occurs at lower elevations than snow levels necessary for winter riding.
California wolverine (*Gulo gulo*)	FSS, ST, SFP	Prefers areas with low human disturbance. Habitat includes alpine and arctic tundra and boreal and mountain forests (primarily coniferous). Typically found in areas with snow on the ground in winter. When inactive, occupies dens in caves, rock crevices, fallen trees, thickets, or similar sites, generally in denser forest stages.	Plumas, Sequoia, Stanislaus, Lassen	Low. Species has not been observed in California for decades.

Species	Listing Status[1]	Habitat	Forests Where Occurs/May Occur	Potential for Species Occurrence in Biological Study Area in Winter
Sierra Nevada red fox (*Vulpes vulpes necator*)	FSS, ST	In the Sierra Nevada, prefers forests interspersed with meadows or alpine fell-fields. Open areas are used for hunting, forested habitats for cover and reproduction. Dens are likely to be in rock slides.	Eldorado, Lassen, Plumas, Stanislaus, Inyo (Historically found on Modoc, Shasta-Trinity)	Low. Suitable habitat exists throughout project range. Current presence is known only around Lassen Peak and one recent sighting on Humboldt-Toiyabe National Forest.
American peregrine falcon (*Falco peregrinus anatum*)	SE (proposed for delisting), SFP	Includes most of California during migrations and winter. The breeding range includes the Cascade and Sierra Nevada mountain ranges. Nests on ledges in rock outcrops and needs open or edge areas for foraging.	Eldorado, Inyo, Klamath, Lassen, Modoc, Plumas, Sequoia, Shasta-Trinity, Sierra, Stanislaus, Tahoe	Low. In general, moves to lower elevations in winter due to food source scarcity. Winter riding and falcons may overlap if nesting begins while snow levels are still high.
Sierra Nevada bighorn sheep (*Ovis Canadensis sierrae*)	FE, SE	Generally restricted to rugged, mountainous terrain in the Sierra Nevada.	Inyo	None. This species is not expected to be within winter riding areas on Inyo NF.
Mountain lion (*Puma concolor*)	Specially protected by California	Occurs throughout California from sea level to 10,000 ft in elevation. Most abundant in areas with plentiful deer. An adult male's home range spans over 100 square miles while females generally use smaller areas, twenty to sixty square miles.	Eldorado, Inyo, Klamath, Lassen, Modoc, Plumas, Sequoia, Shasta-Trinity, Sierra, Stanislaus, Tahoe	High. Occurs throughout Sierra Nevada and Cascade Mountains.
Sierra Nevada snowshoe hare (*Lepus americanus tahoensis*)	CSSC	Found in montane riparian habitats with thickets of alders and willows, and in stands of young conifers interspersed with chaparral. Mixed conifer, subalpine conifer, red fir, Jeffrey pine, lodgepole pine, and aspen are likely habitats, primarily along edges, and especially near meadows.	Eldorado, Klamath, Lassen, Modoc, Plumas, Shasta-Trinity, Sierra, Stanislaus, Tahoe	Low. An uncommon resident at upper elevations in the Cascades and Sierra Nevada.

Species	Listing Status[1]	Habitat	Forests Where Occurs/May Occur	Potential for Species Occurrence in Biological Study Area in Winter
Western white-tailed jackrabbit (*Lepus townsendii townsendii*)	CSSC	Sagebrush, subalpine conifer, juniper, alpine dwarf-scrub, and perennial grassland. Low sagebrush, wet meadow, and early successional stages of various coniferous communities are also used. Within these communities prefers open areas with scattered scrubs and exposed flat topped hills with stands of trees, brush, and herbaceous understory. Rests by day usually in shallow depression at base of bush or in a cavity in the snow.	Inyo	Medium. Suitable habitat exists on the eastern side of the Sierra Nevada mountain range.
Mount Lyell shrew (*Sorex lyelli*)	CSSC	Favors riparian and other wet areas with moist soil. Poorly researched species.	Inyo	Low. Appears to be limited to areas within or near Yosemite National Park.
American badger (*Taxidea taxus*)	CSSC	Mainly active at night. Badgers prefer to live in dry, open grasslands, fields, and pastures. They are found from high alpine meadows to sea level. They do not hibernate, but become less active in winter. When inactive, occupies underground burrow.	Lassen, Plumas, Sierra, Sequoia, Tahoe	Low. Mostly inactive in winter.
Sierra Nevada mountain beaver (*Aplodontia rufa californica*)	CSSC	Largely nocturnal, prefers sub-alpine coniferous forest with abundance of forbs near streams. Occupy habitats with deep soils for burrows. Prefer areas with minimal snowfall. Requires an abundant supply of water. Does not hibernate.	Inyo, Tahoe	Medium. Suitable habitat exists and has been documented within 5 miles of OSV trails.
Special-status bats: fringed myotis, hoary bat, long-eared myotis, long-legged myotis, pallid bat, silver-haired bat, spotted bat, Townsend's big-eared bat, western mastiff bat, western red bat, western small-footed myotis	FSS, CSSC and/or a medium-high to high priority rating by Western Bat Working Group	Variety of habitats throughout the Sierra Nevada and Cascade Mountains. Hibernacula include abandoned mines, caves, buildings, and decadent trees and snags	Eldorado, Inyo, Klamath, Lassen, Modoc, Plumas, Sequoia, Shasta-Trinity, Sierra, Tahoe	None. Move south or hibernate during winter months.

Species	Listing Status[1]	Habitat	Forests Where Occurs/May Occur	Potential for Species Occurrence in Biological Study Area in Winter
PLANTS				
Henderson's bent grass (*Agrostis hendersonii*)	CRPR 3.2	Annual grass growing in vernal pools in valley and foothills grasslands. 230-1,000 feet. Blooms April-June.	Plumas	None. Occurs at lower elevations than riding area.
Mountain bent grass (*Agrostis humilis*)	CRPR 2.3	Meadows and seeps within alpine boulder and rock fields and subalpine coniferous forests. 8,860-10,500 feet. Perennial. Blooms July-September.	Stanislaus	Low. Known to occur within 5 miles of OSV trails.
Grass alisma (*Alisma gramineum*)	CRPR 2.2	Assorted shallow freshwater habitats including marshes and swamps. 1,350-6,000 feet. Aquatic perennial. Blooms June-August.	Klamath	Low. Known to occur within 5 miles of OSV trails.
Three-bracted onion (*Allium tribracteatum*)	FSS, CRPR 1B.2	Chaparral forest, lower and upper montane coniferous forests in volcanic soils from 3,600 to 9,850 feet. Perennial bulb. Blooms April-August.	Stanislaus	None. Not known to occur within 5 miles of OSV trails.
Constance's rock cress (*Arabis constancei*)	FSS: CRPR 1B.1	Strictly confined to undisturbed serpentine soils within chaparral and yellow pine forests. 3,200-6,650 feet. Perennial. Blooms May-July.	Plumas	Low. Known to occur within 5 miles of OSV trails.
Pinzl's rock cress (*Arabis pinzliae*)	FSS, CRPR 1B.3	Alpine boulder and rock fields; subalpine coniferous forests. 9,850-10,990 feet. Perennial. Blooms May.	Inyo	Low. Known to occur within 5 miles of OSV trails.
Northern spleenwort (*Asplenium septentrionale*)	CRPR 2.3	Chaparral, lower and upper montane coniferous forests, subalpine coniferous forests. Forms grass-like tufts in granitic rock crevices. Perennial fern. 5,300-11,000 feet. Blooms July-August.	Lassen	Low. Known to occur within 5 miles of OSV trails.
Long Valley milk-vetch (*Astragalus johannis-howellii*)	FSS, CRPR 1B.2	In sandy volcanic ash or pumice with sagebrush scrub. 6,660-8,300 feet. Perennial. Blooms June-August.	Inyo	None. Not known to occur within 5 miles of OSV trails.
Kern Plateau milk-vetch (*Astragalus lentiginosus* var. *kernensis*)	FSS, 1B.2	Meadows and seeps in subalpine coniferous forests on dry, gravelly or sandy soils. 7,500-8,850 feet. Perennial. Blooms June-July.	Sequoia	Low. Known to occur within 5 miles of OSV trails.
Mono milk-vetch (*Astragalus monoensis*)	FSS, CRPR 1B.2	Pumice, gravelly or sandy soils, Great Basin scrub, and upper montane coniferous forest from 6,900 to 11,000 feet. Perennial. Blooms June-August.	Inyo	Low. Known to occur within 5 miles of OSV trails.
Suksdorf milk-vetch (*Astragalus pulsiferae* var. *suksdorfii*)	FSS, CRPR 1B.2	Great Basin scrub, lower montane coniferous forest, pinyon juniper woodland. 4,250-6,560 feet. Perennial. Blooms May-August.	Lassen	Low. Known to occur within 5 miles of OSV trails.

Species	Listing Status[1]	Habitat	Forests Where Occurs/May Occur	Potential for Species Occurrence in Biological Study Area in Winter
Shevock's milk-vetch (*Astragalus shevockii*)	FSS, CRPR 1B.3	Upper montane coniferous forest; specifically, open Jeffrey pine forest, in granitic sand or volcanic soils and in pine-needle duff, 6,200-6,450 feet. Perennial. Blooms June-July.	Sequoia	None. Not known to occur within 5 miles of OSV trails.
Smooth saltbush (*Atriplex pusilla*)	CRPR 2	Meadows and seeps in Great Basin scrub. 4,250-6,500 feet. Annual. Blooms June-September.	Inyo	Low. Known to occur within 5 miles of OSV trails.
Dwarf resin birch (*Betula glandulosa*)	CRPR 2.2	Bogs, fens, marshes, swamps, seeps in lower montane and subalpine coniferous forests. 4,260-7,550 feet. Perennial, deciduous shrub. Blooms May-June.	Lassen	Low. Known to occur within 5 miles of OSV trails.
Upswept moonwort (*Botrychium ascendens*)	FSS, CRPR 2.3	Wet meadows and seeps in lower montane coniferous forest. 4,900-7,500 feet. Perennial fern. Blooms July-August.	Lassen	Low. Known to occur within 5 miles of OSV trails.
Scalloped moonwort (*Botrychium crenulatum*)	FSS, CRPR 2.2	Bogs, fens, wet meadows in lower and upper montane coniferous forests. 4,900-8,750 feet. Perennial fern. Blooms June-September.	Lassen	Low. Known to occur within 5 miles of OSV trails.
Common moonwort (*Botrychium lunaria*)	FSS, CRPR 2.3	Perennial fern growing in meadows in upper montane and subalpine coniferous forests. 9,000-11,150 feet. Blooms August.	Tahoe	Low. Known to occur within 5 miles of OSV trails.
Mingan moonwort (*Botrychium minganense*)	FSS, CRPR 2.2	Bogs and fens in lower and upper montane coniferous forests. 4,775-6,750 feet. Perennial fern. Blooms July-September.	Lassen, Plumas	Low. Known to occur within 5 miles of OSV trails.
Western goblin (*Botrychium montanum*)	FSS; CRPR 2.1	Creekbanks, meadows, and seeps in lower and upper montane coniferous forests. 4,800-7,000 feet. Perennial fern. Blooms July-September.	Lassen, Plumas	Low. Known to occur within 5 miles of OSV trails.
Northwestern moonwort (*Botrychium pinnatum*)	FSS, CRPR 2.3	Creek banks and meadows within montane coniferous forests. 5,800-6,700 feet. Perennial. Blooms July-October.	Lassen, Shasta-Trinity	Low. Known to occur within 5 miles of OSV trails.
Bolander's bruchia (*Bruchia bolanderi*)	FSS, CRPR 2.2	Moss which grows on damp clay soils in meadows and seeps in coniferous forests. 5,580-6,560 feet.	Plumas, Sierra, Sequoia	Low. Known to occur within 5 miles of OSV trails.
Piute cypress (*Callitropsis nevadensis*)	CRPR 1B.2	Evergreen tree found on dry slopes in coniferous forest, chaparral, cismontane woodland, and pinyon-juniper woodland. 2,360-5,200 feet.	Sequoia	Low. Known to occur within 5 miles of OSV trails.
Pleasant Valley mariposa lily (*Calochortus clavatus* var. *avius*)	FSS, CRPR 1B.2	Lower montane coniferous forests. 1,000-5,900 feet. Perennial bulb. Blooms May-July.	Eldorado	Low. Known to occur within 5 miles of OSV trails.

Species	Listing Status[1]	Habitat	Forests Where Occurs/May Occur	Potential for Species Occurrence in Biological Study Area in Winter
Shirley Meadow star-tulip (*Calochortus westonii*)	FSS, CRPR 1B.2	Open, mixed conifer/black oak and associated dry meadow edges from approximately 5,000 to 7,200 feet. Perennial bulb. Blooms May-June.	Sequoia	Low. Known to occur within 5 miles of OSV trails.
Pygmy pussypaws (*Calyptridium pygmaeum*)	CRPR 1B.2	Sandy or gravelly areas within upper montane and subalpine coniferous forests. 6,330-10,200 feet. Annual. Blooms June-August.	Sequoia	Low. Known to occur within 5 miles of OSV trails.
Berry's morning-glory (*Calystegia malacophylla var. berryi*)	CRPR 3.3	Chaparral and lower montane coniferous forest. 2,000-11,285 feet. Perennial rhizome. Blooms July-August.	Sequoia	Low. Known to occur within 5 miles of OSV trails.
Mono hot springs evening-primrose (*Camissonia sierrae* ssp. *Alticola*)	FSS, CRPR 1B.2	Gravel and sand pans and ledges associated with outcrops in chaparral, ponderosa pine, mixed conifer and red fir/lodgepole forests from 4,500 to 8,500 feet. Annual. Blooms May-August.	Sierra	Low. Known to occur within 5 miles of OSV trails.
Sierra Valley evening-primrose (*Camissonia tanacetifolia* ssp. *quadriperforata*)	CRPR 4.3	Along roadsides in sandy or clay soils in Great Basin scrub and lower montane coniferous forest. 4,265-5,800 feet. Perennial. Blooms May-July.	Plumas	None. Does occur within 5 miles of OSV trails, but along a major highway in the opposite direction of the Gold Lake trailhead.
Wilkins' harebell (*Campanula wilkinsiana*)	FSS, CRPR 1B.2	Meadows and seeps in subalpine and upper montane coniferous forests. 5,000-8,500 feet. Perennial. Blooms July-September.	Lassen, Shasta-Trinity	Low. Known to occur within 5 miles of OSV trails.
Davy's sedge (*Carex davyi*)	CRPR 4.3	Subalpine coniferous forest. 6560 feet. Perennial. Blooms August.	Tahoe	Low. Known to occur within 5 miles of OSV trails.
Hall's sedge (*Carex halliana*)	CRPR 2.3	Meadows and seeps, pinyon and juniper woodland, subalpine coniferous forest. Perennial. Blooms July-Sept from 4,500 to 6,900 feet.	Modoc	Low. Known to occur within 5 miles of OSV trails.
Wooly-fruited sedge (*Carex lasiocarpa*)	CRPR 2.3	Bogs, fens, marshes, swamps, and lake margins. 5,900-6,900 feet. Perennial. Blooms June-July.	Lassen, Plumas	Low. Known to occur within 5 miles of OSV trails.
Mud sedge (*Carex limosa*)	CRPR 2.2	In lower montane coniferous forest found in bogs and fens. In upper montane coniferous forest occurs in meadows, marshes and swamps. Found between 3,900 and 9,100 feet. Perennial. Blooms June-August.	Lassen, Sierra, Tahoe	Low. Known to occur within 5 miles of OSV trails.

Species	Listing Status[1]	Habitat	Forests Where Occurs/May Occur	Potential for Species Occurrence in Biological Study Area in Winter
Liddon's sedge (*Carex petasata*)	CRPR 2.3	Meadows and seeps in broadleafed upland forest, lower montane coniferous forest, and pinyon-juniper woodland 1,950-10,890 feet. Perennial. Blooms May-July.	Lassen	None. Not known to occur within 5 miles of OSV trails.
Tompkins' sedge (*Carex tompkinsii*)	CRPR 4.3	Chaparral, cismontane woodland, lower and upper montane coniferous forest. 1,375-6,000 feet. Perennial. Blooms May-July.	Sequoia	None. Not known to occur within 5 miles of OSV trails.
Muir's tarplant (*Carlquistia muirii*)	FSS, CRPR 1B.3	Crevices of granite ledges and dry sandy soils in chaparral, lower and upper montane coniferous forest. 3,600-8,200 feet. Perennial. Blooms July-August.	Sequoia	Low. Known to occur within 5 miles of OSV trails.
Tree-anemone (*Carpenteria californica*)	FSS, ST, CRPR 1B.2	Woodlands and chaparral; mostly on north facing ravines and drainages. 1,115-4,400 feet. Evergreen shrub. Blooms May-July.	Sierra	None. In general, this species occurs at lower elevations than riding areas.
Siskiyou paintbrush (*Castilleja miniata ssp. elata*)	CRPR 2.2	Bogs and fens in lower montane coniferous forests from 0-5,800 feet. Perennial. Blooms May-August.	Shasta-Trinity	Low. Known to occur within 5 miles of OSV trails.
Alpine dusty maidens (*Chaenactis douglasii* var. *alpina*)	CRPR 2.3	Open, subalpine to alpine gravel and crevices. 8,940-11,150 feet. Perennial. Blooms July-September.	Eldorado, Stanislaus	Low. Known to occur within 5 miles of OSV trails.
Mildred's clarkia (*Clarkia mildrediae* ssp. *mildrediae)*	CRPR 1B.3	Annual herb occurring in cismontane woodland and in lower montane coniferous forest, usually on sandy granitic substrate. Found at elevations 2,700-6,300 feet. Annual. Blooms May-August.	Plumas	Low. Known to occur within 5 miles of OSV trails.
Mosquin's clarkia (*Clarkia mosquinii*)	FSS, CRPR 1B.1	Usually on steep, rocky cutbanks and slopes in cismontane woodland and lower montane coniferous forest. 600-4,000 feet. Annual. Blooms May-July.	Plumas	Low. Known to occur within 5 miles of OSV trails.
Springville clarkia (*Clarkia springvillensis*)	FT, SE, CRPR 1B.2	Cutbanks and openings in blue oak woodland. 1,080-4,000 feet. Annual. Blooms May-July.	Sequoia	None. This species occurs at lower elevations than riding areas.
Talus collomia (*Collomia larsenii*)	FSS, CRPR 2.2	In loose volcanic material on high volcanic peaks. Only in undisturbed areas. 7,200-11,480 feet. Perennial. Blooms July-September.	Modoc	Low. Known to occur within 5 miles of OSV trails.
Northern coralroot (*Corallorhiza trifida*)	CRPR 2.1	Edges of wet meadows in lower montane coniferous forest. 4,500-5,575 feet. Perennial. Blooms June-July.	Plumas	Low. Known to occur within 5 miles of OSV trails.

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Kern Plateau bird's beak (*Cordylanthus eremicus* ssp. *kernensis*)	FSS, CRPR 1B.3	Upper montane coniferous forest, pinyon-juniper woodland, and Great Basin scrub. 5,500-9,850 feet. Annual. Blooms July-September.	Sequoia	Low. Known to occur within 5 miles of OSV trails.
Subalpine cryptantha (*Cryptantha crymophila*)	CRPR 1B.3	Subalpine coniferous forest, in rocky, volcanic soils from 8,500 to 10,500 feet. Perennial. Blooms July-August.	Stanislaus	Low. Known to occur within 5 miles of OSV trails.
Tulare cryptantha (*Cryptantha incana*)	FSS, CRPR 1B.3	Gravelly and rocky areas in lower montane coniferous forest. 4,700-6,550 feet. Annual. Blooms June-August.	Sequoia	Low. Known to occur within 5 miles of OSV trails.
Mountain lady slipper (*Cypripedium montanum*)	FSS. CRPR 4.2	Dry, undisturbed areas in lower montane coniferous forest and broadleaved upland forest. 600-7,210 feet. Perennial. Blooms March-August.	Eldorado	None. Not known to occur within 5 miles of OSV trails.
Unexpected larkspur (*Delphinium inopinum*)	FSS, CRPR 4.3	Open, rocky ridge tops in red fir and western white pine forests. 5,950-9,550 feet. Perennial. Blooms May-July.	Sequoia	Low. Known to occur within 5 miles of OSV trails.
Rose-flowered larkspur (*Delphinium purpusii*)	CRPR 1B.3	On shady, rocky slopes in chaparral, cismontane woodland, and pinyon-juniper woodland. 1,000-4,275 feet. Perennial. Blooms April-May.	Sequoia	None. This species occurs at lower elevations than riding areas.
Sierra bleeding heart (also called Tulare County bleeding heart; *Dicentra nevadensis*)	FSS, CRPR 4.3	Gravel bars and openings in subalpine coniferous forests. 7,220-9,840 feet. Perennial. Blooms June-August.	Sequoia	Low. Known to occur within 5 miles of OSV trails.
Norris' beard moss (*Didymodon norrisii*)	CRPR 2.2	Moss growing on rocks in cismontane woodlands and lower montane coniferous forest. 1,950-6,475 feet.	Plumas, Sequoia	Low. Known to occur within 5 miles of OSV trails.
Mt. Eddy draba (*Draba carnosula*)	FSS, CRPR 1B.3	Occurs on high elevation ridges and summits on ultramafic soils. 6,300-8,950 feet. Perennial. Blooms July-August.	Klamath, Shasta-Trinity	Low. General occurrence information encompasses OSV trails.
Mineral King draba (*Draba cruciata*)	CRPR 1B.3	Subalpine coniferous forest. 8,200-10,875 feet. Perennial. Blooms June-August.	Sequoia	Low. Known to occur within 5 miles of OSV trails.
English sundew (*Drosera anglica*)	CRPR 2.3	Bogs, fens, meadows, and seeps. 4,250-6,550 feet. Perennial. Blooms June-September.	Lassen, Tahoe	Low. Known to occur within 5 miles of OSV trails.

Species	Listing Status[1]	Habitat	Forests Where Occurs/May Occur	Potential for Species Occurrence in Biological Study Area in Winter
Pierpoint Springs dudleya (*Dudleya cymosa* ssp. *costafolia*)	FSS, CRPR 1B.2	On limestone and south-facing slopes with rock-cress, mountain-mahogany, and flannel-bush in chaparral and cismontane woodlands. 3,380-4,775 feet. Perennial. Blooms May-July.	Sequoia	None. This species occurs at lower elevations than riding areas.
Subalpine fireweed (*Epilobium howellii*)	FSS, CRPR 1B.3	Wet meadows and mossy seeps in subalpine conifer forest from 6,500 to 8,800 feet. Perennial. Blooms July-August.	Inyo, Sierra, Stanislaus, Tahoe	Low. Known to occur within 5 miles of OSV trails.
Yellow willowherb (*Epilobium luteum*)	CRPR 2.3	Along streams and seeps in lower montane coniferous forest. 4,900-5,600 feet. Perennial. Blooms July-September.	Plumas	Low. Known to occur within 5 miles of OSV trails.
Clifton's eremogone (*Eremogone cliftonii*)	CRPR 1B.3	Open (often roadcuts) or forested areas on decomposing granite. Found at elevations 1,490 to 5,800 feet. Perennial. Blooms April-September.	Plumas	Low. Known to occur within 5 miles of OSV trails.
Tracy's eriastrum (*Eriastrum tracyi*)	FSS, CRPR 1B.2	Gravelly shale or clay, often in open areas within chaparral and cismontane woodlands. 1,030-2,490 feet. Annual. Blooms June-July.	Sequoia	None. This species occurs at lower elevations than riding areas.
Hall's daisy (*Erigeron aequifolius*)	FSS, CRPR 1B.3	Dry rock outcrops in granite walls and canyons. Woodlands and coniferous forests. 4,920-8,000 feet. Perennial. Blooms July-August.	Sequoia	None. Not known to occur within 5 miles of OSV trails.
Keil's daisy (*Erigeron inornatus* var. *keilii*)	CRPR 1B.3	Dry slopes in meadows in coniferous forests. 2,280-5,970 feet. Perennial. Blooms June-September.	Sequoia	None. Not known to occur within 5 miles of OSV trails.
Starved daisy (*Erigeron miser*)	FSS, CRPR 1B.3	Rocky, granite outcrops in upper montane coniferous forest. 5,757-7,414 feet. Perennial. Blooms June-October.	Tahoe	None. Not known to occur within 5 miles of OSV trails.
Kern River daisy (*Erigeron multiceps*)	FSS, CRPR 1B.2	Dry, open meadows and meadow edges near mixed conifer or aspen communities, or gravelly creek banks and sandy flats from 5,000 to 8,400 feet. Perennial. Blooms June-September.	Inyo, Sequoia	Low. Known to occur within 5 miles of OSV trails.
Snow fleabane daisy (*Erigeron nivalis*)	CRPR 2.3	Alpine boulder and rock fields; meadows and seeps in subalpine coniferous forest. 5,700-9,500. Perennial. Blooms July-August.	Lassen, Modoc	Low. Known to occur within 5 miles of OSV trails.
Needles's buckwheat (*Eriogonum breedlovei* var. *shevockii*)	CRPR 4.3	Granitic outcrops and crevices in woodlands and upper montane coniferous forests. 5,300-8,450 feet. Perennial. Blooms July-September.	Sequoia	Low. Known to occur within 5 miles of OSV trails.

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Jack's wild buckwheat (*Eriogonum luteolum* var. *saltuarium*)	CRPR 1B.2	Sandy soils in Great Basin scrub and upper montane coniferous forests. 5,577-7,875 feet. Annual. Blooms July-September.	Stanislaus	Low. Known to occur within 5 miles of OSV trails.
Kings River buckwheat (Eriogonum nudum var. regirivum)	CRPR 1B.2	Rocky limestone slopes along the Kings River within cismontane woodlands. 500-2,000 feet. Perennial. Blooms August-November.	Sequoia	None. This species occurs at lower elevations than riding areas.
Monarch buckwheat (*Eriogonum ovalifolium var. monarchense*)	CRPR 1B.3	Rocky or sandy substrate in pinyon-juniper woodland. 5,900-5,950 feet. Perennial. Blooms June-August.	Sequoia	None. Not known to occur within 5 miles of OSV trails.
Pyrola-leaved buckwheat (*Eriogonum pyrolifolium* var. *pyrolifolium*)	CRPR 2.3	Sandy or gravelly sites within alpine boulder and rock fields. 5,500-10,500 feet. Perennial. Blooms July-September.	Modoc, Shasta-Trinity	Low. Known to occur within 5 miles of OSV trails.
Barron's buckwheat (*Eriogonum spectabile*)	Proposed FSS; CRPR 1B.2	Open areas in glaciated minor ridges in red fir and lodgepole from 5,900 to 6,500 feet. Perennial. Blooms July-Aug.	Lassen	Low. Known to occur within 5 miles of OSV trails.
Twisselmann's buckwheat (*Eriogonum twisselmannii*)	FSS, CRPR 1B.2	Dry, granitic outcrops in upper montane coniferous forests. 7,400-9,185 feet. Perennial. Blooms July-September.	Sequoia	Low. Known to occur within 5 miles of OSV trails.
Donner Pass buckwheat (*Eriogonum umbellatum* var. *torreyanum*)	FSS, CRPR 1B.2	Meadows, steep slopes and ridge tops, usually in bare or sparsely vegetated areas in upper montane coniferous forest and chaparral. 6,030-11,876 feet. Perennial. Blooms July-September.	Tahoe	Low. Known to occur within 5 miles of OSV trails.
Kaweah fawn lily (*Erythronium pusaterii*)	FSS, CRPR 1B.3	Meadows in subalpine coniferous forests. 7,220-9,100 feet. Perennial bulb. Blooms May-July.	Sequoia	Low. Known to occur within 5 miles of OSV trails.
Caribou coffeeberry (*Frangula purshiana* ssp. *ultramafica*)	CRPR 1B.2	Restricted to serpentine soils in the Feather River complex near Bucks Lake within open mixed forests, seeps, and rocky streambeds. 2,700-6,350 feet. Deciduous shrub. Blooms May-July.	Plumas	Low. Known to occur within 5 miles of OSV trails.
Greenhorn fritillary (*Fritillaria brandegeei*)	CRPR 1B.3	Lower montane coniferous forest; often in mixed conifer-black oak communities. 3,900-6,300 feet. Perennial bulb. Blooms April-June.	Sequoia	Low. Known to occur within 5 miles of OSV trails.

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Aleppo avens (*Geum aleppicum*)	CRPR 2.2	Meadows and seeps in Great Basin scrub and lower montane coniferous forest. 1,500-4,900 feet. Perennial. Blooms June-August.	Shasta-Trinity	Low. Known to occur within 5 miles of OSV trails.
Monarch gilia (*Gilia yorkii*)	CRPR 1B.2	Limestone outcrops in chaparral and cismontane woodlands. 4,230-6,000 feet. Annual. Blooms May-July.	Sequoia	None. Not known to occur within 5 miles of OSV trails.
Delicate bluecup (*Githopsis tenella*)	CRPR 1B.3	Chaparral and cismontane woodland. 3,600-6,200 feet. Annual. Blooms May-June.	Sequoia	Low. Known to occur within 5 miles of OSV trails.
Boggs Lake hedge-hyssop (*Gratiola heterosepala*)	SE, CRPR 1B.2	Marshes, swamps, and vernal pools. 30-7,800 feet. Annual. Blooms April-August.	Modoc	Low. Known to occur within 5 miles of OSV trails.
Monarch goldenaster (*Heterotheca monarchensis*)	FSS, CRPR 1B.3	Limestone cracks, ledges, and sandy flats at base of cliffs surrounded by canyon live oak woodland from 5,700 to 6,000 feet. Perennial. Blooms May-October.	Sequoia	None. Not known to occur within 5 miles of OSV trails.
Nodding vanilla-grass (*Hierochloe odorata*)	CRPR 2.3	Meadows and seeps. 4,900-6,200 feet. Perennial. Blooms April-July.	Lassen	Low. Known to occur within 5 miles of OSV trails.
Kern Plateau horkelia (*Horkelia tularensis*)	FSS, 1B.3	Upper montane coniferous forest on metamorphic gravel along exposed ridge tops. 7,550- 9,400 feet. Perennial. Blooms July-August.	Sequoia	Low. Known to occur within 5 miles of OSV trails.
Short-leaved hulsea (*Hulsea brevifolia*)	FSS, CRPR 1B.2	Granitic or volcanic soils in openings and under canopy in mixed conifer and red fir forest from 5,000 to 9,000 feet. Perennial. Blooms May-August.	Inyo, Sierra, Sequoia	Low. Known to occur within 5 miles of OSV trails.
Little hulsea (*Hulsea nana*)	CRPR 2.3	Alpine boulder and rock fields between 8,000 and 10,500 feet. Perennial. Blooms July-August.	Modoc	Low. Known to occur within 5 miles of OSV trails.
Alkali hymenoxys (*Hymenoxys lemmonii*)	CRPR 2.2	Meadows and seeps in lower montane coniferous forest. 790-3,280 feet. Perennial. Blooms June-August.	Klamath, Shasta-Trinity	None. This species occurs at lower elevations than riding areas.
Baker's globe mallow (*Iliamna bakeri*)	CRPR 4.2	Chaparral, Great Basin scrub, pinyon-juniper woodland, and lower montane coniferous forest. 3,280-8,200 feet. Perennial. Blooms June-September.	Klamath	None. Not known to occur within 5 miles of OSV trails.
Tuolumne iris (*Iris hartwegii* ssp. *columbiana*)	FSS, CRPR 1B.2	Cismontane woodlands and lower montane coniferous forests. 1,970-4,590 feet. Perennial. Blooms May-June.	Stanislaus	None. Not known to occur within 5 miles of OSV trails.

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Sierra Valley ivesia (*Ivesia aperta* var. *aperta*)	FSS, CRPR 1B.2	Meadows and grassy areas with sagebrush scrub or other communities in Great Basin scrub, pinyon-juniper woodland, and lower montane coniferous forest. 4,390-7,545 feet. Perennial. Blooms June-September.	Tahoe	None. Not known to occur within 5 miles of OSV trails.
Field ivesia (*Ivesia campestris*)	CRPR 1B.2	Edges of meadows and seeps, subalpine coniferous forest, and upper montane coniferous forest from 6,500 to 10,990 feet. Perennial. Blooms June-August.	Inyo, Sequoia	Low. Known to occur within 5 miles of OSV trails.
Plumas ivesia (*Ivesia sericoleuca*)	FSS, CRPR 1B.2	Vernally mesic areas and meadows with volcanic substrates in Great Basin scrub and lower montane coniferous forest. 4757-6560 feet. Perennial. Blooms May-October.	Tahoe	Low. Known to occur within 5 miles of OSV trails.
Yosemite ivesia (*Ivesia unguiculata*)	CRPR 4.2	Moist open slopes and meadows in subalpine and upper montane coniferous forests. 5,544-9,600 feet. Perennial. Blooms June-September.	Sierra	Low. Known to occur within 5 miles of OSV trails.
Webber's ivesia (*Ivesia webberi*)	FSS, CRPR 1B.1	Volcanic soils in Great Basin scrub and lower montane coniferous forest. 4,920-6,800 feet. Perennial. Blooms May-July.	Tahoe	Low. Known to occur within 5 miles of OSV trails.
Madera leptosiphon (*Leptosiphon serrulatus*)	FSS, CRPR 1B.2	Dry slopes, often on decomposed granite in woodlands and lower montane coniferous forests. 260-5,170 feet. Annual. Blooms April-May.	Sierra, Sequoia	None. Not known to occur within 5 miles of OSV trails.
Cantelow's lewisia (*Lewisia cantelovii*)	FSS, CRPR 1B.2	Riparian and seep areas in yellow pine and mixed evergreen forests, foothill woodlands, and chaparral from 2,500 to 3,500 feet. Perennial. Blooms May-October.	Plumas, Tahoe	Low. Known to occur within 5 miles of OSV trails.
Congdon's lewisia (*Lewisia congdonii*)	FSS, CRPR 1B.3	Rock faces, cracks, and ledges, scree and talus, spoil piles of Barite Mine, metamorphics or granitics and chaparral and conifer forest from 1,900 to 7,000 feet. Perennial. Blooms April-June.	Sequoia	None. Not known to occur within 5 miles of OSV trails.
Yosemite lewisia (*Lewisia disepala*)	FSS, CRPR 1B.2	Granitic sand and gravel in ponderosa pine, mixed conifer, and upper montane coniferous forest from 4,000 to 7,500 feet. Perennial. Blooms March-June.	Sierra	None. Not known to occur within 5 miles of OSV trails.

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Kellogg's lewisia (*Lewisia kelloggii* ssp. *kelloggii*)	FSS	Granitic gravel on ridge tops and flats between 5,100 and 7,000 feet elevation, sparsely vegetated by spindly Jeffrey pine and lodgepole pine woodlands, with patches of upland sedge (*Carex* sp.) and rock garden wildflowers. Perennial. Blooms after snowmelt.	Eldorado	Low. Known to occur within 5 miles of OSV trails.
Long-petaled lewisia (*Lewisia longepetala*)	FSS, CRPR 1B.3	Alpine boulder and rock field and subalpine coniferous forests. 8,130-9,600 feet. Perennial. Blooms July-August.	Tahoe	None. Not known to occur within 5 miles of OSV trails.
Saw-toothed lewisia (*Lewisia serrata*)	FSS, CRPR 1B.1	Shaded, north-facing, moss-covered rock cliffs in lower montane coniferous and riparian forests. 2,950-4,700 feet. Perennial. Blooms May-June.	Tahoe	Low. Known to occur within 5 miles of OSV trails.
Stebbins' lomatium (*Lomatium stebbinsii*)	FSS, CRPR 1B.1	Chaparral and lower montane coniferous forest in gravelly, volcanic clay from 4,100 to 6,400 feet. Perennial. Blooms March-May.	Stanislaus	None. Not known to occur within 5 miles of OSV trails.
Copper-flowered bird's-foot trefoil (*Lotus oblongifolius* var. *cupreus*)	CRPR 1B.3	Wet meadow borders in upper montane coniferous forests. 7,875-8,530 feet. Perennial. Blooms June-August.	Sequoia	Low. Known to occur within 5 miles of OSV trails.
Orange lupine (*Lupinus citrinus var.citrinus*)	FSS, CRPR 1B.2	Rocky outcrops, usually open areas on flat to rolling terrain in chaparral, woodland and lower montane coniferous forest. 1,970-4,430 feet. Annual. Blooms April-July.	Sierra	None. Not known to occur within 5 miles of OSV trails.
Quincy lupine (*Lupinus dalesiae*)	FSS, CRPR 4.2	Occurs on disturbed habitat and open canopy sites within lodgepole, red-fir, and yellow pine forests. 2,800-8,200 feet. Perennial. Blooms May-August.	Lassen, Plumas, Tahoe	Low. Known to occur within 5 miles of OSV trails.
Mono Lake lupine (*Lupinus duranii*)	CRPR 1B.2	Volcanic pumice and gravel, Great Basin scrub, subalpine coniferous forest, and upper montane coniferous forest from 6,600 to 9,850 feet. Perennial. Blooms May-August.	Inyo	Low. Known to occur within 5 miles of OSV trails.
Three-ranked hump moss (*Meesia triquetra*)	FSS, CRPR 4.2	Moss growing on soil in bogs, fens, meadows, seeps in upper montane and subalpine coniferous forest. 4,265-8,200 feet.	Lassen, Tahoe	Low. Known to occur within 5 miles of OSV trails.
Broad-nerved hump moss (*Meesia uliginosa*)	FSS, CRPR 2.2	Bogs, fens, meadows, seeps and streambanks in subalpine and upper montane coniferous forests. 4,250-9,200 feet. Perennial moss. Blooms in October.	Lassen, Sequoia, Tahoe	Low. Known to occur within 5 miles of OSV trails.

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Ephemeral monkey flower (*Mimulus evanescens*)	FSS; CRPR 1B.2	Well drained soils and gravels of lake shores and creek bottoms and seasonal wetlands from 4,100 to 5,700 feet. Annual. Blooms May-August.	Lassen	Low. Known to occur within 5 miles of OSV trails.
Egg lake monkeyflower (*Mimulus pygmaeus*)	CRPR 4.2	Streambanks, meadows and seeps, Great Basin scrub, pinyon-juniper woodland, lower montane coniferous forest. 1,650-6,000 feet. Annual. Blooms May-August.	Lassen	Low. Known to occur within 5 miles of OSV trails.
Follett's monardella (*Monardella follettii*)	FSS, CRPR 1B.2	Open, rocky serpentine slopes in lower montane coniferous forests. 1950-6,560 feet. Perennial shrub. Blooms June-September.	Lassen, Plumas	Medium. OSV trails pass through several occurrences on Lassen NF.
Flax-like monardella (also called Tehachapi monardella) (*Monardella linoides* ssp. *oblonga*)	FSS, CRPR 1B.3	Dry slopes of yellow pine forest; also on roadside disturbed areas. 5,560-8,100 feet. Perennial. Blooms June-August.	Sequoia	Low. Known to occur within 5 miles of OSV trails.
Stebbins monardella (*Monardella stebbinsii*)	FSS, CRPR 1B.1	Strictly endemic to serpentine soils; occurs within chaparral, yellow pine and mixed evergreen forests. 2,500-3600 feet. Perennial. Blooms July-September.	Plumas	None. Occurs at lower elevations than riding area.
Slender Orcutt grass (*Orcuttia tenuis*)	FT; SE; CRPR 1B.1	Vernal pools, or vernal pool like drainage edges usually in oak and/or pine woodlands from 115 to 5,775 feet. Annual. Blooms May to September.	Lassen	Low. Known to occur within 5 miles of OSV trails.
Purple mountain-parsley (*Oreonana purpurascens*)	FSS, CRPR 1B.2	Open ridge tops in red-fir forests. 7,740-9,500 feet. Perennial. Blooms May-June.	Sequoia	Low. Known to occur within 5 miles of OSV trails.
Tall alpine-aster (*Oreostemma elatum*)	FSS, CRPR 1B.2	Bogs, fens, meadows, and seeps in upper montane coniferous forest. 3,280-6,900 feet. Perennial. Blooms June-August.	Tahoe	Low. Known to occur within 5 miles of OSV trails.
Shasta orthocarpus (*Orthocarpus pachystachyus*)	CRPR 1B.1	Alluvial plains and hillsides, meadows and seeps within valley and foothill grasslands. 2,723-3,264 feet. Annual. Blooms May.	Klamath, Shasta-Trinity	None. This species occurs at a lower elevation than riding areas.
Little ricegrass (*Oryzopsis exigua*)	CRPR 2.3	Great Basin scrub. 7,700-7,950 feet. Perennial. Blooms June-August.	Lassen	Low. Known to occur within 5 miles of OSV trails.

Species	Listing Status[1]	Habitat	Forests Where Occurs/May Occur	Potential for Species Occurrence in Biological Study Area in Winter
Lewis Rose's ragwort (*Packera eurycephala* var. *lewisrosei*)	CRPR 1B.2	Steep slopes and canyons in serpentine soils; chaparral, cismontane woodland, lower montane coniferous forest. 1,350-5,000 feet. Perennial. Blooms March-July.	Lassen	Low. Known to occur within 5 miles of OSV trails.
Rayless mountain ragwort (*Packera indecora*)	CRPR 2.2	Meadows and seeps. 5,250-6,550 feet. Perennial. Blooms July-August.	Lassen	Low. Occurrence on Lassen NF was observed in 1894 and the CNDDB considers the exact location to be unknown.
Layne's ragwort (*Packera layneae*)	FT, CRPR 1B.2	Primarily endemic to serpentine soils; occurs within chaparral and foothill woodlands. 650-3,280 feet. Perennial. Blooms April-August.	Plumas	None. Occurs at lower elevations than riding area.
Janish's beardtongue (*Penstemon janishiae*)	CRPR 2.2	Great Basin scrub, lower montane coniferous forest, and pinyon-juniper woodland. 3,500-7,700 feet. Perennial. Blooms May-July.	Lassen	Low. Known to occur within 5 miles of OSV trails.
Close-throated beardtongue (*Penstemon personatus*)	FSS, CRPR 1B.2	Open areas in yellow pine forest between 4,000 and 6,000 feet. Perennial. Blooms June-September.	Plumas, Tahoe	Low. Known to occur within 5 miles of OSV trails.
Susanville beardtongue (*Penstemon sudans*)	FSS, CRPR 1B.3	Great Basin scrub, lower montane coniferous forest, pinyon juniper woodland. 3,940-7,950 feet. Perennial. Blooms June-July.	Lassen	Low. Known to occur within 5 miles of OSV trails.
Cooke's phacelia (*Phacelia cookei*)	FSS; CRPR 1B.1	Sagebrush scrub and lower coniferous forest. Annual. Blooms June-July. 3,500-5,500 feet.	Klamath, Shasta-Trinity	None. On Klamath NF this species occurs at a considerably lower elevation than OSV riders.
Playa phacelia (*Phacelia inundata*)	FSS; CRPR 1B.3	Alkaline lakes and dry lake margins from 4,900 to 6,600 feet. Annual. Blooms May-August.	Lassen	None. Not known to occur within 5 miles of OSV trails.
Inyo phacelia (*Phacelia inyoensis*)	CRPR 1B.2	Alkaline meadows and seeps from 3,000 to 10,500 feet. Annual. Blooms April-August.	Inyo	Low. Known to occur within 5 miles of OSV trails.
Nine Mile Canyon phacelia (*Phacelia novenmillensis*)	FSS, CRPR 1B.2	Broadleafed upland forest, pinyon-juniper woodland, upper montane coniferous forest, and cismontane woodland on dry disturbed banks. 5,380-8,550 feet. Annual. Blooms May-June.	Sequoia	Low. Known to occur within 5 miles of OSV trails.
Stebbin's phacelia (*Phacelia stebbinsii*)	FSS, CRPR 1B.2	Woodland, montane coniferous forest, meadows, and seeps from 3,000 to 6,000 feet. Annual. Blooms May-July.	Tahoe	Low. Known to occur within 5 miles of OSV trails.

Species	Listing Status[1]	Habitat	Forests Where Occurs/May Occur	Potential for Species Occurrence in Biological Study Area in Winter
Squarestem phlox (*Phlox muscoides*)	CRPR 2.3	Alpine boulder and rock fields, Great Basin scrub, and subalpine coniferous forest. 4,200-8,850 feet. Perennial. Blooms June-August.	Lassen	Low. Known to occur within 5 miles of OSV trails.
Tundra thread moss (*Pohlia tundrae*)	CRPR 2.3	Alpine boulder and rock fields on gravelly damp soil. Moss. 8,850-9,850 feet.	Sierra	None. While known to occur within 5 miles of OSV trails, that occurrence is along a major roadway where snowmobiles would not travel.
Slender-leaved pondweed (*Potamogeton filiformis*)	CRPR 2.2	Assorted shallow freshwater habitats including marshes and swamp. 1,000-7,050 feet. Aquatic perennial. Blooms May-July.	Inyo, Tahoe	Low. Known to occur within 5 miles of OSV trails.
White-stemmed pondweed (*Potamogeton praelongus*)	CRPR 2.3	Marshes and swamps. Aquatic perennial. 5,900-9,850 feet. Blooms July-August.	Lassen, Tahoe	Low. Known to occur within 5 miles of OSV trails.
Robbins' pondweed (*Potamogeton robbinsii*)	CRPR 2.3	Aquatic perennial in deep water lakes and swamps. 5,000-10,825 feet. Blooms July-August.	Sequoia	None. Aquatic and not known to occur with 5 miles of OSV trails.
Newberry's cinquefoil (*Potentilla newberryi*)	CRPR 2.3	Marshes, swamps, and vernal pools. 4,250-7,200 feet. Perennial. Blooms May-August.	Klamath, Lassen	Low. Known to occur within 5 miles of OSV trails.
Sticky pyrrocoma (*Pyrrocoma lucida*)	FSS, CRPR 1B.2	Meadows and seeps in lower montane coniferous forests. 2,300-6,170 feet. Perennial. Blooms July-October.	Tahoe	None. Not known to occur within 5 miles of OSV trails.
Alder buckthorn (*Rhamnus alnifolia*)	CRPR 2.2	A deciduous shrub found in meadows, seeps, and riparian scrub in lower and upper montane coniferous forests. 4,500-7,000 feet.	Tahoe	Low. Known to occur within 5 miles of OSV trails.
White beaked-rush (*Rhynchospora alba*)	CRPR 2.2	Freshwater marshes and sphagnum bogs. 200-6,700 feet. Perennial. Blooms July-August.	Tahoe	None. Not known to occur within 5 miles of OSV trails.
Brownish beaked-rush (*Rhynchospora capitellata*)	CRPR 2.2	Meadows, seeps, marshes, and swamps in lower and upper montane coniferous forests. 1,500-6,550 feet. Perennial. Blooms July-August.	Plumas	None. Not known to occur within 5 miles of OSV trails.
Aromatic canyon gooseberry (*Ribes menziesii* var. *ixoderme*)	CRPR 1B.2	Forest openings within chaparral and cismontane woodlands. 2,000-3,800 feet. Deciduous shrub. Blooms April.	Sequoia	None. This species occurs at lower elevations than riding areas.

Species	Listing Status[1]	Habitat	Forests Where Occurs/May Occur	Potential for Species Occurrence in Biological Study Area in Winter
Columbia yellow cress (*Rorippa columbiae*)	FSS; CRPR 1B.2	Meadows and seeps, pinion and juniper woodlands, vernal pools, playas from 3,900 to 5,900 feet. Perennial. Blooms May-Sept.	Klamath, Lassen, Shasta-Trinity	Low. Known to occur within 5 miles of OSV trails.
Tracy's sanicle (*Sanicula tracyi*)	FSS, CRPR 4.2	Dry, gravelly slopes in cismontane woodland and lower and upper montane coniferous forest. 2,280-5,480 feet. Perennial. Blooms April-July.	Lassen, Plumas	Low. Known to occur within 5 miles of OSV trails.
American scheuchzeria (*Scheuchzeria palustris* var. *americana*)	FSS, CRPR 2.1	Sphagnum bogs and lake margins. 4,500-6,550 feet. Aquatic perennial. Blooms July-August.	Lassen	None. Aquatic and not known to occur within 5 miles of OSV trails.
Water bulrush (*Schoenoplectus subterminalis*)	CRPR 2.3	Bogs, fens, marshes, and swamps. Aquatic perennial. 2,460-7380 feet. Blooms June-August.	Lassen, Plumas	Low. Known to occur within 5 miles of OSV trails.
Feather River stonecrop (*Sedum albomarginatum*)	FSS; CRPR 1B.2	Strictly endemic to serpentine soils; occurs within chaparral and yellow pine forest. 850-6,400 feet. Perennial. Blooms May-June.	Lassen, Plumas	None. Not known to occur within 5 miles of OSV trails.
Cut-leaf checkerbloom (*Sidalcea multifida*)	CRPR 2.3	Meadows and seeps within lower montane coniferous forest, Great Basin scrub and pinyon-juniper woodlands. 5,740-9,185 feet. Perennial. Blooms May-September.	Stanislaus	Low. Known to occur within 5 miles of OSV trails.
Long-stiped campion (*Silene occidentalis* ssp. *longistipitata*)	FSS; CRPR 1B.2	Chaparral, lower and upper montane coniferous forests. 3,280-6,560 feet. Perennial. Blooms June-August.	Lassen	Low. Known to occur within 5 miles of OSV trails.
Cascade alpine campion (*Silene suksdorfii*)	CRPR 2.3	Alpine boulder and rock fields in subalpine coniferous forests on volcanic soils between 7,875 and 10,170 feet. Perennial. Blooms July-September.	Shasta-Trinity	Low. Known to occur within 5 miles of OSV trails.
Prairie wedge grass (*Sphenopholis obtusata*)	CRPR 2.2	Open moist sites along rivers and springs in woodlands. 1,180-7,630 feet. Perennial. Blooms April-July.	Sierra, Sequoia	Low. Known to occur within 5 miles of OSV trails.
Hairy marsh hedge-nettle (*Stachys palustris* ssp. *pilosa*)	CRPR 2.3	Meadows and seeps in Great Basin scrub. 3,900-5,800 feet. Perennial. Blooms June-August.	Plumas	Low. Known to occur within 5 miles of OSV trails.
Long-leaved starwort (*Stellaria longifolia*)	CRPR 2.2	Wet meadows and seeps. Riparian woodland. 2,950-6,000 feet. Perennial. Blooms May-August.	Lassen, Plumas	Low. Known to occur within 5 miles of OSV trails.

Species	Listing Status[1]	Habitat	Forests Where Occurs/May Occur	Potential for Species Occurrence in Biological Study Area in Winter
Obtuse starwort (*Stellaria obtusa*)	CRPR 4.3	Streambanks and seeps in riparian woodland, lower and upper montane coniferous forest. Perennial. 800-7,750 feet. Blooms May-September.	Lassen, Plumas	Low. Known to occur within 5 miles of OSV trails.
Wooly stenotus (*Stenotus lanuginous*)	CRPR 2.2	Meadows and seeps in Great Basin scrub and pinyon-juniper woodland. 4,900-6,270 feet. Perennial. Blooms May-July.	Lassen	Low. Known to occur within 5 miles of OSV trails.
Tehipite Valley jewel-flower (*Streptanthus fenestratus*)	FSS, CRPR 1B.3	Gravels and dry, open sandy areas in lower and upper montane coniferous forests. 1,980-5,740 feet. Annual. Blooms June-July.	Sequoia	None. Not known to occur within 5 miles of OSV trails.
Masonic Mountain jewel-flower (*Streptanthus oliganthus*)	FSS, CRPR 1B.2	Volcanic or granite soils, along roadsides and in old mine dumps in pinyon-juniper woodlands. 6,450-10,000 feet. Perennial. Blooms June-July.	Stanislaus	Low. Known to occur within 5 miles of OSV trails.
Buttercup-leaf suksdorfia (*Suksdorfia ranunculifolia*)	CRPR 2	Rocky meadows and seeps in upper montane coniferous forest. 4,900-8,200 feet. Perennial. Blooms June-August.	Plumas	Low. Known to occur within 5 miles of OSV trails.
Cylindrical trichodon (*Trichodon cylindricus*)	CRPR 2.2	Moss growing on sandy, exposed soils and roadbanks in broadleafed upland forest and montane coniferous forest. 165-6,550 feet.	Plumas	None. Not known to occur within 5 miles of OSV trails.
Bolander's clover (*Trifolium bolanderi*)	FSS, CRPR 1B.2	Moist mountain meadows in coniferous forests. 6,800-7,545 feet. Perennial. Blooms June-August.	Sierra	None. Not known to occur within 5 miles of OSV trails.
DeDecker's clover (*Trifolium dedeckerae*)	FSS, CRPR 1B.3	Pinyon-juniper woodland, subalpine coniferous forest, upper and lower montane coniferous forest, gravelly canyons and slopes, cracks in granite outcrops, and understory of pinyon pines. 6,900-11,500 feet. Perennial. Blooms May-July.	Sequoia	Low. Known to occur within 5 miles of OSV trails.
Flat-leaved bladderwort (*Utricularia intermedia*)	CRPR 2.2	Bogs and fens, meadows and seeps, marshes and swamps. 3,937-8,860 feet. Perennial. Blooms July-August.	Lassen, Sierra, Sequoia	Low. Known to occur within 5 miles of OSV trails.
Grey-leaved violet (*Viola pinetorum* ssp. *grisea*)	FSS, CRPR 1B.3	Edges of meadows and seeps, subalpine coniferous forest and upper montane coniferous forest from 4,900 to 11,150 feet. Perennial. Blooms April-July.	Inyo, Sierra, Sequoia	None. Not known to occur within 5 miles of OSV trails.
Felt-leaved violet (*Viola tomentosa*)	CRPR 4.2	Lower and upper montane and subalpine coniferous forest in dry, gravelly soils. 4,700-6,500 feet. Perennial. Blooms May-October.	Plumas, Tahoe	Low. Known to occur within 5 miles of OSV trails.

Species	Listing Status[1]	Habitat	Forests Where Occurs/May Occur	Potential for Species Occurrence in Biological Study Area in Winter

[1]Listing Status Key:

FE – Federal Endangered
FT – Federal Threatened
FC – Federal Candidate
FSS – USFS Sensitive Species
SE – State Endangered
ST – State Threatened
SC – State Candidate
CSSC – Calif. Species of Special Concern
SFP – State Fully Protected

California Rare Plant Rank:

CRPR 1B: Plants rare, threatened, or endangered in California and elsewhere.
CRPR 2: Plants rare, threatened, or endangered in Calif. but common elsewhere.
CRPR 3: More information about this plant needed (Review List).
CRPR 4: Limited distribution (Watch List).

CRPR Threat Code extensions and their meanings:
.1 – Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat)
.2 – Fairly endangered in California (20-80% occurrences threatened)
.3 – Not very endangered in California (<20% of occurrences threatened or no current threats known)

Source: TRA Environmental Sciences, Inc. 2010

APPENDIX G

U. S. FOREST SERVICE SCHEDULE OF PROJECT ACTIONS (SOPA)

APPENDIX G

U.S. Forest Service Schedule of Project Actions (SOPA), 07/01/2010 to 09/30/2010

Project Name and Location (Ranger District)	Description	Status
Klamath National Forest		
Klamath National Forest Motorized Travel Management EIS All Units	Preparation of an EIS to analyze designation of a system of roads, trails, and areas for public motorized vehicle use, prohibition of cross-country motorized vehicle travel, and non-significant amendment of the Forest Plan.	In Progress: FEIS NOA in Federal Register 01/29/2010
Wilderness Non-Native Invasive Plant Removal CE Happy Camp, Scott River, and Salmon River RDs	Hand pulling about 35 ac of non-native invasive plants (NNIS) in three wilderness areas on the Forest- the current known extent of NNIS in wilderness areas. A strategy of hand pulling NNIS found in the wilderness areas is also proposed for in the future	In Progress: Scoping Start 05/24/2010
Ball Mtn Radio Repeater Building and Tower CE Goosenest RD	Install a pre-fabricated 15'x15' building and 80 ft radio antenna on Ball Mtn. Relocate existing special use permittees from Ball Mtn. lookout to new structure.	In Progress: Scoping Start 05/05/2010
Big Pony (Fuels Reduction and Vegetation Management) Project EIS Goosenest RD	To reduce the potential fire impacts to permanent research plots and within and adjacent to wildland urban interface (WUI). To reduce forest susceptibility to stand replacing wildfire, while increasing stand resiliency to insect and disease.	In Progress: NOI in Federal Register 02/20/2009 Est. DEIS NOA in Federal Register 09/2010
Butte Mountain Late-Successional Reserve (LSR) Habitat Restoration Project EA Goosenest RD	To enhance suppressed components to increase diversity of habitats, improve the distribution and health of aspen, and restore fire as a natural process through vegetation management and fuel reduction activities and/or other means.	Developing Proposal Est. Scoping Start 09/2010
Hi-Grouse Project EIS Goosenest RD	To improve and maintain sustainable habitat for species associated with late-successional forests, promote restoration of historic forest composition and structure, and promote restoration of fuels-related historic fire regime.	In Progress: DEIS NOA in Federal Register 05/28/2010 Est. FEIS NOA in Federal Register 10/2010
Kegg Meadow Enhancement and Butte Creek Channel Restoration EA Goosenest RD	To restore Kegg Meadow functioning by returning streamflow to the original meadow/channel elevations. Reverting the stream to the original channel will lead to a rewetting of the overall meadow and restoration of riparian habitat.	Developing Proposal Est. Scoping Start 09/2010
Mount Hebron Restoration Project EA Goosenest RD	This project was developed in response to restoration needs after 2009 Tennant Fire. The Proposed Action will treat 2,110 acres with dead tree removal, reforestation, felling, hand piling and burning, and browse species planting and/or seeding.	In Progress: Scoping Start 01/07/2010 Est. 215 Comment Period Legal Notice 06/2010

Project Name and Location (Ranger District)	Description	Status
Orr Lake Outlet Retrofit CE Goosenest RD	Retrofit existing outlet control structure at Orr Lake to allow for fish passage.	Developing Proposal Est. Scoping Start 09/2010
Pumice (Fuels Reduction and Vegetation Management) Project EA Goosenest RD	Reduce fuel loads and improve forest health, while considering opportunities to maintain wildlife habitat and maintain and improve scenery values.	Developing Proposal Est. Scoping Start 09/2010
Black Panther Slashing and Reforestation Project CE Happy Camp RD	Slashing, burning, and replanting wildfire damaged plantations and adjacent natural stands.	In Progress: Scoping Start 03/23/2009
Crawford Vegetation Management Project EA Happy Camp RD	Thinning in forest stands for forest health and fuels reduction, with subsequent fuels treatments including underburning and pile burning. Also, thinning small trees and burning for elk habitat and meadow restoration.	Developing Proposal Est. Scoping Start 07/2010
Dutch Dog Hazardous Fuels Reduction CE Happy Camp RD	Treating hazardous fuels on National Forest adjacent to private lands and along Forest roads within the Klamath River Community WUI. Treatments include thinning small trees, removing brush, handpiling, chipping, and burning piles.	In Progress: Scoping Start 05/01/2010
Johnny O'Neil LSR Habitat Restoration and Fuel Reduction Project EIS Happy Camp RD	Commercial and pre-commercial thinning plantations and natural forest stands with subsequent fuels treatments including underburning and masticating. Also underburning and masticating outside of thinning areas. Proposed activities in LSR and matrix.	In Progress: NOI in Federal Register 12/31/2009 Est. DEIS NOA in Federal Register 11/2010
Middle Creek Vegetation Management Project CE Happy Camp RD	Thinning forest stands for forest health, with subsequent fuels treatment including underburning and pile burning.	In Progress: Scoping Start 01/08/2010
Panther Fire Salvage and Reforestation EA Happy Camp RD	Harvest of fire killed and severely fire damaged timber and roadside hazard trees with subsequent fuels treatment and reforestation.	In Progress: 215 Comment Period Legal Notice 05/19/2010
Thom Seider Vegetation Management Project EIS Happy Camp RD	Various vegetation management and fuels reduction treatments including pre-commercial and commercial thinning, underburning, and piling within and outside of Seiad Valley, Happy Camp, and Hamburg. Wildland/Urban Interface areas.	In Progress: Objection Period Legal Notice 11/17/2009

Project Name and Location (Ranger District)	Description	Status
Two Bit Vegetation Management Project EIS Happy Camp RD	Various vegetation management treatments including commercially thinning natural forest stands and older plantations, removing diseased trees, underburning within and outside of timber harvest areas, and meadow restoration activities.	In Progress: NOI in Federal Register 02/12/2009 Est. DEIS NOA in Federal Register 05/2010
Eddy LSR EIS Salmon River RD	The purpose of the project is to protect late-successional habitat used by the northern spotted owl and other late successional-dependent species, to protect communities, and create safer emergency access routes of the Eddy LSR.	In Progress: Objection Period Legal Notice 01/22/2010
Little North Fork Reforestation Project CE Salmon River RD	To facilitate establishment of forest cover within burned plantation, reduce hazardous fuels created by fire-related tree mortality and improve fire resiliency of adjacent stands.	Developing Proposal Est. Scoping Start 07/2010
Petersburg Pines Restoration Project EA Salmon River RD	Thinning of dense forests, establishing fuelbreaks on key ridges, providing emergency ingress/egress buffers and protecting infrastructure and domestic water sources in the lands adjacent to the community of Cecilville, CA.	In Progress: Scoping Start 02/09/2010 Est. Objection Period Legal Notice 12/2010
Pollucks Roadside Protection Project CE	There is a need to remove hazardous fuels near private land. Improvements include hazardous fuel reduction, reduction of roadside damage and access/ egress for firefighter and public safety. Work is being done in collaboration with the town of Forks.	Developing Proposal Est. Scoping Start 07/2010
Yellow Jacket Ridge CE Salmon River RD	Precommercial thinning, release and fuels reduction in plantations and in natural stands along Yellow Jacket Ridge.	Developing Proposal Est. Scoping Start 10/2010
Beauty Flat CE Salmon River RD	To reduce the density of pine-dominated stands to mitigate the impacts and carrying capacity of the western pine beetle in about 180 acres. Variable density thinning from below would be done through mechanical methods.	In Progress: Scoping Start 06/29/2010
Craggy Resource Management EA Scott River RD	Vegetation management and fuels reduction to promote forest health and community protection.	Developing Proposal Est. Scoping Start 08/2010
Edsel CE Scott River RD	The project proposes to reduce stand density and improve hardwood habitat. Treatment will include approx. 30 ac. of commercial ground-based thinning (whole tree removal), 40 ac. of non-commercial thinning, and 120 ac. of pile burning and underburning.	In Progress: Scoping Start 04/01/2010

Project Name and Location (Ranger District)	Description	Status
Little Grizzly Project CE Scott River RD	Ground-based commercial vegetation treatments, planting, and fuel reduction activities in three units (totaling 70 acres) to promote forest health and resiliency to wildfires.	In Progress: 215 Comment Period Legal Notice 06/04/2010
Straddler Timber Stand Improvement CE Scott River RD	Treatment of timber stands to enhance forest health using commercial thinning and pre-commercial vegetation treatments using manual, ground-based equipment and skyline yarding.	In Progress: Scoping Start 04/16/2010
Ukonom West Plantation Thinning Project EA Orleans/Ukonom RDs	Commercially thin approximately 750 acres of existing plantations (mechanical treatment).	In Progress: 215 Comment Period Legal Notice 11/04/2009
Modoc National Forest		
Lava Vegetation Treatment EA Big Valley and Doublehead RDs	This project, originally entered as North Snell Butte Vegetation Project, is the northern portion of the original Snell Butte which includes Northern Spotted Owl habitat. The project consists of thinning, underburning, pruning, and mastication.	Developing Proposal Est. Scoping Start 08/2010
Snell Butte Vegetation Treatment Project CE Big Valley RD	This project would consist of a series of vegetation treatments designed to reduce the fuels/fire hazard within the project area, protect and enhance wildlife habitat, improve forest health, and re-introduce fire to the forest ecosystem.	In Progress: Scoping Start 11/04/2008
Devil's Garden Plantation Management CE Devils Garden RD	Plantation thinning and fuels reduction on multiple plantations throughout the Devil's Garden RD. Biomass to be removed from approximately 9200 acres.	In Progress: Scoping Start 07/09/2009
Devil's Garden Conservation Camp Boundary Thin CE Devils Garden RD	Thinning of juniper 12" dbh and smaller along either side of existing runway/road. Residual juniper may be pruned.	In Progress: Scoping Start 03/03/2010
Timbered Mountain Wildlife Restoration Project CE Devils Garden CE	Sage Steppe restoration project to remove non-old growth western juniper. Thinning of natural stands of ponderosa pine to remove juniper plus understory pine.	Developing Proposal Est. Scoping Start 06/2011
Clear Lake Hills/Doublehead Habitat Maintenance CE Doublehead RD	Harvest of all juniper 12" dbh and smaller. Lopping and scattering of trees to height of 3' or less.	In Progress: Scoping Start 04/01/2010
Highlands Roadside Safety Improvement Project CE Doublehead RD	Improve public safety along major public travel routes by removal of hazard trees likely to fall onto the roadway. Removal of vegetation to increase sight distance around corners including thinning, mowing, pruning, hand pile and burning.	In Progress: Scoping Start 05/27/2008

Project Name and Location (Ranger District)	Description	Status
Horse Camp Spring Enhancement CE Doublehead RD	The project consists of treating a total of 45 acres of juniper trees around three stockponds. These stockponds are spring fed and no longer support year-round water. The junipers around each stockpond/spring would be hand felled and left on site.	In Progress: Scoping Start 04/01/2010
Mowitz Pasture Juniper Treatment CE Doublehead RD	Harvest of all junipers that do not exhibit old growth characteristics in areas that are being encroached upon by juniper. Juniper is making project area unsuitable for sage grouse.	In Progress: Scoping Start 04/01/2010
Homestead Forest Health Project EA Warner Mountain RD	Thinning of trees less than 30" dbh to reduce stand density and shift the species composition to favor Washoe/ponderosa pine. Treatment to be followed with prescribed fire 5-10 years after treatment.	In Progress: Scoping Start 03/03/2010 Est. Objection Period Legal Notice 09/2010
Lassen Creek Watershed Forest Health and Restoration Project EA Warner Mountain RD	Landscape level project utilizing Fire Regime Condition Class (FRCC) Analysis to address forest health, fuels and wildlife habitat restoration needs in the Lassen Creek Watershed.	Developing Proposal Est. Scoping Start 12/2010
North Warner Roadside Fuel Break Management EA Warner Mountain RD	Create defensible space and improve firefighter safety through development of roadside fuel breaks along major access roads.	In Progress: 215 Comment Period Legal Notice 06/10/2010
Shasta-Trinity National Forest		
Trinity Alps Wilderness Prescribed Fire Project EA Big Bar and Weaverville RDs	Re-introduce fire onto the landscape with the Trinity Alps Wilderness by implementing prescribed fire(s).	Developing Proposal Est. Scoping Start 07/2010
Westside Plantation Project EA Yolla Bolla, Big Bar, Mt. Shasta, Hayfork, and Weaverville RDs.	Thinning of overstocked plantations to improve vigor and reduce hazardous fuels on the west side of the Shasta/Trinity National Forest.	In Progress: Scoping Start 09/24/2008 Est. 215 Comment Period Legal Notice 07/2010
Westside Reforestation Release and Burning CE Yolla Bolla, Big Bar, Hayfork, and Weaverville RDs.	The Forest will conduct release & hand pile burning in areas affected by recent wildfires, about 10,895 acres via manual methods. Treatments consist primarily of hand cutting/grubbing/chainsaws. Hand pile burning on 2,518 acres via hand ignition.	In Progress: Scoping Start 03/29/2010
Big Mountain Roads Tree Removal Project CE Big Bar RD	Using a timber sale to remove dead, dying, or other live trees that pose a threat to public safety along USFS roads maintained for public use and access.	In Progress: Scoping Start 10/06/2009

Project Name and Location (Ranger District)	Description	Status
Down River Community Protection Project EA Big Bar RD	Construct Fuel Management Zones (FMZ) and roadside fuel buffers; treat hazardous fuels within the Wildland Urban Interface. Thin plantations within 500 feet of private property, and/or where they intersect FMZs and roadside fuel buffers.	In Progress: 215 Comment Period Legal Notice 04/24/2009
Loma Thin and Fire Salvage CE Big Bar RD	Fire salvage from the 2003 Loma Fire and commercially thinning timber stands in the same vicinity to improve forest health.	Developing Proposal Est. Scoping Start 10/2009
Salt Timber Harvest and Fuels Hazard Reduction EIS Hayfork RD	The proposed action would reduce hazardous fuels and improve forest health through silvicultural treatments on approximately 1656 acres. Currently a supplemental EIS is being prepared in response to the appeal decision reversing Oct 2009 decision.	In Progress: NOI in Federal Register 05/07/2010 Est. DEIS NOA in Federal Register 01/2011
Blue Bird Consolidated Mine CE Hayfork RD	Authorization for sampling and mining of high bench alluvial gravels by open pit on the Blue Bird Consolidated Mine. Processing approx. 1,500 cubic yards of placer gravels, reclamation, and re-establishment of native vegetation.	In Progress: Scoping Start 10/22/2009
Hayfork South and Highway 3 Fuel Management Zone Project CE Hayfork RD	The project is designed to reduce the fire hazard near the community of Hayfork, CA, while returning existing vegetation to a more fire resistant and healthy condition.	In Progress: Scoping Start 10/05/2009
Homestake Consolidated Mine CE Hayfork RD	Authorize sampling high bench alluvial gravels for Homestake Consolidated Mine. Proposes removal of samples & processing by a trammel wash plant of approx. 375 cubic yards of Placer gravels, reclaim/establish native vegetation in disturbed areas.	In Progress: Scoping Start 06/30/2010
Post Mountain Fuel Reduction Project EA Hayfork RD	Fuel reduction within WUI, including: brush burn 603 acres, thin from below 369 acres, hand thin to 10-inch diameter 98 acres, shaded fuelbreak 176 acres.	In Progress: Scoping Start 03/07/2010 Est. Objection Period Legal Notice 11/2010
Rattlesnake Fuel Reduction and Forest Health Project EIS Hayfork RD	Thinning from below, shaded fuel breaks, and burn units on approximately 6,000 acre.	In Progress: NOI in Federal Register 10/30/2009 Est. DEIS NOA in Federal Register 01/2011
Red Fir Restoration Project EIS Hayfork RD	Red fir component is deteriorating due to reduced forest health. Project includes treatment of approx. 1,150 acres to maintain red fir as a viable species while improving fire resiliency on the South Fork Mountain ridge top.	Developing Proposal Est. NOI in Federal Register 07/2010

Project Name and Location (Ranger District)	Description	Status
Algoma Vegetation Management Project EIS McCloud RD	Thinning/other silvicultural and fuels treatments of approximately 5,300 acres of forested stands within the Algoma LSR. Application of a borax to cut stumps 14 inches and larger. Some new road construction.	In Progress: NOI in Federal Register 02/25/2008 Est. DEIS NOA in Federal Register 08/2010
East McCloud Plantation Thinning EA McCloud RD	Plantation thinning to reduce tree densities and ladder fuels.	Developing Proposal Est. Scoping Start 10/2010
Elk LSR Enhancement Project EIS McCloud RD	Reduce tree densities and fuels (with thinning and fuels treatments) within approximately 2,200 acres in the Elk Flat LSR to protect current late/mid-successional habitat (and develop future late-successional habitat conditions).	Developing Proposal Est. NOI in Federal Register 07/2010
Harris Vegetation Management EIS McCloud RD	Improve forest health and restore fire-adapted ecosystem characteristics on approx. 3,000 acres in and adjacent to the Harris Mtn. LSR. Ground and ladder fuels would be reduced and forested stands would be thinned to yield a fire-resilient forest.	In Progress: NOI in Federal Register 07/24/2009 Est. DEIS NOA in Federal Register 10/2010
Highland Mine Mining Claim Plan of Operation EA McCloud Rd	Proposal to authorize a small gold mining operation on the site of an abandoned mine. Less than 1/2 mile of overgrown trail will be cleared to access the site. Operations may include use of a small backhoe, tractor, sluice box, and gas pump.	In Progress: Scoping Start 06/26/2009 Est. 215 Comment Period Legal Notice 07/2010
Moosehead Vegetation and Road Management Project EIS McCloud Rd	Approximately 2,400 acres of thinning and fuels treatments, 21 miles of road reconstruction and 11 miles of road decommissioning and closures within and adjoining the Algoma LSR.	In Progress: NOI in Federal Register 01/20/2009 Est. DEIS NOA in Federal Register 07/2010
Mudflow Vegetation Management EIS McCloud RD	Approximately 3,000 acres of commercial thinning, green tree retention, and fuels reduction within the urban interface of the town of McCloud and the Mt. Shasta Forest Subdivision, removing encroaching conifers from meadows and application of borax.	In Progress: NOI in Federal Register 04/24/2007 Est. DEIS NOA in Federal Register 07/2010
Scott LSR Habitat Improvement Project EIS McCloud RD	Reduce tree densities/ladder fuels to increase forest resiliency to disturbances and encourage late-successional forest characteristics and aquatic system functioning on ~3,100 acres in and adjacent to the Deer Creek LSR.	Developing Proposal Est. NOI in Federal Register 10/2010

Project Name and Location (Ranger District)	Description	Status
Trout Creek Vegetation Restoration Project EA McCloud RD	Remove encroaching conifers from meadow & hardwood areas; thin (including sanitation, improvement, & group selection in limited areas) adjacent forest stands; treat fuels & reintroduce fire. May require 0.5-1.0 mile temporary road construction.	In Progress: Scoping Start 05/27/2009 Est. 215 Comment Period Legal Notice 07/2010
Bolam Timber Stand Improvement Project CE Mt. Shasta RD	Precommercial thinning, pruning and mastication of brush in approximately 2,500 acres of conifer tree plantation and creation of a shaded fuelbreak along Highway 97 and the Military Pass Road.	In Progress: 215 Comment Period Legal Notice 12/10/2008
Gateway Trail EA Mt. Shasta RD	Parking lot (~0.13 ac), kiosk/signs, new trail segments/restoration of existing unclassified trails (~1.75 mi. new; remainder ~1.75 mi. maintenance/restoration, ~3.68 mi. realignment/new). Trail will be added to NFS system (non-motorized).	In Progress: Scoping Start 12/08/2009 Est. 215 Comment Period Legal Notice 07/2010
McBride Springs Campground Diseased Trees Removal CE Mt. Shasta RD	Root rot has killed many fir trees in the campground; these trees pose a hazard. Remaining firs are predicted to become infected. The proposal includes removal of dead/dying trees and trees that are predicted to become infected.	In Progress: Scoping Start 06/30/2009
Green-Horse Habitat Restoration and Maintenance Project EA Shasta Lake RD	Use of prescribed fire and hand thinning on 46,000 acres to restore and maintain forest structure, watershed condition, and wildlife habitat.	Developing Proposal Est. Scoping Start 08/2010
I-5 Corridor Fuels Reduction Project EA Shasta Lake RD	Reduction of fuels buildup on National Forest System lands in and around communities and infrastructure, and protection of municipal watersheds through the use of prescribed fire, hand thinning, piling, chipping, and mastication.	In Progress: Scoping Start 05/18/2010 Est. 215 Comment Period Legal Notice 01/2011
Lower McCloud Fuels Management Project EIS Shasta Lake RD	Mechanical and prescribed fire fuels reduction within ~11,000 acres within the Lower McCloud and Iron Canyon watersheds.	Developing Proposal Est. NOI in Federal Register 05/2011
Packers Bay Invasive Plant Species Removal Project EA Shasta Lake RD	Removal of non-native Scotch, French, & Spanish brooms using an integrated approach on about 112 acres of National Forest System lands. A combination of treatments, including herbicide, manual cutting, hand pulling & prescribed fire, will be used.	In Progress: Scoping Start 11/11/2009 Est. 215 Comment Period Legal Notice 10/2010
North Lake Roadside Fuels Reduction Project CE Weaverville RD	This project will reduce surface fuel loadings by manually thinning trees up to 11 inches dbh, thinning brush, pruning, hand piling or concentrating activity slash and natural fuels, burning and chipping.	Developing Proposal Est. Scoping Start 12/2010

Project Name and Location (Ranger District)	Description	Status
Pettijohn LSR Project EIS Weaverville RD	Fuel reduction project within LSR designed to reduce fuel loading and maintain/enhance old-growth habitat. Includes 1,155 ac commercial thinning from below, 1995 ac of roadside FMZ (noncommercial), 2.3 mi of road decommissioning.	In Progress: NOI in Federal Register 12/19/2008 Est. DEIS NOA in Federal Register 08/2010
Weaverville Community Forest – East Branch and Garden Gulch Fuels Reduction Project CE Weaverville RD	This project will address fuels and forest resiliency through thinning, hand piling, and pruning approximately 122 acres of the Weaverville Community Forest.	In Progress: Scoping Start 12/14/2009
Gemmill Fuels CE Yolla Bolla RD	Fuels reduction in Gemmill Thin project area.	Developing Proposal Est. Scoping Start 10/2010
Gemmill Thin EIS Yolla Bolla RD	Thinning and fuels reduction to enhance and protect late successional habitat.	In Progress: NOI in Federal Register 10/08/2009 Est. DEIS NOA in Federal Register 07/2010
Lassen National Forest		
Bear Cub Underburn CE Almanor RD	Prescribed fire underburning to remove surface & ladder fuels on approximately 188 acres.	Developing Proposal Est. Scoping Start 10/2010
Brokenshire Fuels Reduction Watershed and Recreation Improvement EA Almanor RD	Fuels reduction around Summit Springs Rec. Res.; relocate existing picnic area to higher ground; decommission unauthorized OHV trails; construct trail bridge on Mill Creek Trail at Rocky Gulch; add Summit Springs roads to NF system and stormproof.	Developing Proposal Est. Scoping Start 07/2010
Creeks II Forest Restoration Project EIS Almanor RD	Implementation of the Herger-Feinstein Quincy Library Group (QLG) Forest Recovery Act and will entail the development of defensible fuel profile zones (DFPZs), group selection harvests, and area thinning for enhancement of habitat for seral species.	In Progress: NOI in Federal Register 05/19/2008 Est. DEIS NOA in Federal Register 10/2010
Cub Fire Danger Tree Removal CE Almanor RD	Remove danger trees from along State Route 32 and USFS roads in the Cub Fire Complex area using a Timber Sale.	Developing Proposal Est. Scoping Start 08/2010
Dry hills Forest Restoration Project EA Almanor RD	QLG-vegetation management projects to meet Forest Restoration objectives; fuel reduction & establishment of DFPZs; and aspen, oak and meadow enhancement. This project also includes the Hampton Butte Underburn Project.	Developing Proposal Est. Scoping Start 09/2010

Project Name and Location (Ranger District)	Description	Status
High Lakes North-End Access EA Almanor RD	Provide permanent public access at the north end of the High Lakes OHV Area. Evaluate trailheads and staging areas to support access near the Lott's "T" (road intersection).	Developing Proposal Est. Scoping Start 09/2010
Philbrook Knickpoint and Spill Channel Restoration EA Almanor RD	Stabilize and restore Knickpoint and spill channel below Philbrook Reservoir. Reduce ongoing channel erosion and sedimentation resulting from reservoir operations.	In Progress: Scoping Start 11/16/2009 Est. 215 Comment Period Legal Notice 07/2010
Cowbell Thinning Project CE Eagle Lake RD	This project consists of approximately 600 acres of thinning, fuels reduction, and meadow restoration.	Developing Proposal Est. Scoping Start 08/2010
Eagle Lake Boat Ramp CE Eagle Lake RD	Construction of a new boat ramp that can be used during periods of low water.	In Progress: Scoping Start 07/06/2009
Ebey Eastside Pine Restoration Project EA Eagle Lake RD	Implementation of the Herger-Feinstein QLG Forest Recovery Act, as amended by the Sierra Nevada Forest Plan Amendment FSEIS ROD.	In Progress: Scoping Start 03/23/2010 Est. Objection Period Legal Notice 11/2010
Poison Lake Black Stain Root Disease Study EA Eagle Lake RD	To complete a study begun in 1997 researchers propose to expose the major roots in 20-50 selected pine trees for examination. The selected trees would be pushed over with a large excavator in an approximately 100 acre project area.	Developing Proposal Est. Scoping Start 07/2010
Willard Creek Dispersed Recreation CE Eagle Lake RD	Define recreational pullouts for public day use parking and overnight camping along Forest road 29N03.	In Progress: Scoping Start 04/27/2009
Eastside Pine Underburn Project EA Hat Creek RD	Use of prescribed fire in the eastside pine ecosystem to control natural fuel buildups and reduce the potential for severe wildfires.	Developing Proposal Est. Scoping Start 07/2010
Goose Reforestation and Habitat Recovery CE Hat Creek RD	The overall purpose of this project is to hasten the recovery of lost and/or degraded habitat for northern spotted owls by re-establishing habitat connectivity and viability.	In Progress: Scoping Start 06/16/2010
Volcano Reforestation EA Hat Creek RD	Treat approximately 350 acres of Sugarloaf fire on Sugarloaf Mountain by removing fire-killed and fire-injured trees and re-planting.	Developing Proposal Est. Scoping Start 08/2010

Project Name and Location (Ranger District)	Description	Status
Whittington Forest Health Restoration and Fuel Reduction Project EA Hat Creek RD	Reduce potential wildfire intensity, modify fire behavior by constructing DFPZs, and improve forest health and diversity by creating multistoried, all-aged, species diverse landscape. Treatments could include thinning, group selection, and fuel reduction.	Developing Proposal Est. Scoping Start 10/2010
Plumas National Forest		
Plumas National Forest Wheeled Motorized Travel Management EIS All Units	Would prohibit wheeled motorized vehicle travel by the public off designated roads and trails. Would add 375 miles of existing unauthorized routes to NFS trail system. Would add one 36-acre area as open to wheeled motorized use.	In Progress: DEIS NOA in Federal Register 12/29/2008 Est. FEIS NOA in Federal Register 07/2010
Dotta KV Aspen and Cottonwood Hand Thin Project CE Beckwourth RD	This project will hand thin conifer trees less than 11 inches dbh within aspen and cottonwood stands and the adjacent 50 foot buffer. This will help to maintain aspen and cottonwood stands and promote regeneration.	Developing Proposal Est. Scoping Start 07/2010
Elwell Trail, Mud Lake Trail and Long Lake Connector Trail Reroutes CE Beckwourth RD	Reroute sections of the Elwell Trail on the South side to eliminate over grade sections and provide a sustainable tread. Reroute Mud Lake Trail on the north end and reroute short portions of the Long Lake connector trail.	Developing Proposal Est. Scoping Start 07/2010
Frenchman WC Aspen Hand Thin Project CE Beckwourth RD	Over the next several years Frenchman Work Center will conduct project work within aspen stands. Conifer trees less than 11 inches dbh will be hand thinned within aspen stands and within 50 feet of the stands.	Developing Proposal Est. Scoping Start 07/2010
Ingalls Project EA Beckwourth RD	DFPZ, group selection, riparian hardwood restoration, road reconstruction, decommissioning, temporary road construction and subsequent decommissioning.	In Progress: Scoping Start 05/12/2010 Est. Objection Period Legal Notice 04/2011
Jackson Project EA Beckwourth RD	DFPZ, group selection in addition to WUI fuels reduction. Road reconstruction, decommissioning, and construction, approx. 10-miles of temp road construction and subsequent decommissioning.	In Progress: Scoping Start 02/25/2009 Est. Objection Period Legal Notice 12/2010
Lake Davis Trail Phase 2 and 3 EA Beckwourth RD	Continue the non-motorized Lake Davis Trail around Lake Davis from just south of Lightning Tree Campground around the north and west sides of the lake.	Developing Proposal Est. Scoping Start 08/2010
Nelson Creek Historic Trail EA Beckwourth RD	Reopen the historic Nelson Creek Trail from Zumwalt Flat to the LaPorte Rd. Adding a few sections of new trail to connect existing trail or correct over grade problems is also being planned.	In Progress: Scoping Start 06/01/2008 Est. 215 Comment Period Legal Notice 10/2010

Project Name and Location (Ranger District)	Description	Status
Sulphur and Barry Creek Restoration Project EA Beckwourth RD	Restore approximately 0.5 mile of Sulphur Creek (0.28 mile) and Barry Creek (0.24 mile). Project may also include the removal of encroaching conifers on cottonwood stands within the project area.	Developing Proposal Est. Scoping Start 09/2010
Wildlife Guzzler Replacement and Removal CE Beckwourth RD	Guzzlers catch and store water providing water to wildlife throughout the year especially during hot summer months. This project will remove 2 wildlife guzzlers and replace 5 in the Eureka Ridge and Frenchman Lake areas.	Developing Proposal Est. Scoping Start 07/2010
Big Buck and Paseo Peligroso Mining Claim Plan of Operations EA Feather River RD	Power sluice mining activity and incidental occupancy for mining claim located in Blue Nose Quad, T22N, R10E, Sec. 1.	Developing Proposal Est. Scoping Start 07/2010
Concow Hazardous Fuels Reduction Project EIS Feather River RD	Reduce hazardous fuels and restore ecosystems affected by high-intensity wildfire near Paradise, Pulga, and Concow.	In Progress: NOI in Federal Register 09/30/2009 Est. DEIS NOA in Federal Register 09/2010
Hawkeye Tunnel Mining Plan of Operation EA Feather River RD	Underground mining operation, gravel washing, and incidental occupancy for purpose of minerals extraction.	Developing Proposal Est. Scoping Start 07/2010
Little Grass Valley Campground Restoration CE Feather River RD	This project involves interplanting conifers for forest health while providing privacy screening within the campgrounds.	In Progress: Scoping Start 06/01/2009
On Top Hazardous Fuels Reduction Project EIS Feather River RD	This project will establish DFPZs for fuels reduction and community protection. Group selection and ITS will be considered to test the effectiveness of uneven aged management by promoting multi-storied, ecologically fire resilient forests.	Developing Proposal Est. NOI in Federal Register 05/2010
Rock Island Mastication Project CE Feather River RD	This project is proposing to masticate plantations within the Rock Island sale area boundary to enhance conifer growth and reduce woody vegetation and conifers within the plantation.	In Progress: Scoping Start 02/02/2010
Silvertip Roadside Hazard Timber Sale CE Feather River RD	Removal of hazard trees along approximately 4 miles of forest road 22N60 road (silvertip road) in T.22N R.9E.	In Progress: Scoping Start 01/15/2010
St. Louis Fuels Reduction Project EA Feather River RD	To protect rural communities and forest from wildfires this project proposes construction of DFPZs for hazardous fuels reduction.	In Progress: Scoping Start 02/10/2010 Est. Objection Period Legal Notice 08/2010

Project Name and Location (Ranger District)	Description	Status
American Valley Hazardous Fuels Reduction Project CE Mt. Hough RD	Hand-thinning, piling and burning, mastication, and underburning to reduce hazardous fuels on approximately 346 acres of public land adjacent to private lands within the WUI around Quincy, CA.	In Progress: Scoping Start 02/03/2010
Black Gulch Stream Stabilization Project CE Mt. Hough RD	Stabilize the crossing of NFS road 25N95 at Black Gulch where the culvert is resulting in excessive erosion and obstructing aquatic organism passage. Actions include culvert removal, placement of large rock, and revegetation with riparian species.	Developing Proposal Est. Scoping Start 07/2010
Bucks Fen Vegetation Project CE Mt. Hough RD	This project is proposed to install an exclosure around the Bucks fen and install log structure check dams within the exclosure in order to reduce or eliminate the flow channel out of the fen.	In Progress: Scoping Start 06/16/2010
Bucks Lake Fuels Reduction and Roadside Hazard Tree Removal Project EA Mt. Hough RD	Removing hazardous trees along roads and recreation sites, thinning along roadways to reduce fuels, and implement road maintenance activities to restore watershed health.	Developing Proposal Est. Scoping Start 09/2010
Cal Trans Right-of-Way CE Mt. Hough RD	Caltrans is proposing to improve a section of highway in their right-of-way that is .36 miles in length near Caribou Rd. in Feather River Canyon.	Developing Proposal Est. Scoping Start 04/2010
Cascade Trailhead Improvement Project EA Mt. Hough RD	Improvement of a trailhead for a trail commonly known as the "Cascade Trail" by local trail users. Trailhead improvements will include installation of a vault toilet restroom building, developing a parking area, and developing accessible parking.	In Progress: Scoping Start 12/16/2009 Est. 215 Comment Period Legal Notice 03/2010
Greenhorn Creek Restoration Project EA Mt. Hough RD	Project proposed to restore trout populations and bank stability to Greenhorn Creek in American Valley. Fish passage and bank stabilization improvements would be made in six locations along Greenhorn Creek.	Developing Proposal Est. Scoping Start 07/2010
Keddie Hazardous Fuels Reduction Project EIS Mt. Hough RD	Construction of fuelbreaks (DFPZs), thinning and group selection harvests, protection and enhancement of sensitive plant and wildlife habitat, road improvements, and noxious weed treatments.	In Progress: NOI in Federal Register 04/01/2010 Est. DEIS NOA in Federal Register 10/2010
Rich Fire Recovery Project EA Mt. Hough RD	Allow for economic recovery of fire-killed timber (Rich Fire), reduce hazardous fuels within the Twain WUI over the long term, and plant native seedlings to re-establish forested conditions.	In Progress: 215 Comment Period Legal Notice 03/10/2010

Project Name and Location (Ranger District)	Description	Status
Silver Fire Fuel Reduction Project CE Mt. Hough RD	This project would reduce small fuels by hand thinning, piling and burning, modify small fuels by hand thinning, lopping and scattering, and provide opportunity for firewood gathering in designated areas within the area burned by the Silver Fire.	In Progress: Scoping Start 01/27/2010
Wildcat/Boulder Restoration Project EA Mt. Hough RD	Stabilize stream bed, improve aquatic species passage, and reduce sediment transport rates.	Developing Proposal Est. Scoping Start 08/2010
Tahoe National Forest		
Motorized Travel Management EIS All RDs	The Tahoe National Forest will designate a system of National Forest System roads, National Forest System trails, and areas on National Forest System lands for motor vehicle use, including vehicle class and season of use.	In Progress: DEIS NOA in Federal Register 02/26/2010 Est. FEIS NOA in Federal Register 07/2010
Deadwood Project EA American River RD	Forest health thinning and fuels reduction project.	Developing Proposal Est. Scoping Start 09/2010
East Fork Thinning Project EA American River RD	Thinning and fuels treatments to reduce hazardous fuels and improve forest stand resiliency to severe wildfire, drought, insect, and disease effects.	In Progress: Scoping Start 03/26/2007 Est. 215 Comment Period Legal Notice 09/2010
Hoffman Mine EA American River RD	Process tailings from previous mining activity inside the current footprint of the Hoffman Pits Mine.	Developing Proposal Est. Scoping Start 06/2010
Mosquito Allotment Boundary Fence CE American River RD	Construct approximately 1.5 to 2 miles of fence on the north end of the Mosquito Allotment to keep animals on the allotment and from wandering on to the vacant Duncan Sailor Allotment.	In Progress: Scoping Start 03/02/2010
Oliver Study Area and Plantation Thinning CE American River RD	Pacific Southwest Research Station (PSW) is proposing to cut approximately 100 trees from 20 acres of plantation in the Oliver Study. Additionally, due to beetle attacks and tree mortality in and around the study, the USFS is proposing to do sanitation harvest on 200 acres.	Developing Proposal Est. Scoping Start 07/2010
Section 8 Watershed Restoration Project EA American River RD	The American River Ranger District is proposing to take management action to enhance and restore a section of acquired land within the Duncan Canyon Inventoried Roadless Area (Duncan Canyon IRA), and move it towards its current management intent.	Developing Proposal Est. Scoping Start 05/2010

Project Name and Location (Ranger District)	Description	Status
Stream Crossings Project CE American River RD	Install stream crossings on existing trail alignment and remove previous crossing materials on Forbes Creek at Loop 1 Trail 11E39, Forbes Creek at Loop 2 Trail 11E40, and Shirttail Creek at Loop 5 Trail 11E43.	In Progress: Scoping Start 05/01/2010
Western Plantation Thinning CE American River RD	Plantation thinning to reduce bark beetle activity.	Developing Proposal Est. Scoping Start 09/2010
Saddle Project EA Sierraville RD	DFPZ & concentrated fuel treatments, hand & mechanical thinning & group selection. Localized watershed restoration, meadow, aspen and oak restoration treatments. Project treatment area ~4,500 acres, mainly stewardship contracts.	In Progress: Scoping Start 02/04/2010 Est. Objection Period Legal Notice 08/2010
Turning Point Snowmobile Rally Event CE Sierraville RD	Snowmobile fund-raising event w/ recreation special use permit by Turning Point Tahoe non-profit org. Approx. 160 participants would use Little Truckee staging area & ~ 50 mi existing groomed snowmobile trails in Jackson Meadows area for ~ 8 hr.	Developing Proposal Est. Scoping Start 08/2010
Legacy Trail CE Truckee RD	Construct approximately 1 mile of non-motorized multiple-use trail. This piece of trail will be a continuation of trail from private land from the Town of Truckee to Glenshire subdivision.	Developing Proposal Est. Scoping Start 10/2010
Mix Project CE Truckee RD	To improve stand condition & habitat by hand thinning 12 ac & mechanical thinning 15 ac, by restoring 2.27 ac of aspen, & creating 8.55 ac of openings. To restore the hydrological function & reduce erosion on 0.25 mile of a tributary to Dry Cr.	Developing Proposal Est. Scoping Start 09/2010
NV Energy 132 Powerline Maintenance Project CE Truckee RD	Maintain the 120 kv transmission line by removing trees that have the potential to fail and that could strike the line or its support structures along an 8.5 mile section on NFS lands from Truckee to Squaw Valley substations.	In Progress: Scoping Start 06/22/2010
NV Energy Pole Replacement Project CE Truckee RD	Replacement of four poles on the overhead transmission line from Sagehen to Hobart Mills.	Developing Proposal Est. Scoping Start 07/2010
Prosser Creek Fish Habitat Improvement CE Truckee RD	Proposal to implement a stream habitat improvement project in Prosser Creek below Prosser Dam to improve habitat for fish. Restore function to the aquatic ecosystem by addressing temperature, wide channel, low water levels, & lack of vegetation.	In Progress: Scoping Start 07/29/2009

Project Name and Location (Ranger District)	Description	Status
Sagehen Project EA Truckee RD	Implement treatments in a strategically placed area treatment (SPLAT) network to address vegetation & fuels issues in the Sagehen Watershed. Also implement treatments for forest health & improve habitats. Work with the UC Berkeley Sagehen Field Station to pursue research opportunities.	Developing Proposal Est. Scoping Start 09/2010
Carven Aspen Enhancement CE Yuba River RD	Remove some conifers to release Aspen.	In Progress: Scoping Start 03/01/2004
Craig's Reforestation CE Yuba River RD	Excavator piling of shrubs/slash to facilitate conifer planting, planting of conifers, and burn created piles. Release by grubbing. No herbicide use.	In Progress: Scoping Start 04/22/2010
Gold Project EA Yuba River RD	Commercial and pre-commercial thinning, site prep and planting, hand and mechanical cutting, piling and burning, Rx burning, aspen restoration, and wildlife enhancement.	In Progress: 215 Comment Period Legal Notice 05/14/2009
Plum Project EA Yuba River RD	Mechanical thinning, fuels reduction, wildlife enhancement, watershed improvement, precommercial thinning, plantation thinning, and road decommissioning.	Developing Proposal Est. Scoping Start 07/2010
Ruby-Carson Mine Plan of Operations EA Yuba River RD	Plan of Operations to authorize road use permit changes, mineral exploration, development, mining, milling and processing and disposing of mine tailings on National Forest System lands in the Alleghany Mining District.	Developing Proposal Est. Scoping Start 05/2010
Eldorado National Forest		
Eldorado NF Abandoned Mine Hazard Reduction EA All Units	The project will close, from human entry, 25 shafts, 23 adits, and remove 1 collapsed structure that obscures a deep shaft.	In Progress: Scoping Start 04/08/2010 Est. 215 Comment Period Legal Notice 07/2010
Callecat Fuels Reduction Project EA Amador RD	Reduce fuels and improve forest health on 2,200 acres of natural stands and plantations. Treatments include commercial thinning, pre-commercial thinning, tractor piling, and understory burning.	Developing Proposal Est. Scoping Start 10/2010
Gold Note Dispersed Site Restoration and Trail Realignment CE Amador RD	Restoration of dispersed camping and staging areas associated with the Gold Note Trail System. Project includes the relocation of 2000 feet of the Gold Note Trail #36.	Developing Proposal Est. Scoping Start 06/2010
Silver Lake Fire Hazard Reduction CE Amador RD	Remove small trees less than 9 inches in diameter, remove dead trees adjacent to roads, hand pile branches, and prescribe burn on approximately 65 acres.	Developing Proposal Est. Scoping Start 07/2010

Project Name and Location (Ranger District)	Description	Status
View 88 Fuels Reduction Project EA Amador RD	Fuels reduction and stand improvement on approx. 1,500 acres within the wildland urban intermix. Includes aspen restoration, visual management, commercial thinning, pre-commercial thinning, tractor piling, and understory burning.	In Progress: Scoping Start 03/03/2008 Est. 215 Comment Period Legal Notice 08/2010
2 Chaix Fuels Reduction Project EA Georgetown RD	Vegetation treatment of surface and ladder fuels on approximately 1,500 acres of plantations and natural stands near Chaix Mtn. on the Georgetown RD. Treatments include mastication, underburning, commercial and precommercial thinning, tractor piling.	Developing Proposal Est. Scoping Start 09/2010
Hell Hole Recreation Complex Repair and Improvement Project CE Georgetown RD	Replace or improve recreation facilities in Big Meadows and Upper Hell Hole Campgrounds, Hell Hole Vista, and Hell Hole Boat Ramp. Traffic control, repave, or resurface roads and parking areas for the above areas.	In Progress: Scoping Start 08/22/2008
Placer County Water Agency Special Use Permit for Private Roads CE Georgetown RD	Issue a permit to Placer County Water Agency for reconstructing roads to Brushy Canyon Adit and to the Middle Fork Tunnel Rollout Section.	Developing Proposal Est. Scoping Start 07/2010
Tobacco Gulch Fuels Reduction Project EA Georgetown RD	Commercial thinning, biomass removal, tractor piling and mastication on approximately 1,200 acres of forest lands generally within the WUI or planned SPLATs. Noxious weed treatment is also being considered.	Developing Proposal Est. Scoping Start 09/2010
John Don't Forest Health/Fuels Reduction Project EA Pacific RD	Understory thinning & follow-up prescribed burning in mixed conifer & red fir stands for fire & insect resiliency. Primary treatment would be directed towards treating strategically placed units.	Developing Proposal Est. Scoping Start 09/2010
O'Leary's Cow Fuels Reduction EA Pacific RD	Understory thinning & tree removal to improve fire resiliency on approx.450 acres in SPLATs, Defense & Threat Zones of Urban Interface, & 15-40 year-old plantations. Includes removal of both commercial & non-commercial size trees in Crystal Basin.	In Progress: Scoping Start 10/25/2006 Est. 215 Comment Period Legal Notice 07/2010
XFactor Fuels Reduction EA Pacific RD	Understory thinning & tree removal in various timber stands w/in SPLATs, the Defense & Threat zones of various locations on Pacific RD.	Developing Proposal Est. Scoping Start 07/2010
Big Dog Fuels Reduction Project EA Placerville RD	The project involves forest thinning and fuels reduction activities on approximately 1,000 acres. Commercial and pre-commercial thinning with follow-up prescribed burning in plantations and mixed conifer stands to improve forest health.	Developing Proposal Est. Scoping Start 03/2012

Project Name and Location (Ranger District)	Description	Status
Caldor Fuels Reduction Project CE Placerville RD	Fuel reduction by mastication or hand cutting and piling on 155 acres near the intersection of the Grizzly-Caldor and North-South roads. Burning of any piles produced and broadcast burning of the project.	In Progress: Scoping Start 07/15/2007
Piliken Plantation Thinning and Fuels Reduction EA Placerville RD	Conduct stand density management and fuels reduction activities on approx. 3,000 acres of 30 to 35 year old Jeffrey pine plantations using commercial and pre-commercial thinning.	Developing Proposal Est. Scoping Start 03/2011
Polka Dot Motorcycle Club, 49er Enduro Special Use Permit EA Placerville RD	Issue a 5 year special use permit to hold the 49er Enduro in the Elkins Flat OHV area. The event would occur annually beginning in October 2009.	Developing Proposal Est. Scoping Start 07/2010
Raintree Forest Health Project EA Placerville RD	Commercial and precommercial thinning with follow-up prescribed burning in plantations, mixed conifer and red fir stands to improve forest health and enhance watershed conditions.	In Progress: Scoping Start 08/26/2009 Est. 215 Comment Period Legal Notice 07/2010
Straw Saddle Fuels Reduction Project EA Placerville RD	The project includes commercial and pre-commercial thinning and prescribed burning on approximately 2,000 acres to improve forest health, enhance watershed conditions, and re-establish a sustainable landscape.	Developing Proposal Est. Scoping Start 06/2012
Tony's Fuel Reduction Project EA Placerville RD	The project would involve forest thinning and fuels reduction activities on approximately 1,000 acres to improve forest health, enhance watershed conditions, and re-establish a sustainable landscape condition.	Developing Proposal Est. Scoping Start 01/2011
Western Front Fuels Reduction Project EA Placerville RD	The project would involve commercial and pre-commercial thinning and prescribed burning on approximately 1,000 acres in the Wildland Urban Intermix to improve forest health, enhance watershed conditions, and reestablish a sustainable landscape.	Developing Proposal Est. Scoping Start 06/2012
Stanislaus National Forest		
Great Gray Owl Habitat Enhancement CE All Units	Create artificial nest structures in suitable habitat areas to increase habitat value for this Sensitive, rare, and locally important species. Project is being developed in conjunction with a regional survey effort.	In Progress: Scoping Start 04/01/2009
Bailey Plantation Thin CE Calaveras RD	Thin plantations in the Bailey Ridge area to reduce the size and severity of future wildfires, reduce stand density to decrease the risk of mortality from drought-related insects and diseases, and improve watershed conditions.	In Progress: Scoping Start 01/27/2010

Project Name and Location (Ranger District)	Description	Status
Bear Valley Timber Stand Improvement CE Calaveras RD	Thinning on 208 acres of red fir/mixed conifer forest along the northern boundaries of the town of Bear Valley. Prescriptions include ground based mechanical treatments and hand cutting.	In Progress: Scoping Start 05/26/2010
Bloods Ridge Timber Stand Improvement CE Calaveras RD	Create 1/2 mile long, 300 foot wide shaded fuelbreak incorporating natural breaks (rock outcrops) in the vegetation.	In Progress: Scoping Start 05/18/2010
Lyons Creek Restoration CE Miwok RD	Install rock barriers adjacent to 3N69 to confine vehicles to the road; restore 3 acre meadow; restore 1/2 mile unauthorized OHV routes; and, install education and enforcement signing.	In Progress: Scoping Start 05/10/2010
Experimental Forest Research EA Summit RD	PSW thinning and under burning studies within approximately 340 acres of the Experimental Forest to provide information on methods to treat ladder fuels and reintroduce fire.	In Progress: 215 Comment Period Legal, Notice 05/14/2010
Gooseberry Forest and Meadow Restoration EA Summit RD	Restoration of decadent mixed conifer and red fir stands. Thinning for fuels reduction, forest health objectives and aspen restoration. Restoration of Crab and Round meadows as well as other small meadow areas within the project area.	Developing Proposal Est. Scoping Start 10/2010
Pedro Flat Campground EA Summit RD	Build campground at Pedro Flat, near Beardsley Reservoir as part of the FERC relicensing agreement with Tri-Dam to accommodate the users of the Beardsley Reservoir.	In Progress: 215 Comment Period Legal, Notice 05/17/2010
Relief Cabin Disposition EA Summit RD	Remove or relocate cabin currently located adjacent to Emigrant Wilderness boundary above Relief Reservoir along the Huckleberry trail.	In Progress: 215 Comment Period Legal, Notice 01/27/2010
Inyo National Forest		
Black Point Cinder Mine EA – Mining Proposal EA Mammoth RD, Mono RD	The proposal described in the Plan of Operations will expand mining operations at an existing cinder mine over a period of fifteen years (2024).	In Progress: 215 Comment Period Legal Notice 04/01/2010
Crowley Communities Hazardous Fuels Reduction Project EA Mammoth RD, White Mountain RD	Fire hazard reduction by removal of hazardous fuels around the communities of Aspen Springs, Crowley, McGee Creek, Sunny Slopes, & Tom's Place	In Progress: Objection Period Legal Notice 06/29/2010
Amerigas Project CE Mammoth RD	Install 100 feet of propane pipeline to connect existing pipeline on both ends of existing pipeline. This is the same project as the Rock Creek Energy Project. Rock Creek Energy was purchased by Amerigas.	Developing Proposal Est. Scoping Start 08/2010

Project Name and Location (Ranger District)	Description	Status
Garnet Meadow/Iceberg Trail Project CE Mammoth RD	Stabilize the active headcuts and erosion on approximately 1.5 miles of the Iceberg Lake trail from Ediza lake to Iceberg Lake to improve watershed condition, stabilize headcuts in Garnet Meadow, and stabilize Garnet Packer Camp trail.	In Progress: Scoping Start 11/12/2009
Madden Property Road Access CE Mammoth RD	Construction of an access road to the "Madden property," owned by the Gregory Family Trust, and located adjacent to the chair 15 area of the Mammoth Mountain Ski Area (MMSA). This road will be constructed within the MMSA permit boundary.	Developing Proposal Est. Scoping Start 07/2010
Sherwin-Scenic Loop Hazardous Fuels Reduction EA Mammoth RD	The proposed action is to use three types of treatment methods, singly or in combination, to reduce hazardous fuels such as brush and trees in the Sherwin Creek, Mammoth Creek, and Mammoth Scenic Loop areas surrounding the Mammoth Lakes community.	In Progress: Scoping Start 11/23/2009 Est. Objection Period Legal Notice 07/2010
E-Wind Wind Energy Testing CE Mono RD	Placement of 1-3 approximately 200 foot tall meteorological towers in the Sagehen Summit area of the Glass Mountains for the purpose of wind energy testing.	Developing Proposal Est. Scoping Start 07/2010
Sierra Nevada Bighorn Sheep Habitat Enhancement Prescribed Burn (North Zone) CE Mono RD	Reduce vegetation cover, primarily pinyon pine, within areas adjacent to winter range of the Sierra Nevada bighorn sheep using prescribed burning.	In Progress: 215 Comment Period Legal Notice 09/30/2008
Southern California Edison Replacement of Powerline CE Mono RD	Installation of new underground powerline in Caltrans right-of-way in Lee Vining Canyon	In Progress: Scoping Start 05/24/2010
Tollhouse Fuelwood Project CE White Mountain RD	Proposal to open a unit in the Westgard Pass area to fuelwood cutting to remove dead pinyon trees.	Developing Proposal Est. Scoping Start 08/2010
Sierra National Forest		
Fish Camp Project EA Bass Lake RD	The purpose of the project will be to reduce fuel ladders and ground fuels in a wildland urban interface area, increase vigor and health of mixed conifer stands, and reduce noxious weed populations.	Developing Proposal Est. Scoping Start 07/2010
Dinky North EA High Sierra RD	Implement vegetative treatments - thinning timber stands, underburning, and reforestation - consistent with "An Ecosystem Management Strategy for Southern Sierran Mixed-Conifer Forests," authored by North, Stine, O'Hara, Zielinski, and Stephens.	In Progress: Scoping Start 10/22/2009 Est. Objection Period Legal Notice 07/2010

Project Name and Location (Ranger District)	Description	Status
Dinky South EA High Sierra RD	Implement vegetative treatments - thinning timber stands, underburning, and reforestation - consistent with "An Ecosystem Management Strategy for Southern Sierran Mixed-Conifer Forests," authored by North, Stine, O'Hara, Zielinski, and Stephens.	In Progress: Scoping Start 10/22/2009 Est. Objection Period Legal Notice 07/2010
High Sierra Fuelbreak Project EA High Sierra RD	Create and maintain 3 new fuelbreaks and maintain 6 existing fuelbreaks in the front country of the High Sierra Ranger District using various mechanical, hand and herbicide methods. Maintain access roads to fuelbreaks.	In Progress: Scoping Start 10/30/2008 Est. 215 Comment Period Legal Notice 08/2010
Kings River Experimental Watershed Forest Health and Research Project EIS High Sierra RD	The EIS will evaluate the effects of the KREW Project which is designed to treat portions of the Kings River watershed to improve forest health and to examine the short and long term effects of these treatments as well.	In Progress: NOI in Federal Register 10/14/2009 Est. DEIS NOA in Federal Register 08/2010
Lake Edison Corrals CE High Sierra RD	The purpose of this project is to increase the stock holding capacity of the trailhead by installing additional corrals at the campground near the Mono Creek TH.	In Progress: Scoping Start 03/19/2008
Rancheria Campground Rehabilitation EA High Sierra RD	The SNF proposes to improve campground facilities and to protect and/or restore culturally and biologically sensitive resources at the Rancheria Campground.	In Progress: Scoping Start 01/21/2010 Est. 215 Comment Period Legal Notice 08/2010
Silver Pass PCT Repair Project CE High Sierra RD	Trail incision (up to 3 feet deep) and gullying, resulting in erosion, multiple trailing, trampling of alpine vegetation, and altering of hydrology.	In Progress: Scoping Start 03/19/2008
Sequoia National Forest		
Davis Road (FR12S01) Repair CE Hume Lake RD	Proposed project repairs a portion of Davis Road (No. 12S01) by replacing culverts, repairing the roadbed and other drainage features, and adding rock to the road surface	Developing Proposal, Est. Scoping Start 07/2010
Eshom OHV Staging Area Development EA Hume Lake RD	Proposed project to design an OHV staging area in the Eshom Point area to reduce impacts to resources, while providing day and overnight recreation use in the general area	In Progress: Scoping Start 05/24/2010 Est. 215 Comment Period Legal Notice 08/2010
Lefever Creek Bridge and Road Decommissioning EA Hume Lake RD	Decommission 1 bridge by removing the decking, steel girders, and footings for the bridge crossing Lefever Creek on USFS Road 13S91	Developing Proposal Est. Scoping Start 08/2010

Project Name and Location (Ranger District)	Description	Status
Millwood OHV Staging Area Redesign Project EA Hume Lake RD	Proposed project to redesign the Millwood OHV Staging Area to reduce impacts to the creek and other resources, while providing day and overnight recreation use.	In Progress: Scoping Start 05/24/2010 Est. 215 Comment Period Legal Notice 08/2010
Pine Ridge Fuels Maintenance and Reduction EA Hume Lake RD	Proposed prescribed burn & mechanical treatment of a portion of the Pine Ridge area affected in the 2001 Highway Fire. Purpose is to reduce fuel buildup around young plantation trees & continue reestablishing a more natural fire return interval.	In Progress: Scoping Start 04/30/2010 Est. 215 Comment Period Legal Notice 09/2010
Revised McKenzie Ranch Fuels Reduction Project EA Hume Lake RD	Mastication of brush and small trees to reduce ladder fuels in plantations, and natural conifer stands.	In Progress: 215 Comment Period Legal Notice 04/28/2010
80's Mining Plan of Operations EA Kern River RD	Placer mining operations for the exploration and extraction of gold from the stream channel in Greenhorn Creek and maintenance of the access roads.	In Progress: 215 Comment Period Legal Notice 12/19/2009
Borel Buoy Installation EA Kern River RD	The proposed project is to install flotation buoys along the length of the Borel Canal in the interest of public safety. Approximately 300 buoys will be installed; 120 of which will be on National Forest System land.	In Progress: 215 Comment Period Legal Notice 09/05/2009
Borel Relicensing Recreation Enhancement Project EA Kern River RD	Reconstruct approximately 0.75 miles of the Black Gulch South Road, permanent toilet facilities, and dumpster pads will be added to this site. Sandy Flat Day Use Area, construct asphalt surface trail from parking lot to Lower Kern River	Developing Proposal Est. Scoping Start 07/2010
Breckenridge Plantation Thinning Project CE Kern River RD	Variably thin 1,103 acres of plantations using mechanical and/or hand thinning methods. Excess surface fuels will be treated by piling and burning, under-burning, or may be removed as biomass.	In Progress: Scoping Start 12/09/2009
Greenhorn South Plantation Thinning Project CE Kern River RD	Variably thin 1,273 acres of plantations using mechanical and/or hand thinning methods. Excess surface fuels will be treated by piling and burning, under-burning, or may be removed as biomass.	In Progress: Scoping Start 12/21/2009
Kern River Fiber Optic Com Line Installation Project from SCE KR3 Powerhouse to KR3 Intake CE Kern River RD	Southern California Edison (SCE) is proposing to install a fiber optic cable (11036) from the KR3 powerhouse to the KR3 intake	Developing Proposal Est. Scoping Start 08/2010

Project Name and Location (Ranger District)	Description	Status
Lake Isabella Dam Safety Assurance Project EIS Kern River RD	Remediation of Lake Isabella Dam to meet federal dam safety standards by the U.S. Army Corp of Engineers (COE). COE is the lead agency for the environmental analysis and the Sequoia NF is a cooperating Agency.	In Progress: NOI in Federal Register 02/05/2010 Est. DEIS NOA in Federal Register 03/2011
OSA Meadow Restoration Project EA Kern River RD	Meadow restoration project proposes to improve aquatic conditions and raise the water table in Osa Meadow.	Developing Proposal Est. Scoping Start 07/2010
SCE Kern River No. 3 (#2290) Road Maintenance and Culvert Installation CE Kern River RD	Proposed by Southern California Edison (SCE) to conduct road grading improvements along portions of seven roads, and replacement/or maintenance of 68 existing culverts, deteriorated, damaged or washed out by rain, creating unsafe driving conditions.	In Progress: Scoping Start 08/12/2009
Toilet Building Installation Project EA Kern River RD	Replace existing portable toilets with new vault toilet buildings and/or install new vaults where no permanent toilet facility currently exists.	In Progress: Scoping Start 01/06/2010 Est. 215 Comment Period Legal Notice 06/2010
Camp 6 Road Repairs CE Tule River RD	Improve Camp 6 Road by correcting areas that are eroding. Work may include out-sloping the road, cleaning the ditches, installing or replacing drainage structures, reconditioning the road surface to its original condition.	In Progress: Scoping Start 11/30/2009
Deer Creek Mill Road Repairs EA Tule River RD	Improve Deer Creek (Forest Road 23S04) road by correcting areas that are eroding.	In Progress: 215 Comment Period Legal Notice 06/30/2010
D+eer Creek Work Center Decommission EA Tule River RD	Decommission & removal of a work center, including 3 buildings, associated structures, system road 23S69 and its ford, disconnect work center from utilities, & condemned employee housing building that is falling apart. Building will not be replaced.	In Progress: Scoping Start 03/29/2010 Est. 215 Comment Period Legal Notice 08/2010
Lower Tule River Canyon Area Improvement Project CE Tule River RD	Reconstruction, maintenance, and obliteration of "user" created trails along a 15 mile stretch of the Lower Tule River Canyon. This project will also include graffiti abatement and interpretative projects such as the installation of signs.	Developing Proposal Est. Scoping Start 07/2010
Lower Tule River Wildlife Guzzler and Wildlife Crossing CE Tule River RD	Proposes to install a wildlife guzzler and wildlife crossing along the Lower Tule River hydropower flume operated and maintained by SCE.	Developing Proposal Est. Scoping Start 08/2010

Project Name and Location (Ranger District)	Description	Status
Key CE – categorical exclusion dbh – diameter breast height DEIS – draft environmental impact statement DFPZ – defensible fuel profile zone EA – environmental assessment EIS – environmental impact statement FSEIS – final supplemental EIS EIS – environmental impact statement FEIS – final environmental impact statement FMZ – fuel management zones FRCC – fire regime condition class IRA – inventoried roadless area LSR – late-successional reserve NFS – national forest trail system NNIS – non-native invasive plants NOA – notice of availability NOI – notice of intent PSW – Pacific Southwest Research Station QLG – Quincy Library Group RD – ranger district (USFS) ROD – record of decision SPLAT – strategically placed area treatment WUI – wildland urban interface		

APPENDIX H

NOTICE OF PREPARATION
California Department of Parks and Recreation, OHMVR Division

STATE OF CALIFORNIA

GOVERNOR'S OFFICE *of* PLANNING AND RESEARCH

STATE CLEARINGHOUSE AND PLANNING UNIT

ARNOLD SCHWARZENEGGER
GOVERNOR

CYNTHIA BRYANT
DIRECTOR

Notice of Preparation

April 24, 2009

To: Reviewing Agencies

Re: Over Snow Vehicle Snow Program Challenge Cost Share Agreements
SCH# 2009042113

Attached for your review and comment is the Notice of Preparation (NOP) for the Over Snow Vehicle Snow Program Challenge Cost Share Agreements draft Environmental Impact Report (EIR).

Responsible agencies must transmit their comments on the scope and content of the NOP, focusing on specific information related to their own statutory responsibility, within 30 days of receipt of the NOP from the Lead Agency. This is a courtesy notice provided by the State Clearinghouse with a reminder for you to comment in a timely manner. We encourage other agencies to also respond to this notice and express their concerns early in the environmental review process.

Please direct your comments to:

Connie Latham
California Department of Parks and Recreation
1725 23rd. Street, Suite 200
Sacramento, CA 95816

with a copy to the State Clearinghouse in the Office of Planning and Research. Please refer to the SCH number noted above in all correspondence concerning this project.

If you have any questions about the environmental document review process, please call the State Clearinghouse at (916) 445-0613.

Sincerely,

for, Scott Morgan
Assistant Deputy Director & Senior Planner, State Clearinghouse

Attachments
cc: Lead Agency

Document Details Report
State Clearinghouse Data Base

SCH# 2009042113
Project Title Over Snow Vehicle Snow Program Challenge Cost Share Agreements
Lead Agency Parks and Recreation, Department of

Type NOP Notice of Preparation

Description Snow plowing, snow grooming, and maintenance of eleven national forests.

Lead Agency Contact

Name Connie Latham
Agency California Department of Parks and Recreation
Phone (916) 342-4442 **Fax**
email
Address 1725 23rd. Street, Suite 200
City Sacramento **State** CA **Zip** 95816

Project Location

County El Dorado, Inyo, Lassen, Modoc, Plumas, Shasta, Trinity, ...
City
Region
Cross Streets
Lat / Long
Parcel No.
Township **Range** **Section** **Base**

Proximity to:

Highways
Airports
Railways
Waterways
Schools
Land Use

Project Issues

Reviewing Agencies Cal Fire; California Highway Patrol; Department of Conservation; Department of Water Resources; Department of Fish and Game, Headquarters; Office of Historic Preservation; Office of Emergency Services; Native American Heritage Commission; Caltrans, Division of Transportation Planning; Tahoe Regional Planning Agency; State Water Resources Control Board, Division of Water Quality; Resources Agency; Regional Water Quality Control Bd., Region 6 (So Lake Tahoe); Regional Water Quality Control Bd., Region 6 (Victorville)

Date Received 04/24/2009 **Start of Review** 04/24/2009 **End of Review** 05/26/2009

Note: Blanks in data fields result from insufficient information provided by lead agency.

NOP Distribution List

County: Modoc, Shasta, Trinity, Siskiyou SCH#

Resources Agency

- [■] **Resources Agency**
  Nadell Gayou
- [ ] **Dept. of Boating & Waterways**
  Mike Sotelo
- [ ] **California Coastal Commission**
  Elizabeth A. Fuchs
- [ ] **Colorado River Board**
  Gerald R. Zimmerman
- [ ] **Dept. of Conservation**
  Rebecca Salazar
- [ ] **California Energy Commission**
  Dale Edwards
- [ ] **Cal Fire**
  Allen Robertson
- [ ] **Office of Historic Preservation**
  Wayne Donaldson
- [ ] **Dept of Parks & Recreation**
  Environmental Stewardship Section
- [ ] **Central Valley Flood Protection Board**
  Jon Yego
- [ ] **S.F. Bay Conservation & Dev't. Comm.**
  Steve McAdam
- [ ] **Dept. of Water Resources**
  Resources Agency
  Nadell Gayou
- [ ] _____
  Conservancy

Fish and Game

- [ ] **Depart. of Fish & Game**
  Scott Flint
  Environmental Services Division
- [ ] **Fish & Game Region 1**
  Donald Koch
- [ ] **Fish & Game Region 1E**
  Laurie Harnsberger
- [ ] **Fish & Game Region 2**
  Jeff Drongesen
- [ ] **Fish & Game Region 3**
  Robert Floerke
- [ ] **Fish & Game Region 4**
  Julie Vance
- [ ] **Fish & Game Region 5**
  Don Chadwick
  Habitat Conservation Program
- [ ] **Fish & Game Region 6**
  Gabrina Gatchel
  Habitat Conservation Program
- [ ] **Fish & Game Region 6 I/M**
  Gabrina Getchel
  Inyo/Mono, Habitat Conservation Program
- [ ] **Dept. of Fish & Game M**
  George Isaac
  Marine Region

Other Departments

- [ ] **Food & Agriculture**
  Steve Shaffer
  Dept. of Food and Agriculture
- [ ] **Depart. of General Services**
  Public School Construction
- [ ] **Dept. of General Services**
  Anna Garbeff
  Environmental Services Section
- [ ] **Dept. of Public Health**
  Bridgette Binning
  Dept. of Health/Drinking Water

Independent Commissions,Boards

- [ ] **Delta Protection Commission**
  Linda Flack
- [ ] **Office of Emergency Services**
  Dennis Castrillo
- [ ] **Governor's Office of Planning & Research**
  State Clearinghouse
- [■] **Native American Heritage Comm.**
  Debbie Treadway
- [ ] **Public Utilities Commission**
  Leo Wong
- [ ] **Santa Monica Bay Restoration**
  Guangyu Wang
- [ ] **State Lands Commission**
  Marina Brand
- [ ] **Tahoe Regional Planning Agency (TRPA)**
  Cherry Jacques

Business, Trans & Housing

- [ ] **Caltrans - Division of Aeronautics**
  Sandy Hesnard
- [ ] **Caltrans - Planning**
  Terri Pencovic
- [ ] **California Highway Patrol**
  Scott Loetscher
  Office of Special Projects
- [ ] **Housing & Community Development**
  CEQA Coordinator
  Housing Policy Division

Dept. of Transportation

- [ ] **Caltrans, District 1**
  Rex Jackman
- [ ] **Caltrans, District 2**
  Marcelino Gonzalez
- [ ] **Caltrans, District 3**
  Bruce de Terra
- [ ] **Caltrans, District 4**
  Lisa Carboni
- [ ] **Caltrans, District 5**
  David Murray
- [ ] **Caltrans, District 6**
  Michael Navarro
- [ ] **Caltrans, District 7**
  Elmer Alvarez
- [ ] **Caltrans, District 8**
  Dan Kopulsky
- [ ] **Caltrans, District 9**
  Gayle Rosander
- [ ] **Caltrans, District 10**
  Tom Dumas
- [ ] **Caltrans, District 11**
  Jacob Armstrong
- [ ] **Caltrans, District 12**
  Chris Herre

Cal EPA

Air Resources Board

- [ ] Airport Projects
  Jim Lerner
- [ ] Transportation Projects
  Douglas Ito
- [ ] Industrial Projects
  Mike Tollstrup
- [ ] **California Integrated Waste Management Board**
  Sue O'Leary
- [ ] **State Water Resources Control Board**
  Regional Programs Unit
  Division of Financial Assistance
- [ ] **State Water Resources Control Board**
  Student Intern, 401 Water Quality Certification Unit
  Division of Water Quality
- [ ] **State Water Resouces Control Board**
  Steven Herrera
  Division of Water Rights
- [ ] **Dept. of Toxic Substances Control**
  CEQA Tracking Center
- [ ] **Department of Pesticide Regulation**
  CEQA Coordinator

Regional Water Quality Control Board (RWQCB)

- [ ] **RWQCB 1**
  Cathleen Hudson
  North Coast Region (1)
- [ ] **RWQCB 2**
  Environmental Document Coordinator
  San Francisco Bay Region (2)
- [ ] **RWQCB 3**
  Central Coast Region (3)
- [ ] **RWQCB 4**
  Teresa Rodgers
  Los Angeles Region (4)
- [ ] **RWQCB 5S**
  Central Valley Region (5)
  - [ ] **RWQCB 5F**
    Central Valley Region (5)
    Fresno Branch Office
  - [ ] **RWQCB 5R**
    Central Valley Region (5)
    Redding Branch Office
- [ ] **RWQCB 6**
  Lahontan Region (6)
  - [ ] **RWQCB 6V**
    Lahontan Region (6)
    Victorville Branch Office
- [ ] **RWQCB 7**
  Colorado River Basin Region (7)
- [ ] **RWQCB 8**
  Santa Ana Region (8)
- [ ] **RWQCB 9**
  San Diego Region (9)

- [ ] **Other** _____

Last Updated on 03/24/2009

Form A

Notice of Completion & Environmental Document Transmittal

SCH # 2009042113

Mail to: State Clearinghouse, PO Box 3044, Sacramento, CA 95812-3044 916/445-0613

Project Title: Over Snow Vehicle Snow Program Challenge Cost Share Agreements

Lead Agency: CA Department of Parks and Recreation - OHMVR Division Contact Person: Connie Latham

Street Address: 1725 23rd Street, Suite 200 Phone: 916-324-4442

City: Sacramento Zip: 95816 County: Sacramento

Project Location:

County: Various City/Nearest Community: Various - 11 National Forests

Cross Streets: Zip Code: Total Acres:

Assessor's Parcel No. Section: Twp. Range: Base:

Within 2 Miles: State Hwy #: Waterways:

Airports: Railways: Schools:

Document Type:

CEQA: ☒ NOP ☐ Supplement/Subsequent EIR (Prior SCH No.) ☐ Early Cons ☐ Neg Dec ☐ Other ☐ Draft EIR

NEPA: ☐ NOI ☐ EA ☐ Draft EIS ☐ FONSI

Other: ☐ Joint Document ☐ Final Document ☐ Other

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STATE CLEARING HOUSE

Local Action Type:

☐ General Plan Update ☐ Specific Plan ☐ Rezone ☐ Annexation
☐ General Plan Amendment ☐ Master Plan ☐ Prezone ☐ Redevelopment
☐ General Plan Element ☐ Planned Unit Development ☐ Use Permit ☐ Coastal Permit
☐ Community Plan ☐ Site Plan ☐ Land Division (Subdivision, etc.) ☐ Other

Development Type:

☐ Residential: *Units* *Acres*
☐ Office: *Sq.ft.* *Acres* *Employees*
☐ Commercial: *Sq.ft.* *Acres* *Employees*
☐ Industrial: *Sq.ft.* *Acres* *Employees*
☐ Educational
☐ Recreational

☐ Water Facilities: *Type* *MGD*
☐ Transportation: *Type*
☐ Mining: *Mineral*
☐ Power: *Type* *Watts*
☐ Waste Treatment: *Type*
☐ Hazardous Waste: *Type*
☐ Other:

Funding (approx.): Federal $ State $ Total $

Project Issues Discussed in Document:

☐ Aesthetic/Visual ☐ Flood Plain/Flooding ☐ Schools/Universities ☐ Water Quality
☐ Agricultural Land ☐ Forest Land/Fire Hazard ☐ Septic Systems ☐ Water Supply/Groundwater
☐ Air Quality ☐ Geologic/Seismic ☐ Sewer Capacity ☐ Wetland/Riparian
☐ Archeological/Historical ☐ Minerals ☐ Soil Erosion/Compaction/Grading ☐ Wildlife
☐ Coastal Zone ☐ Noise ☐ Solid Waste ☐ Growth Inducing
☐ Drainage/Absorption ☐ Population/Housing Balance ☐ Toxic/Hazardous ☐ Landuse
☐ Economic/Jobs ☐ Public Services/Facilities ☐ Traffic/Circulation ☐ Cumulative Effects
☐ Fiscal ☐ Recreation/Parks ☐ Vegetation ☐ Other

Present Land Use/Zoning/General Plan Designation:

Project Description:

Snow plowing, snow grooming, and maintenance in eleven national forests.

Revised 3-31-99

Reviewing Agencies Checklist

Form A, continued

KEY
S = Document sent by lead agency
X = Document sent by SCH
✓ = Suggested distribution

_____ **Resources Agency**
_____ Boating & Waterways
_____ Coastal Commission
_____ Coastal Conservancy
_____ Colorado River Board
_____ Conservation
_____ Fish & Game
_____ Forestry & Fire Protection
_____ Office of Historic Preservation
_____ Parks & Recreation
_____ Reclamation Board
_____ S.F. Bay Conservation & Development Commission
_____ Water Resources (DWR)

Business, Transportation & Housing
_____ Aeronautics
_____ California Highway Patrol
_____ CALTRANS District #_____
_____ Department of Transportation Planning (headquarters)
_____ Housing & Community Development

_____ **Food & Agriculture**

Health & Welfare
_____ Health Services _____

State & Consumer Services
_____ General Services
_____ OLA (Schools)

Environmental Protection Agency
_____ Air Resources Board
_____ California Waste Management Board
_____ SWRCB: Clean Water Grants
_____ SWRCB: Delta Unit
_____ SWRCB: Water Quality
_____ SWRCB: Water Rights
_____ Regional WQCB #_____ (_____)

Youth & Adult Corrections
_____ Corrections

Independent Commissions & Offices
_____ Energy Commission
_____ Native American Heritage Commission
_____ Public Utilities Commission
_____ Santa Monica Mountains Conservancy
_____ State Lands Commission
_____ Tahoe Regional Planning Agency

_____ Other _____

Public Review Period (to be filled in by lead agency)

Starting Date April 24, 2009 Ending Date May 25, 2009

Signature Connie J. Sullivan Date 4/24/09

Lead Agency (Complete if applicable):
Consulting Firm: _____
Address: _____
City/State/Zip: _____
Contact: _____
Phone: (_____) _____

Applicant: _____
Address: _____
City/State/Zip: _____
Phone: (_____) _____

For SCH Use Only:
Date Received at SCH _____
Date Review Starts _____
Date to Agencies _____
Date to SCH _____
Clearance Date _____
Notes:

NOTICE OF PREPARATION

To: **State Clearinghouse**
Responsible Agencies
Trustee Agencies
County Clerks
Interested individuals and organizations
Federal Agencies

Subject: Notice of Preparation (NOP) of the Over Snow Vehicle Snow Program Challenge Cost Share Agreements Environmental Impact Report (EIR)

The California Department of Parks and Recreation, Off-Highway Motor Vehicle Recreation (OHMVR) Division, 1725 23rd Street, Suite 200, Sacramento, CA 95816, will be the Lead Agency for the Over Snow Vehicle Snow Program Challenge Cost Share Agreements EIR. The purpose of this NOP is to invite comment on the scope and content of the environmental review which is germane to the proposed Project.

Pursuant to California Environmental Quality Act (CEQA) Guidelines §15082 (b), you have 30 days from the date of receipt of this NOP to respond. **Responses must be received by May 25, 2009.** Please send your responses to Ms. Connie Latham, Project Manager at the address shown above or to *clatham@.parks.ca.gov.* Agency responses should include the name of a contact person at the agency.

EIR scoping meetings will be held by the OHMVR Division on the dates listed at the following locations:

May 18, 2009 (Monday) 6-8:00 pm
Redding California
Shasta Trinity National Forest Supervisors Office – **Large Conference Room**
3644 Avtech Parkway
Redding, Ca 96002

May 19, 2009 (Tuesday) 6-8:00 pm
South Lake Tahoe California
Lake Tahoe Community College- **Aspen Room**
1 College Drive
South Lake Tahoe, Ca 96150

May 20, 2009 (Wednesday) 6-8:00 pm
Fresno California
Mariposa Mall – **Auditorium**
2550 Mariposa Mall
Fresno, Ca 93721

***Project Title*:** Over Snow Vehicle Snow Program Challenge Cost Share Agreements

***Project Applicant*:** California Department of Parks and Recreation

Project Location: Eleven National Forests in California: Eldorado, Inyo, Klamath, Lassen, Modoc, Plumas, Sequoia, Shasta-Trinity, Sierra, Stanislaus, and Tahoe. See attached project location map.

Project Description:

For the next 10 winter seasons 2009-2010 through 2018-2019, the OHMVR Division Challenge Cost Share Agreements (CCSA) would provide funding to 11 National Forests and 3 County Public Works/Road Departments for the operation, maintenance and grooming of winter recreation trails and trailheads within the Project Area. The proposed Snow Program funding represents a continuation of funding for routine maintenance of winter recreation facilities in the National Forests that has been occurring for many years. Groomed trails are predominately maintained for snowmobile or other over snow vehicle (OSV) use; however, ATV users in limited areas, Nordic skiers, snowshoers, and other recreationists can also use the parking areas and groomed trail systems.

The CCSA funded activities (the Project) occur in National Forests and on county right-of-ways located throughout the mountainous regions of California. The project locations extend from the Oregon border (Klamath and Modoc National Forests) south towards Bakersfield (Sequoia National Forest) as shown in Figure 1 (see attached). The roads and trails are generally located between elevations 5,500 and 7,500 feet. A list of agencies and project locations is presented in Table 1 (see attached). Collectively, these project sites comprise the Project Area.

Snow Plowing. Snow plowing occurs on paved roads and trailhead parking areas accessing the groomed trails. Roads and parking areas are plowed several times during storm events as necessary dependent upon weather conditions. Typical equipment used includes a motor grader or a snowplow blade mounted on a standard dump truck, and a snow blower. In total, the Project involves plowing 72 miles of access road and plowing 28 trailhead parking areas.

Snow Grooming. Groomed trails are designated for winter recreation and OSV use by the Forest Plans governing the National Forests. All snow groomed trails are existing dirt or gravel trails or paved roads. These trails are used in the summer for OHV and non-motorized recreation. All project trails have been used annually for winter recreation for many years. Trails are typically groomed using a snowcat (Pisten Bully, Bombardier, or Tucker Sno-Cat) with a blade and tiller attachments. Trail grooming is done in accordance with 1997 Snowmobile Trail Grooming Standards set by the OHMVR Division. The grooming season generally begins in December and continues through mid-March. Start and stop times vary per trail location dependent upon snow presence. Grooming starts in most locations with minimum snow depth of 12 inches. In total, the Project involves grooming 1,721 miles of trail.

Maintenance. The Snow Program provides funds for the servicing of trailhead restrooms, garbage collection, and sign maintenance and replacement. Pre-season trail maintenance involves removal of obstructions along trails such as down trees before first snow.

Environmental Review:

In accordance with the requirements of CEQA, the OHMVR Division has determined that an Environmental Impact Report (EIR) for the proposed Project should be prepared. Potential adverse impacts relate to air quality, biology, geology, hydrology, noise, and recreation. Further refinement of the scope of the technical issues to be addressed will occur during the CEQA process, including input received in response to this NOP.

Signature: _____ Date: _____

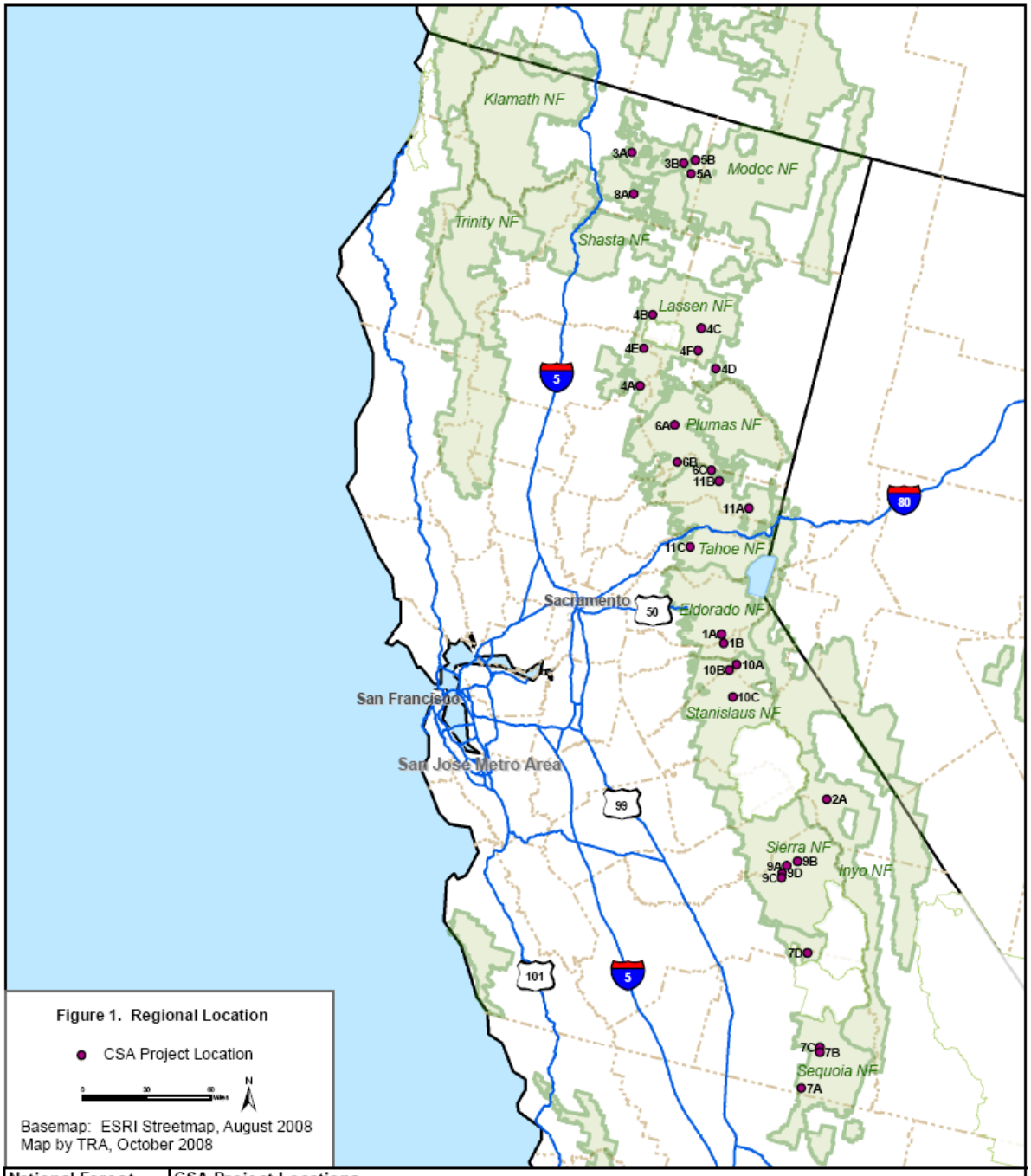
Title: _____

Table 1. Location and Description of CCSA Snow Program Activity

CCSA Recipient	Project Location	Snow Program Facility Funded	Description Of CCSA-Funded Activity
Butte County Public Works	Butte County Access from SRs 32 and 89 near Jonesville	Lassen NF: Jonesville snowmobile area Plumas NF: Oroville Quincy Highway	Groom 67 miles of trail, plow 7 miles of access road and 1 trailhead parking (Lassen NF). Plow 10 miles of access road and 1 trailhead parking (Plumas NF).
Eldorado NF Amador Ranger District	El Dorado County Access from Pioneer 18 miles east of Jackson on SR 88	Silver Bear trail system and Iron Mountain trailhead	Groom 80 miles of trail, plow 1 trailhead, and service 3 restrooms.
Inyo NF Mammoth and Mono Ranger Districts	Mono County Access from Hwy 395; SR 203 near Mammoth Lakes; and SR 158 near June Lake	Mammoth/June Lake trail system, Shady Rest trailhead	Groom 100 miles of trail and roads, plow 1 trailhead, service 4 restrooms, and refuse collection.
Klamath NF Goosenest Ranger District	Siskiyou County Access from Hwy 97 near Tennant and SR 139 near Tionesta	Deer Mountain and Four Corners trail system	Groom 135 miles of trail, plow 18 miles of road, plow 1 trailhead, trail maintenance, facility maintenance, refuse collection, restroom service.
Lassen NF	Lassen, Shasta, Plumas, and Tehama Counties Access from SRs 89, 44, 36 in Lake Almanor region	Ashpan, Bogard, Fredonyer, Morgan Summit, and Swain Mountain snowmobile areas	Groom 332 miles of trail and roads, plow 5 trailheads, service 6 restrooms and refuse collection.
Modoc NF Doublehead Ranger District	Siskiyou County Access from SR 49 via SR 139 near Tulelake	Medicine Lake trail system and Doorknob trailhead	Groom 52 miles of trail and roads, plow 13 miles of road, plow 1 trailhead, service 2 restrooms, and refuse collection.
Plumas County Road Department	Plumas County Access from SRs 89/70 near Quincy and near Graeagle	Plumas NF: Big Creek, Bucks Lake, and Gold Lake Roads	Plow 11 miles of road and 3 trailheads.
Plumas NF Mt. Hough and Feather River Ranger Districts	Plumas and Sierra Counties Access from SRs 89/70 near Quincy and Graeagle	Bucks Lake, La Porte, and Gold Lake trail systems	Groom 182 miles of trail, signing along trails, maintenance of 5 trailside warming huts and 3 trailheads, one with restrooms and warming hut, and two with restrooms.

Table 1. Location and Description of CCSA Snow Program Activity			
CCSA Recipient	**Project Location**	**Snow Program Facility Funded**	**Description Of CCSA-Funded Activity**
Sequoia NF Giant Sequoia Nat'l Monument Hume Lake, Tule River/Hot Springs and Greenhorn Ranger Districts	Fresno County Access from SRs 180 and 198 (Big Meadow/ Quail Flat) Tulare County Access from SR 155 (Eastside OSV/Holby) and from SR 190, 28 miles past Springville (Westside OSV/Sugarloaf)	Westside OSV/Sugarloaf, Eastside OSV/Holby, Quaking Aspen, Big Meadow/Quail Flat trail systems	Groom 157 miles of trails, plow 4 trailheads, service 3 restrooms, and maintain 3 warming huts.
Shasta-Trinity NF Shasta-McCloud Management Unit	Siskiyou County Access from SR 89 near McCloud	Pilgrim Creek trailhead and trail system	Groom 89 miles of trails and roads, plow 1 trailhead, service 1 restroom and refuse collection.
Sierra County Public Works and Transportation	Sierra County Access from SR 89 south of Sierraville and SR 49 west of Sierraville	Tahoe NF: Little Truckee Summit and Bassetts trail systems	Groom 197 miles of trails, plow 13 miles of road, plow 2 trailheads, and restroom service.
Sierra NF High Sierra Ranger District	Fresno County Access from SR 168 near Lakeshore	Huntington Lake, Kaiser Pass, and Tamarack Ridge/Red Mountain trail systems and trailheads	Groom 209 miles of trails, plow 3 trailheads, and service 4 restrooms.
Stanislaus NF Calaveras and Summit Ranger Districts	Alpine County Access from SR 4 near Bear Valley Tuolumne County Access from SR 108 near Dardanelle and Strawberry	Lake Alpine, Spicer Reservoir, and Hwy 108 trailheads and trail systems	Groom 71 miles of trails and roads, plow 3 trailheads, service 3 restrooms and refuse collection.
Tahoe NF American River Ranger District	Placer County Access from Foresthill Divide Road 12 miles northwest of I-80 near Auburn	China Wall trail system	Groom 50 miles of trails and roads, plow 1 trailhead, service 1 restroom and refuse collection.

Figure 1 – Regional Location Map



National Forest	CSA Project Locations
1. Eldorado NF	Silver Bear (**1A**), Iron Mtn (**1B**)
2. Inyo NF	Mammoth/June Lake (**2A**)
3. Klamath NF	Deer Mountain (**3A**), Four Corners (3B)
4. Lassen NF	Jonesville (**4A**), Ashpan (**4B**), Bogard (**4C**), Fredonyer (**4D**), Morgan Summit (**4E**), Swain Mountain (**4F**)
5. Modoc NF	Medicine Lake (**5A**), Doorknob (**5B**)
6. Plumas NF	Bucks Lake (**6A**), La Porte (**6B**), Gold Lake (**6C**)
7. Sequioa NF	Westside OSV/Sugarloaf (**7A**), Eastside OSV/Holby (**7B**), Quaking Aspen (**7C**), Big Meadow /Quail Flat (**7D**)
8. Shasta-Trinity NF	Pilgrim Creek (**8A**)
9. Sierra NF	Huntington Lake (**9A**), Kaiser Road Pass (**9B**), Tamarack Ridge (**9C**), Coyote (**9D**)
10. Stanislaus NF	Lake Alpine (**10A**), Spicer (**10B**) and SR 108 (**10C**)
11. Tahoe NF	Little Truckee (**11A**), Bassetts (**11B**), China Wall (**11C**)

OSV Program EIR
Notice of Preparation Distribution List

U.S. Forest Service
Eldorado National Forest
Eldorado NF Patrol District
Inyo National Forest
Klamath National Forest
Klamath/ Modoc NF Patrol District
Lassen National Forest
Lassen/ Plumas NF Patrol District
Modoc National Forest
Plumas National Forest
Sequioa National Forest
Sequoia/ Sierra NF Patrol District
Shasta-Trinity NF Patrol District
Sierra National Forest
Six Rivers National Forest
Stanislaus National Forest
Lake Tahoe Basin
Tahoe National Forest
R5 Regional Office

Other Contacts
Winter Recreation Committee
California-Nevada Snowmobile Association
Sierra Snowmobile Club
OHMVR Division Commissioners
Snowlands Network
Center for Biological Diversity
American Motorcycle Association District 36

County Clerk Offices
Siskiyou County
Modoc County
Shasta County
Lassen County
Tehama County
Butte County
Plumas County
Yuba County
Sierra County
Nevada County
Placer County
El Dorado County
Amador County
Mono County
Mariposa County
Madera County
Fresno County
Alpine County
Amador County
Calaveras County
Tuolumne County
Tulare County
Kern County

Douglas Bibb, President
Sierra Snowmobile Club
Sierra National Forest

Subject: Over Snow Vehicle Snow Program Challenge Cost Share Agreements

Dear Ms. Latham:

The Sierra Snowmobile Club (SSC) is in support of extending the Challenge Cost Agreements (CCSA) for all eleven National Forests. The SSC has been working with the Forest Service since the beginning of the Sierra National Forest grooming program.

Our club has worked very closely in every aspect of the Sierra National Forest grooming plan. We helped lay out the trail system and build five log stringer bridges over major creek crossings. All work for the bridges was was done with volunteer labor and equipment. Over the years our club volunteers have operated and helped maintain the state grooming machines. We also patrol and maintain trails throughout the riding season and summer months.

Partnering with the Forest Service, our club has shown what can be done by working together for a common goal. This is why we hope the EIR will not only show the minimum impact of Over Snow Vehicles on the environment but show the economic, recreational and safety benefits OSV programs provide to the National Forests.

Please email or call if more information is needed. Thank you.

Sincerely,

Douglas Bibb
President, Sierra Snowmobile Club