
Over Snow Vehicle Program Final Environmental Impact Report Program Years 2010 – 2020

State Clearinghouse # 2009042113



December 2010



State of California
Department of Parks and Recreation
Off-Highway Motor Vehicle Recreation (OHMVR) Division

Over Snow Vehicle Program
Final Environmental Impact Report
Program Years 2010 – 2020

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Prepared for:

State of California, Department of Parks and Recreation
Off-Highway Motor Vehicle Recreation (OHMVR) Division
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INTRODUCTION

This document, together with the Draft EIR, comprises the Final EIR for the Over Snow Vehicle (OSV) Program. This document is prepared as an informational document for action by the California Department of Parks and Recreation (CDPR) Off-Highway Motor Vehicle Recreation (OHMVR) Division on the funding of the OSV Program for Program Years 2010 – 2020.

Per CEQA Guidelines Section 15132, the Final EIR shall consist of:

- a) The Draft EIR for a revision of the draft.
- b) Comments and recommendations received on the draft EIR either verbatim or in summary.
- c) A list of persons, organizations, and public agencies commenting on the Draft EIR.
- d) The responses of the Lead Agency to significant environmental points raised in the review and consultation process.
- e) Any other information added by the Lead Agency.

The Final EIR for the Over Snow Vehicle Program, Program Years 2010 – 2020, has the following organization:

Draft EIR (bound as a separate document)

Final EIR (sections bound with this document)

1.0 Public Comments on Draft EIR. This section contains copies of the comment letters and email communications received on the Draft EIR during the public review period from October 7 to November 21, 2010, as well as a summary of the oral comments made during the OHMVR Division public meeting on October 27, 2010. The comment letters have been individually numbered. A list of those who commented is provided at the front of the section.

2.0 Responses to Comments. This section provides a written response by the OHMVR Division as Lead Agency to each substantive comment raising an environmental issue submitted on the Draft EIR.

3.0 Text Amendments to the Draft EIR. In response to comments, some changes have been made to the EIR text. The changes correct inaccuracies and clarify the analysis in the Draft EIR. Where text in the Draft EIR has been deleted, the text is marked with ~~strike-out~~. Underlined text represents new text added to the Draft EIR.

Attachments. Additional information on sno-parks is presented in Attachment A. Annual OSV registration data is presented in Attachment B.

1.0 PUBLIC COMMENT ON DRAFT EIR

COMMENT LETTERS

(Received during public review period from October 7 to November 22, 2010)

Public Agencies

1. Lassen National Forest

Organizations

2. Center for Biological Diversity
3. Recreation Outdoors Coalition
4. Snowlands Network

Individuals

5. Elizabeth Norton
6. Byron Baker
7. Michael Evans
8. Paul Juhnke
9. Bill Harbaugh
10. Steve Moulis
11. Steve Rounds
12. Jeff Erdoes

ORAL COMMENTS

(Received at the OHMVR Division Meeting, October 27, 2010)

13. Patrick Lietske, Lassen National Forest, Wildlife Biologist
14. Byron Baker, Sierra Buttes SnowBusters, Volunteer Groomer



Arnold Schwarzenegger
Governor

STATE OF CALIFORNIA
Governor's Office of Planning and Research
State Clearinghouse and Planning Unit



Cathleen Cox
Acting Director

November 23, 2010

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

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

Dear Connie Latham:

The State Clearinghouse submitted the above named Draft EIR to selected state agencies for review. The review period closed on November 22, 2010, and no state agencies submitted comments by that date. This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act.

Please call the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process. If you have a question about the above-named project, please refer to the ten-digit State Clearinghouse number when contacting this office.

Sincerely,

A handwritten signature in black ink that reads "Scott Morgan".

Scott Morgan
Director, State Clearinghouse

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

Type EIR Draft EIR

Description OHMVR Division proposes snow program funding in 11 National Forests for the operation, maintenance and grooming of winter recreation trails and trailheads within the Project Area. The groomed trails are predominately maintained for snowmobile or OSV use. The project locations extend from the Oregon border south towards Bakersfield. In total, the Project involves plowing 97 miles of access road, plowing and maintaining 34 trailhead parking areas (garbage collection and restroom cleaning), and grooming ~1,761 miles of trail.

Lead Agency Contact

Name Connie Latham
Agency California Department of Parks and Recreation
Phone 916-324-3558 **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
Lat / Long
Cross Streets
Parcel No.

| Township | Range | Section | Base |
|-----------------|--------------|----------------|-------------|
| | | | |

Proximity to:

Highways
Airports
Railways
Waterways
Schools
Land Use

Project Issues Cumulative Effects; Landuse; Noise; Recreation/Parks; Vegetation; Air Quality; Biological Resources; Forest Land/Fire Hazard; Water Quality; Wetland/Riparian

Reviewing Agencies Resources Agency; Department of Conservation; Department of Fish and Game, Headquarters; Office of Historic Preservation; Department of Water Resources; California Highway Patrol; Caltrans, Division of Transportation Planning; State Water Resources Control Board, Division of Water Quality; Native American Heritage Commission; State Lands Commission; Cal Fire

Date Received 10/07/2010 **Start of Review** 10/07/2010 **End of Review** 11/22/2010

Comment Letter #1: Lassen National Forest

United States
Department of
Agriculture

Forest
Service
Lassen
National
Forest

2550 Riverside Drive
Susanville, CA 96130
(530) 257-2151 Voice
(530) 252-6624 TTY
(530) 252-6428 Fax

File Code: 1580/1920

Date: November 5, 2010

Connie Latham
Project Manager
California State Parks, Off-Highway Motor Vehicle
Recreation Division
PO Box 942896
Sacramento, CA 95816

Dear Ms. Latham:

In reference to the OSV Program Draft Environmental Impact Report (EIR), we are posting two documents at osvprogrameir@parks.ca.gov for your consideration during the public comment period. The first document is composed of excerpts from the EIR document with comments using Track Changes. The second document is a monitoring report titled *Over Snow Vehicle (OSV) Snow Program Monitoring Report per EIR Data Request Related to the OSV Snow Program*, Lassen National Forest. This report was completed with contributing funds from the 2009 Collection Agreement 10-CO-11050650-008.

If you have any questions regarding these two documents, please contact Tom Frolli, Wildlife Program Manager, at (530) 252-6661, or tfrolli@fs.fed.us, or Chris O'Brien, Public Services Officer, at (530) 252-6698, or cobrien@fs.fed.us. Thank you for the opportunity to comment on this important environmental analysis.

Sincerely,

/s/ Jerry Bird
JERRY BIRD
Forest Supervisor

cc: Chris J Obrien



California OHMVR Division 2010 OSV Program Draft EIR Comments

Lassen National Forest
Supervisors Office
2550 Riverside Drive
Susanville, CA 96130

The 2010 OSV Draft EIR evaluates the existing program for a ten year financial commitment (2010-2020) for managing groomed OSV Snow parks and trail systems at 26 locations across 11 National Forests in the State of California. The following comments to the DEIR relate to biological resources on the Lassen National Forest. Excerpts from the DEIR document were copied so that specific comments could be attached.

Page S-1

OSV Program trails are used each year by an estimated 159,000 OSVs bringing upwards of 200,000 visitors to the Project Area. Growth in OSV ownership has occurred at an average annual rate of 4% since 1997. Assuming the same growth rate, project trails may have an annual OSV usage of 235,000 and 300,000 visitors by 2020. To accommodate the increased demand for motorized winter trails, the OHMVR Division anticipates expanding the groomed trail system to include new groomed trail locations, expanded trailhead parking areas, and increased frequency of grooming operations on existing trail systems. Presently, OSV Program equipment operations involve 2,076 snow removal (plowing and/or blowing) hours and 4,948 grooming hours throughout the Project Area. Projected growth by 2020 would increase equipment operations by 700 plowing hours and 1,100 grooming hours.

Comment [LNF 1]: With the predicted increases in OSV users by 2020, it is realistic to expect that the significance of various impacts may change. Therefore, it is important to anticipate increased indirect costs related to required law enforcement, biological monitoring etc. and not just for providing more trails, more trailheads and more grooming. The DEIR takes the approach that new opportunities will be needed in the future, but assumes that costs for handling the indirect consequences will be passed on to the Forest Service.

Table S-1. Summary of Project Impacts and Mitigation Measures LAND USE PLANS AND POLICIES

BIOLOGICAL RESOURCES

IMPACT: Northern spotted owls and northern goshawks occur within or near the Project Area. USFS actively monitors nesting habits and fledgling success. Management actions are currently in place that reduce the potential effects of OSV recreation on northern goshawks and northern spotted owls to a less than significant level. The USFS employs adaptive management. Thus, based upon the results of the Regional Northern Goshawk Focused Study and the Northern Spotted Owl Focused Study, biologists may revise the USFS Management Actions.

Less than Significant Impact

Measure BIO-1: USFS shall incorporate the results of the northern goshawk and northern spotted owl studies into management actions and report these actions to the OHMVR Division for incorporation into the OSV Program as soon as revised USFS management actions are formulated.

Less than Significant Impact After Mitigation.

Comment [LNF 2]: The results of the Regional commissioned focus studies have not been released at this date, therefore it is premature to assume that these Focused Studies have detected no relationship between OSV recreation and Spotted owl and Northern goshawk reproductive behavior.

Comment [LNF 3]: The type of monitoring required to detect changes in northern goshawk and spotted owl reproductive behavior (disturbance avoidance) may require supplemental monitoring and GIS analysis in order to mitigate any potential impact. This type of monitoring is not part of typical USFS wildlife or recreation budget, and is not covered by regular funding provided by OHMVR Division.

IMPACT: California wolverine is not known to be present near OSV sites. If present, disturbance caused by OSV activities may adversely affect California wolverine natal denning behaviors.

Potentially Significant Impact

Measure BIO-2: USFS shall continue to work with the Pacific Southwest Research Station and other partners to monitor for presence of California wolverine. If there are verified wolverine sightings, USFS shall conduct an analysis to determine if OSV use within 5 miles of the detection have a potential to affect wolverine and, if necessary, a LOP from January 1 to June 30 will be implemented to avoid adverse impacts to potential breeding.

Less than Significant Impact After Mitigation.

Comment [LNF 4]: A systematic monitoring program for wolverine, as it relates to OSV is not in place. Only one wolverine has been detected in recent history within the State of California. We disagree that this one detection would lead to a potentially significant impact.

IMPACT: Disturbance caused by OSV activities may adversely affect Sierra Nevada red fox breeding behaviors, home range use, and/or establish trailhead scavenging and begging behaviors.

Potentially Significant Impact

Measure BIO-3: Educational materials shall be provided on red fox and the importance of minimizing direct contact with red foxes at each trailhead. USFS shall provide the results of Sierra Nevada red fox inventory and monitoring currently being performed by wildlife biologists from the Forest Service, CDFG, and the University of California, Davis, to the OHMVR Division. USFS shall work with CDFG, the University of California, Davis, OHMVR, and other partners to continue inventory and monitoring in the Sierra Nevada, including the Project Area where the red fox is most likely to occur (e.g., Lassen, Plumas, Tahoe, Eldorado, Stanislaus, Sierra, Inyo, and Sequoia National Forests). For those portions of the Project Area where presence is confirmed, USFS shall conduct an analysis to determine if OSV use within 5 miles of the detection have a potential to affect Sierra Nevada red fox and, if necessary, a LOP from January 1 to June 30 will be implemented to avoid adverse impacts to potential breeding. The USFS will evaluate activities for a 2-year period for detections not associated with a den site. In addition, if monitoring or other scientific information shows disturbance of Sierra Nevada red fox behaviors within the Project Area, the USFS shall implement suitable management actions to reduce any adverse impacts to a less than significant level. These management actions may include signage, barriers, LOPs, limits on night riding, trail closures, or reroutes of selected portions of OSV trails.

Less than Significant Impact After Mitigation.

Comment [LNF 5]: Sentence reads awkwardly. Suggested alteration: Educational materials shall be provided at each trailhead concerning red fox, and the importance of minimizing contact with this species.

Comment [LNF 6]: The conservation assessment (Perrin et al 2010) for this species and should be incorporated by reference. A systematic monitoring strategy has not been implemented on the Lassen NF relating to the OSV program and potential affects from OSV related disturbance.

IMPACT: OSV off-trail riding in low snow conditions could adversely impact individuals and/or populations of CRPR-listed 1B and 2 plant species and FSS plant species.

Potentially Significant Impact

IMPACT: If inventories and subsequent monitoring show that OSV use is damaging CNPS or FSS populations, the OSV Program would conflict with forest-wide LRMP biodiversity S&Gs in several national forests which require maintenance of viable populations of native plant species or sensitive plant species (Appendix D, Table 1).

Potentially Significant Impact

Comment [LNF 7]: Personal observations of OSV activity on Lassen NF demonstrated that OSV users continued using groomed routes and trailheads into May (2009) regardless of extremely low snow conditions at that date.

Comment [LNF 8]: It would be interesting to hear a LNF hydrologist's opinions concerning whether LNF's lack of a minimal snow level has consequences for soil compaction/ disturbance.

Measure BIO-4: The USFS will do one of the following: (1) Only permit OSV use on the groomed trail system and adjacent concentrated-use riding areas when there is sufficient snow cover (minimum snow depth of 12 inches) to protect soil and vegetation; (2) Inventory the groomed trail system and adjacent concentrated-use riding areas for all CRPR 1B, CRPR 2, and FSS plant species not already monitored by USFS (Table 5-6) for OSV impacts. Surveys shall focus on locations that are chronically exposed to OSV use and where plants listed in Table 5-6 have a potential for occurrence and exposure to OSV impacts. The USFS shall conduct public outreach with educational materials until resource surveys are complete. Educational materials shall include information that discourages OSV travel over bare ground, exposed vegetation, and snow less than 12 inches deep, including a description of the special-status plant species potentially affected and the adverse effects on those species. The species previously assessed and not included in this Mitigation Measure include Kern Plateau milk-vetch, Hall's daisy, Kern River daisy, and Kern Plateau horkelia, Mono milk-vetch, Mono Lake lupine, slender Orcutt grass, Barron's

buckwheat, and Columbia yellow cress. Follow-up monitoring shall be conducted for those species where presence is confirmed to ensure any protective measures needed to address OSV impacts are identified, implemented, and effective. Protective measures that shall be implemented when needed to avoid damage to special-status plants from OSVs include trail reroutes, barriers, seasonal closures, signage, and/or public education; or (3) Annually monitor the groomed trail system and adjacent concentrated-use riding areas where plants listed in Table 5-6 have a potential for occurrence. Monitoring shall focus on locations that are chronically exposed to OSV use and where plants listed in Table 5-6 have a potential for occurrence and exposure to OSV impacts. If this monitoring reveals impacts, USFS shall implement protective measures (e.g., temporary fencing, barriers, seasonal closures, signage, trail re-routes, public education, etc.) to restrict access and prevent further damage to these plants and engage in public education. Follow-up monitoring shall be conducted to ensure that protective measures are implemented and effective.

Less than Significant Impact After Mitigation.

IMPACT: Chronic disturbance caused by OSVs riding during low-snow conditions over wetlands, riparian areas, streams, and lake ice can adversely affect aquatic communities.

Potentially Significant Impact

Measure BIO-5: USFS shall annually monitor aquatic resources in the Project Area near the groomed trail system for damage by OSV use during low-snow conditions. If these assessments reveal impacts, USFS shall implement protective measures (e.g. fencing, signage, trail reroutes, etc.) to restrict access and prevent further resource damage and engage in public education.

Less than Significant Impact After Mitigation.

Comment [LNF 9]: General Comment 1 (all Mitigation Measures)
 There needs to be a discussion between OHMVR personnel and USFS personnel concerning what portion of the required mitigation is met by current USFS work plans. Work which is extraneous to those work plans (biological monitoring, recreation protective measures, law enforcement, public education) needs to be clarified. The language in the mitigation measures currently implies that required biological monitoring activities are covered by existing monitoring efforts already in the work plans.

Comment [LNF 10]: General Comment 2 (all Mitigation Measures)
 There is language in several of the measures (Measures 3, 4 and 5, see highlighted sections) which would, obligate or potentially obligate, the Forest Service to complete intensive, OSV Program-specific monitoring projects as part of the proposed mitigation measures. There is no discussion about how these monitoring efforts would be funded.

Comment [LNF 11]: This amounts to an average of \$45,489 per forest. How much of this funding is allocated to resource monitoring? After equipment purchases and maintenance are subtracted from distributed grant funds, support to monitoring appears to be very low.

LNF Perspective
 In 2010, Lassen NF received approx. \$7000 to conduct Forest-wide analysis and monitoring of Spotted owl and Northern goshawk PACs. Lassen NF also spent internal funds in conducting this monitoring. Lassen NF did not have funds allocated to conduct other monitoring mentioned in the 5 Biological Mitigation Measures (pgs S2 to S5)

2.9 OSV PROGRAM ADMINISTRATION (pg 2-28 in DEIR)

2.9.1 OSV Program Funding

OSV Program activities are funded by the OHV Trust Fund and dispersed through one of two funding mechanisms. Annual funding of OSV Program operation and maintenance activities primarily occurs through the 2002 BCP which secured OSV Program funding from the OHV Trust Fund. The BCP allows for up to \$1,000,000 to support grooming, plowing, and facility maintenance operations. The total amount encumbered each year varies somewhat based on anticipated fuel and labor costs and length of the snow season. The OSV Program has consistently provided roughly \$900,000 annually over the past six years (2004 through 2010). Provided funds which have not been spent at the end of the contract period revert back to the OHV Trust Fund. Currently, 11 national forests and three county agencies as shown in Table 2-11 receive funding through the BCP for grooming, plowing, and facility maintenance services described above in Section 2.4.

The second funding mechanism for OSV Program related activity is the Grants Program. Whereas the BCP strictly funds grooming, plowing, and facility maintenance activities, the Grants Program funds can be used to fund supplemental OSV activities not allowed under the BCP such as purchase and maintenance of equipment and administrative support services described in Section 2.4.4. Historically, the Grants Program has not funded OSV Program related activities since the BCP was established. However, in 2010, five national forests were granted one-time funds totaling \$227,445 for equipment purchases and supplemental staffing for cleaning maintenance, visitor contacts, and/or resource monitoring as shown in Table 2-11. Typical funding levels expected over the 10-year program period may increase reflective of

program growth levels described in Section 2.7 above. Such increases would be subject to availability of OHV Trust Funds. The OHV Trust Fund has a fluctuating revenue source (OHV registration fees, gas tax, and State Vehicular Recreation Area fees) and supports other OHV related programs in addition to the OSV Program.

2.9.2 OSV Program Administration (pg 2-29 in DEIR)

Under the proposed 10-year program period, the OHMVR Division would issue multi-year contracts to each participating agency. Prior to annual release of OSV Program funds, each recipient must submit to the OHMVR Division the following data from the prior season: 1) Summary log of equipment hours for the season, 2) Monitoring checklist forms completed for all trails, 3) Summary log of patrol hours on trails and any enforcement actions taken, 4) Vehicle count at trailheads on weekend patrol days, 5) Summary of OSV trespass incidents and management actions taken or planned, 6) Demonstration of compliance with any OSV Program mitigation measures identified in this EIR. County recipients of OSV Program funds are responsible only for plowing or grooming and would report only on equipment hours since national forests conduct the resource monitoring and enforcement patrols.

OHMVR Division would review all end of the season reports submitted by the OSV Program CSA and contract recipients to determine whether all required resource monitoring and patrols have occurred and that recipients are in compliance with OSV Program requirements. Based upon this review, the OHMVR Division would make an administrative finding as to whether each recipient is in compliance with the OSV Program requirements and whether contracts would be issued for the following winter season. If during the course of its review, OHMVR Division determines that a recipient is not in compliance with the OSV Program requirements, the OHMVR Division would make an administrative finding of non-compliance and would not renew the contract with that agency until compliance can be demonstrated.

Comment [LNF 12]: The guidelines disseminated to Forests concerning what level of resource monitoring is required to be "in compliance" with the OSV Program requirements are vague; standardized monitoring protocols need to be clarified.

Pg 2-29

Table 2-11. OSV Program Funding, BCP Contract Years 2004 through 2010 and Grants Program Year 2010

| Funding Recipient | BCP Funding | | | | Grants Funding |
|---------------------|-------------------------|-------------------------|-------------------------|-------------------------|-----------------|
| | 2-Yr Contract 2004-2006 | 2-Yr Contract 2006-2008 | 1-Yr Contract 2008-2009 | 1-yr Contract 2009-2010 | 1-yr Grant 2010 |
| Lassen NF | 190,886 | 155,000 | 84,500 | 84,500 | |
| Butte County | 220,590 | 100,000 | 60,000 | 60,000 | |
| Sierra County | 80,000 | 220,000 | 118,500 | 118,500 | |
| Plumas County | 129,382 | 130,000 | 105,250 | 105,250 | |
| Plumas NF | 132,250 | 142,000 | 49,000 | 49,000 | 51,500 |
| Tahoe NF | 76,000 | 112,000 | 65,500 | 65,500 | 46,500 |
| Eldorado NF | 81,560 | 80,000 | 30,000 | 30,000 | |
| Humboldt-Toiyabe NF | 0 | 0 | 0 | 0 | 105,000 |
| Stanislaus NF | 213,000 | 194,000 | 120,500 | 120,500 | 6,650 |
| Inyo NF | 72,200 | 74,000 | 42,000 | 42,000 | |
| Sierra NF | 140,000 | 127,000 | 76,062 | 76,062 | |
| Sequoia NF | 283,234 | 202,200 | 106,100 | 106,100 | 17,795 |
| Totals | 1,787,860 | 1,779,400 | 977,012 | 977,012 | 227,445 |

Grants funding

Comment [LNF 13]: The allocation of grant funds is that USFS is “required” by agreements with OHMVR to conduct resource monitoring, which in some cases is outside the scope of district/forest-level biological programs. Standardized monitoring protocols and associated funding is needed.

3.3.3 10-Year Program Growth, Year 2020

3.3.3.1 Conformance with Land Use Plans and Policies

Biology (pg 3-17)

Growth in OSV Recreation. Increased OSV use in off-trail riding areas along the groomed trail system could result in increased impact to CRPR and FSS plant species which are potentially present but have not been inventoried and are not monitored by the USFS. As described in Section 3.3.2.1 above, implementation of Measure BIO-3 would bring the OSV Program into to conformance with LRMP S&Gs and management prescriptions governing biological resources.

Comment [LNF 14]: Should include BIO-3 and BIO-4. This could be problematic on Lassen NF, as off-trail riding continues off of the groomed trail system in low snow depth conditions. Lassen NF currently does not have a Minimum Snow Depth cutoff in place.

5.2.5 Wildlife (pg 5-9)

5.2.6 Wildlife Movement Corridors

Habitat corridors facilitate wildlife migration and movement within landscapes, and are essential to the viability and persistence of many wildlife populations. Wildlife movement includes migration (i.e., usually one-way per season), inter-population movement (i.e., long-term genetic flow), and small travel pathways (i.e., daily movement corridors within an animal’s territory).

Comment [LNF 15]: It is not currently known how much of an impact that OSV routes might have on wildlife movement corridors. It seems unlikely that traffic frequency would be high enough to create a deterrent.

While small travel pathways usually facilitate movement for daily home range activities, such as foraging or escape from predators, they also provide connection between outlying populations and the main corridor, permitting an increase in gene flow among populations. These linkages among habitats can extend for miles and occur on a large scale throughout California. The Cascades and Sierra Nevada are understudied in regards to habitat connectivity patterns (Davis and Cohen 2009); however, the importance of wildlife corridors should not be under-estimated. Wildlife corridors are undoubtedly important to the long-term health of wildlife populations and the ecology of the Cascades and the Sierra Nevada.

Special Status Wildlife Species (pg 5-16)

| Special-Status Species¹ | Location and Habitat | USFS Management Action |
|---|---|--|
| northern goshawk (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 across all national forests. | <u>All OSV Program national forests:</u> Monitoring of northern goshawk Protected Activity Centers (PACs). Limited operating period (LOP) on groomed trails within 1/4 mile of nest sites after February 15 where there is documented evidence of disturbance from existing recreation activities. |
| northern spotted owl (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). | <u>Klamath, Modoc, and Shasta-Trinity National Forests:</u> Monitoring of northern spotted owl PACs. LOP on groomed trails within 1/4 mile of nest sites after February 15 where there is documented evidence of disturbance from existing recreation activities. |
| California spotted owl (FSS, CSSC) | Resides in dense, old growth, multi-layered mixed conifer, redwood, and Douglas-fir habitats, from sea level up to approximately 7,600 feet. | <u>Eldorado, Lassen, Plumas, Sequoia, Sierra, Stanislaus, and Tahoe National Forests:</u> Forest monitoring of California spotted owl PACs. LOP on groomed trails within 1/4 mile of nest sites after March 1 where there is documented evidence of disturbance from existing recreation activities. |

Comment [LNF 16]: Northern goshawk-
Evidence of disturbance from recreation activities will likely depend on the results of Regional Focus studies for this species.

California spotted owl
Evidence of disturbance from recreation activities will likely depend on the results of Regional Focus studies for this species. Typical presence/absence monitoring cannot provide substantive evidence of site disturbance from OSV activities.

9.0 PROJECT ALTERNATIVES (pg 9-1)

9.4 REDIRECTION OF GROOMING FUNDS

The 2002 BCP allocates up to one million dollars from the OHV Trust Fund for winter trail maintenance, including grooming, plowing, and restroom service, that directly supports OHV winter recreation. **None of the OSV Program funds are used to provide law enforcement, public**

Comment [LNF 17]: This option would allow the moderate level of groomed trail use while still addressing the problems with "required" unfunded resource monitoring.

education, or biotic resource inventories and monitoring, all of which are identified in the EIR analysis as needed mitigation and could require additional funding (Land Use Section 3.3.4, Biology Section 5.3.4, and Recreation Section 8.3.4). These three responsibilities are primarily funded and staffed as needed by the USFS (Project Description, Section 2.5) with some periodic funding provided by the OHV Trust Fund through the Grants Program. Under the Redirection of Grooming Funds Alternative, a portion of funds allocated by the 2002 BCP for grooming (the primary funded activity of the OSV Program) would be redirected to fund the needed law enforcement, public outreach, and biotic resource monitoring measures specified in the EIR while keeping total funding for the OSV Program under the 2002 BCP million dollar cap. This alternative would have the benefit of securing funds for EIR mitigation within the 2002 BCP budget cap. However, given that resource monitoring, public education, and law enforcement activities are not specific activities authorized for funding under the BCP, an amendment would be required for the OSV Program to fund these activities through the BCP funding allocation. Under this project alternative, grooming frequency throughout the Project Area would be reduced to free up funding for law enforcement and resource monitoring. Plowing would remain unchanged in order to preserve access to all trailheads. This alternative would not necessarily stop grooming but would substantially reduce the frequency of grooming, leaving trail conditions rough. These conditions could result in reduced OSV use on the project trails throughout the Project Area.

9.5 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA requires that the EIR analysis of project alternatives identify an “environmentally superior” alternative. If the environmentally superior alternative is the “No Project” alternative, the EIR shall also identify an environmentally superior alternative from among the other alternatives. Funding groomed trails in restricted riding areas only would limit OSV use associated with the OSV Program to groomed trails, which are established travel routes with a paved or dirt and gravel road base. This substantially reduces the potential for impact to biological resources and inadvertent wilderness trespass associated with the OSV Program as a whole. Off-trail OSV use would continue in national forests but likely at reduced levels and therefore environmental effects from OSV use in these areas would likely be reduced. For these reasons, Funding Restricted Riding Areas Only is considered the environmentally superior alternative that can partially meet the project objectives.

Comment [LNF 18]: This is a very subjective statement. A financial analysis is needed to show

- 1) How much funding of law enforcement and resource monitoring would reduce grooming activity? and
- 2) What level of decrease in grooming activity would lead to a substantial reduction OSV use?

The statement appears to be an opinion unsubstantiated with any data.

Recommended rephrased: **“This alternative would not necessarily stop grooming, but may result in a reduction in grooming frequency, which could leave trail conditions rough”.**

Comment [LNF 19]: From a biological resources perspective it is agreed that the “Funding Restricted Riding Areas Only” alternative is the Environmentally Superior Alternate. Also, that it would discourage some public use.

This alternative would require a substantial increase in Law Enforcement and a Forest Plan amendment.

Over Snow Vehicle (OSV) Snow Program Monitoring Report

Per

EIR Data Request Related to the OSV Snow Program

Lassen National Forest

Pacific Southwest Region 5

Patrick D. Lieske¹ and Thomas Frolli²

¹ Wildlife Biologist, USDA Forest Service, Lassen National Forest, Supervisor's Office, 2550 Riverside Drive, Susanville, California.

² Wildlife Program Manager, USDA Forest Service, Lassen National Forest, Supervisor's Office, 2550 Riverside Drive, Susanville, California.

Introduction

Under the 2009 Collection Agreement (10-CO-11050650-008) the US Forest Service, in partnership with the State, manages snow parks and the associated Over Snow Vehicle (OSV) route systems at 5 locations around Lassen National Forest (NF). The Collection Agreement (CO) establishes the terms of Snow Program management and allocates funds for management of Ashpan, Bogard, Fredonyer, Morgan Summit and Swain Mountain Snow Parks and their designated OSV route systems through the Green Sticker Fee program. The CO also allocates money for conducting monitoring on the Forest related to the Snow Management Program. According to the CO and the 2008 Cost Sharing Agreement Initial Study Negative Declaration (TRA Environmental Sciences Inc. 2008) the Forest Service has responsibility for conducting ongoing monitoring of botany, wildlife and soil resources in order to modify management actions to minimize any negative effects resulting from the agency's winter Snow Grooming Program.

According to the OSV Snow Program Challenge Cost Share Agreement EIR Data Request, each Forest which receives funding needs to provide information relevant to their program. This report covers the following issues specific to wildlife and botanical resources:

- 1) Monitoring checklist data sheets filled out during the 2009/2010 winter season.
- 9) Identify the GIS staff that can be contacted to provide GIS data of trail routes and of known biological resources in the NF near project trails.
- 10) Provide spotted owl and Northern goshawk studies which are to be completed in 2009.

11) What Management policies/ Management Actions are in place by USFS which govern OSV use and minimize environmental impacts?

Biologists on Lassen NF monitor specific wildlife and botanical resources (Table 1) relative to their proximity, or sensitivity to designated OSV routes. The Forest Service also initiated focused studies on a subset of these species, Northern goshawks (Plumas NF) and Northern spotted owls (Shasta-Trinity and Mendocino National Forests) to evaluate direct effects of interactions with OSVs during their breeding timeframes. The Regional Forester also directed each Forest, with an OSV program, to monitor for special status species in order to protect biological resources. Implementation of the proposed management actions is intended to insure that the effects of the Snow Program on special status species will continue at existing baseline levels and not result in any new effect.

1) Monitoring checklist data sheets filled out during the 2009/2010 winter season.

Table 1a. Management Actions for OSV Snow Program on Lassen NF – Wildlife Species

| Special Status Species | Management Concern? | National Forest Management Action |
|------------------------------------|----------------------------|---|
| <i>Wildlife Species</i> | | |
| Northern goshawk (FFS, CSSC) | Yes | Continue Forest monitoring of goshawk Protected Activity Centers (PACs). Determine if a limited operating period within ¼ mile of PACs after February 15 needs to be implemented. |
| California spotted owl (FFS, CSSC) | Yes | Continue Forest monitoring of goshawk Protected Activity Centers (PACs). Determine if a limited operating period within ¼ mile of PACs after March 1 needs to be implemented. |
| Northern spotted owl (FT) | No | Sub-species is not present on Lassen NF in proximity of OSV routes, so it is not a management concern. |
| Willow flycatcher (FFS, SE) | No | None. Species is not present during the OSV operating period. |
| American marten (FFS) | No | Ongoing monitoring of this species is conducted on the forest. |
| Sierra Nevada red fox (FFS, ST) | No | None. OSV impact undetermined. |
| Pacific fisher (FFS, FC, CSSC) | No | No breeding activity documented on Lassen NF. Ongoing monitoring is underway to determine if fishers are breeding on National Forest land. |
| California wolverine (FFS, ST) | No | No sightings on Lassen NF. |

Table 1b. Management Actions for OSV Snow Program on Lassen NF – Plant Species

| Special Status Species | Management Concern? | National Forest Management Action |
|----------------------------------|---------------------|--|
| <i>Plant species</i> | | |
| Slender orcutt grass (FT, SE) | No | Previous monitoring has indicated no impacts from OSV use. |
| Barron's buckwheat (FSS) | No | Previous monitoring has indicated no impacts from OSV use. |
| Columbia yellow cress (FFS) | No | Previous monitoring has indicated no impacts from OSV use. |

Wildlife Species**Northern goshawks (*Accipiter gentilis*)**

Breeding activity for Northern goshawks can be broken down into 5 general activity stages: courtship (pre-breeding), laying, incubation, nestling and fledgling stages. The courtship stage typically begins in mid-February or early March and extends through the formation of breeding pairs, nest building, and copulation. Egg laying and incubation overlap in goshawks, with eggs being laid every 3 days, and incubation beginning with the laying of the second egg. The onset of the incubation in the Lassen NF region (southern Cascades/ northern Sierra Nevada) occurs between April 10 and May 15 (USFS 2000), though it can be delayed by up to a month with cool or damp spring weather (Younk and Bechard 1994), and lasts 28-38 days. Nestlings typically fledge at 35-42 days old (Squires and Reynolds 1997).

Northern goshawk require a degree of spatial isolation in order to provide sufficient resources for successful reproduction, and have habitat preferences for mature to late-successional forests. Goshawks typically utilize multiple nesting sites within a nesting territory, which can sometimes be located more than ½ mile apart (Woodbridge and Detrich 1994). Because of this behavior, locating active nesting locations and verifying occupancy of a territory can be difficult using only irregular broadcast surveys or searches for active nests. As a result, verification of an inactive stand requires multiple visits in subsequent years.

California Spotted owl (*Strix occidentalis occidentalis*)

Breeding activity for spotted owls is broken into 5 stages (pre-laying, laying, incubation, nestling, and fledging) and roughly parallels the time frame of N. goshawks. Pre-laying behavior in spotted owls begins in March and lasts for 3 weeks prior to the laying of the first egg. Egg-laying starts from April 11-25 and can take 1-6 days to complete. Incubation starts with laying of the first egg and lasts 28-32 days.

Nestlings fledge after 34-36 days around June 12-26 (Forsman et. al. 1984). Much of the data available for spotted owl breeding phenology is derived from the Northern spotted owl subspecies.

The California spotted owl like Northern spotted owls, require large areas of habitat and are typically found only in late-successional or old growth forests. Forsman *et al.* (1984) found that Northern spotted owl territories in the Oregon Cascades averaged between 549 and 3,380 ha in size, and that adult owls may not nest every year depending on the availability of resources. The combination of these factors makes locating nesting locations difficult.

Northern Spotted owl (*Strix occidentalis caurina*)

On the Lassen NF, this sub-species does not occur within the vicinity of any OSV routes so it is not a concern in relation to this recreational activity.

Willow flycatcher (*Empidonax traillii*)

Willow flycatchers occur in some mountain meadows within Lassen NF. However, they are summer residents and are not present on the Forest during the OSV-use period. They are not considered a management concern in regards to the Snow Management Program.

American marten (*Martes americana*)

American marten are present within Lassen NF. A previous study (Zielinski *et. al.* 2007) was completed, investigating the response of marten to OHV and OSV related disturbance in the Sierra Nevada Mountains in California. The study was inconclusive in demonstrating any negative effect of OHV/OSV use on marten reproduction and survival.

Sierra Nevada red fox (*Vulpes vulpes necator*)

There is an endemic population of Sierra Nevada red fox on Lassen NF. No studies have been conducted on OSV use related to this population at the current time.

Pacific fisher (*Martes pennanti*)

The Pacific fisher has been recently reintroduced to areas near on the Lassen NF. While no animals have been documented to be breeding on Lassen NF, radio-collared animals have been located moving onto the forest from adjacent areas. They are considered an experimental population and are currently being monitored by CDFG. None of these fisher detections are near existing OSV routes therefore, no studies are currently planned examining OSV impacts on the species.

Plant Species

Slender orcutt grass (*Orcuttia tenuis*)

Slender orcutt grass is associated with vernal pools which in proximity to OSV free roam meadow areas. Previous monitoring was conducted in relation to OSV routes on the forest. No impact was found related to OSV use.

Barron's buckwheat (*Eriogonum spectabile*)

Barron's buckwheat is associated with several OSV free roam meadow areas. Previous monitoring was conducted in relation to OSV routes on the forest. No impact was found related to OSV use.

Columbia yellow cress (*Rorippa columbiae*)

Columbia yellow cress is also associated with several OSV free roam meadow areas. Previous monitoring was conducted in relation to OSV routes on the forest. No impact was found related to OSV use.

Biologists on Lassen NF monitor specific wildlife and botanical resources relative to their proximity, or sensitivity to designated OSV routes. The PSW Regional Office has also initiated focused studies on a subset of these species, Northern goshawks (Plumas NF) and Northern spotted owls (Shasta-Trinity and Mendocino National Forests) to evaluate direct effects of interactions with OSVs during their breeding timeframes. Further direction was issued directing Forests to monitor for special status species in order to protect biological resources. Implementation of the proposed Management Actions is intended to insure that the effects of the Snow Program on special status species will continue at existing baseline levels and not result in any new effect.

9) Identify the GIS staff that can be contacted to provide GIS data of trail routes and of known biological resources in the NF near project trails.

GIS Specialists Matt House or Priscilla Peterson can be contacted for current Forest GIS layers (roads, trails etc.). Wildlife Biologist Patrick Lieske can be contacted concerning GIS data or analysis of biological resources represented in this report.

10) Provide Northern goshawk and spotted owl studies which are to be completed in 2010.

Avian Monitoring

Northern goshawk

Northern goshawks (NGO) have a breeding season which overlaps with OSV use in the southern Cascade/ northern Sierra Nevada areas. This period overlaps during the courtship/pre-laying, laying and

into the early phases of the Incubation stage according to the snow grooming history reports and personal observations of continued OSV activity beyond the end of the grooming season.

Monitoring of NGO Protected Activity Centers (PAC, see glossary definition) was completed using a combination of Aural Broadcast Surveys and brief stand visits to locate active nests. Visits to NGO PACs for broadcast surveys or nest searches are made during the nestling and fledgling stages (June-August) when the birds are the most vocal. Goshawk monitoring has previously been conducted on Ranger Districts either by agency biologists or contractors. PACs are visited on an irregular basis, depending on district management. This has led to a patchy data record concerning current status of NGO PACs. Monitoring efforts are documented in tables below by ranger district (Tables 3-5).

CA spotted owl

California spotted owls (CSO) have a breeding season which overlaps with OSV use in the southern Cascade/ northern Sierra Nevada areas. This period overlaps during the courtship/pre-laying, laying and into the early phases of the Incubation stage according to the snow grooming history reports and personal observations of continued OSV activity beyond the end of the grooming season.

Monitoring of CSO Protected Activity Centers (PAC, see glossary definition) has been completed using established call stations which are periodically revisited. CSO PACs are visited between April and August to survey established call stations for breeding birds, or to conduct nest searches in areas where birds were previously detected. Monitoring work has been conducted by district biologists, contractors and Southwest Research Station biologists. CSO PACs are visited on a more regular basis in accordance with regional monitoring initiatives. Data records for CSO are kept on the USFS corporate website (NRIS) and are currently up to date for all data collected in 2009. Monitoring efforts are documented in tables below by ranger district (Tables 6-8).

Table 2. Almanor RD NOGO PACs within 400m of groomed OSV routes, 2006-10

| PAC Name | OSV Snow Park/ Route Access | Current Status | Notes |
|---------------------------|------------------------------------|-----------------------|---|
| Rock Creek 1 | Swain Mountain | Unknown | Surveyed in 2010. No detections. |
| Rock Creek 2 | Swain Mountain | Unknown | Surveyed in 2010. No detections. |
| The Hole | Swain Mountain | Unknown | Brief searches conduct 2007-09, no birds or nests found. Last observation made 2005. |
| North Fork Antelope Creek | Morgan Summit | Active | Surveyed in 2007, 2008 and 2009. Nests verified each year. |
| Hole in the Ground | Morgan Summit | Unknown | Entire PAC surveyed in 2010. No detections. |
| Mill Creek | Morgan Summit | Unknown | Brief searches conduct 2007-09, no birds or nests found. Adult bird observed in 2005. |
| Summit Creek | Morgan Summit | Active | Surveyed in 2007, 2008 and 2009. Nests verified each year. |

Table 3. Eagle Lake RD NOGO PACs within 400m of groomed OSV routes, 2006-10

| PAC Name | OSV Snow Park/ Route Access | Current Status | Notes |
|-----------------------|------------------------------------|-----------------------|---|
| Crater Mountain | Bogard | Abandoned | Abandoned after years of inactivity and after a nest was found at Caldera. |
| Caldera | Bogard | Unknown | Nest was found in 2004. Believed to still be active by district biologist and will be surveyed in 2010. |
| West Pegleg | A21 Access | Active | Surveyed in 2010. No detections. Obs. In 2006. |
| North Pegleg Mountain | A21 Access | Active? | Surveyed entire PAC in 2010. Silent detection of a goshawk along NE edge of the PAC. |
| Crazy Harry Gulch | Fredonyer | Unknown | Surveyed around the previous observation location, no detections. |
| Fredonyer Pass | Fredonyer | Unknown | Surveyed around the previous observation location, no detections. |
| Roxie | Fredonyer | Active | Territorial male goshawk observed in 2010. |
| Willard Creek | Fredonyer | Unknown | Nest found in 1988. Stand was affected by insect caused mortality in the 1990s. May be abandoned. |
| Willard Creek E. Fork | Fredonyer | Unknown | Surveyed in 2010. No detections. |

Table 4. Hat Creek RD NOGO PACs within 400m of groomed OSV routes, 2006-10

| PAC Name | OSV Snow Park/ Route Access | Current Status | Notes |
|--------------------|------------------------------------|-----------------------|--|
| Huckleberry | Ashpan | Active | Surveyed in 2009, nest found. |
| Bunchgrass Valley | Ashpan | Unknown | Not surveyed in 2006-09. Last observation in 2003. Survey in 2011. |
| Battle Springs | Ashpan | Unknown | Not surveyed in 2006-09. Last observation in 2003. Survey in 2011. |
| Red Lake | Ashpan | Active | Group of NGO observed in 2006. |
| Grayback | Ashpan | Unknown | Not surveyed in 2006-09. Last observation in 2004. Survey in 2011. |
| Ashpan | Ashpan | Active | Surveyed in 2009, nest found. |
| North Battle Creek | Ashpan | Active | Last nest found in 2006. Not surveyed since 2006. |

¹ PACs were considered “Active” if birds or nests were found within the past 5 years, “Unknown” if no birds were detected in the last 5 years, or “Abandoned” if no activity has been detected in over 20 years.

Table 5. Almanor RD Spotted Owl PACs within 400m of groomed OSV routes, 2006-10.

| Site Name | OSV Snow Park/ Route Access | Current Status | Action |
|----------------------------------|------------------------------------|-----------------------|---|
| cso PAC TEH0006 - Cold Creek | Morgan Summit | Active | Nest found in 2007. |
| cso PAC TEH0008 - Hole in Ground | Morgan Summit | Active | Nests found in 2004 and 2007. |
| cso PAC TEH0009 - Christie Hill | Morgan Summit | Active | Birds detected during 2007 surveys. |
| cso PAC TEH0021 - Mill Creek | Morgan Summit | Active | Birds detected during 2007 surveys. |
| cso PAC TEH0067 - Morgan Mtn. | Morgan Summit | Unknown | Surveyed in 2007. No nests or detections since nest found 370m NE of PAC in 2002. |
| cso PAC TEH0068 - Big Bend | Morgan Summit | Unknown | Surveyed in 2007. No nests or detections since before 2006. |
| cso PAC TEH0080 - Battle Creek | Morgan Summit | Unknown | Surveyed in 2007. No detections or nests since 2000. |
| cso PAC TEH0081 - Turner Mtn. | Morgan Summit | Active | Birds detected during 2007 surveys. |
| cso PAC TEHNEW2 - Monterey Point | Morgan Summit | Unknown | Surveyed in 2007. Nest found just outside PAC in 2004. |
| cso PAC LAS0043 - Jennie Creek | Swain Mnt. | Unknown | Bird detected about 700m NNW from the PAC in 2007, just past OSV route. Last nest within PAC found in 2000. |
| cso PAC PLU0001 - Jennie Mt. | Swain Mnt. | Active | Birds detected during 2007 surveys. |

| | | | |
|-------------------------------------|------------|---------|---|
| cso PAC PLU0052 - Last Chance Mud | Swain Mnt. | Active | Birds detected during 2007 surveys. |
| cso PAC PLU0053 - Mud Creek | Swain Mnt. | Unknown | No recent detections. No nests found since early 1990s. |
| cso PAC PLU0054 - Last Chance Creek | Swain Mnt. | Unknown | Bird detected about 400m E of the PAC in 2007. Last nest found in 2004. |
| cso PAC PLU0057- Star Butte | Swain Mnt. | Unknown | No detections since before 2006. Last nest found in 1992. |

Table 6. Eagle Lake RD Spotted Owl PACs within 400m of groomed OSV routes, 2006-10.

| Site Name | OSV Snow Park/ Route Access | Current Status | Action |
|--|--------------------------------|----------------|---|
| cso PAC LAS0003 - Pine Cr. | Fredonyer | Active | Birds detected in HRCA and around PAC in 2007. |
| cso PAC LAS0006 - Hamilton Mt. | Fredonyer | Active | Birds detected, nest found in 2007. |
| cso PAC LAS0009 - Mt. Meadows Cr. E | Fredonyer | Active | Birds detected during 2007 surveys. Nests found in early '90s. |
| cso PAC LAS0012 - Coyote Peak | Fredonyer | Unknown | No detections/ nests since 1990. |
| cso PAC LAS0016 - Crazy Harry Gulch | Fredonyer | Active | Birds detected in 2007 surveys. Last nest found in 2005. |
| cso PAC LAS0018 - Pegleg | Fredonyer | Active | Birds detected during 2007 surveys. Nests found in 2003, 2004. |
| cso PAC LAS0025 - Fredonyer Pass | Fredonyer | Active | Birds detected during 2007 surveys. Reproducing. |
| cso PAC LAS0027 - Willard Cr. S | Fredonyer | Active | Birds detected / nest found in HRCA in 2007. Nest found in PAC in 2006. |
| cso PAC LAS0031 - West Branch Pine Cr. | Fredonyer | Unknown | No birds detected since before 2006. |

Table 7. Hat Creek RD spotted owl PACs within 400m of groomed OSV routes, 2006-10.

| Site Name | OSV Snow Park/ Route Access | Status | Action |
|------------------------|--------------------------------|---------|--|
| cso PAC SHA0011 (HC10) | Ashpan | Active | Reproducing birds documented in 2009. |
| cso PAC SHA0014 (HC13) | Ashpan | Unknown | No observations in 2007 to 2009. |
| cso PAC SHA0015 (HC11) | Ashpan | Active | Bird observed in 2009. |
| cso PAC SHAxxxA (HC15) | Ashpan | Unknown | No observations since before 2006. Adjacent to an active area. |
| cso PAC SHAxxxB (HC16) | Ashpan | Unknown | No observations in 2007 to 2009. |

¹ PACs were considered “Active” if birds or nests were found within the past 5 years, “Unknown” if no birds were detected in the last 5 years, or “Abandoned” if no activity has been detected in over 20 years.

Lassen NF -Snow Grooming History

Snow grooming activities are typically initiated around December 25 and continue to a variable end date the following calendar year. The OSV trail system is managed according to an annual Forest Order (# 06-08-09) that takes effect on December 25 and expires on March 31. The actual completion date of snow grooming activities (Table 8) is determined based on existing snow levels across the forest and fallen within a 30-day window for the past 5 years for which data exists (3/9-4/8). The average completion date for grooming activities was March 21 based on the existing data.

Inspections conducted of the Lassen NF snow parks on April 17 and May 1, 2010 indicated that OSV user activity extends beyond the March 31 termination date closing roads for exclusive OSV use. OSV use was assumed to be very low (< 10 riders per site/ per day on a weekend), varying depending on specific snow depths and daily temperatures.

Table 8. Average calendar date for completion was determined based on the numeric calendar dates for the past 5 years of data

| Year | Last Date of Grooming | Days in the Year | Day of Year (Numeric) |
|---------------------------|------------------------------|-------------------------|------------------------------|
| 2010 | 3/22 | 365 | 81 |
| 2009 | 3/18 | 366 | 77 |
| 2008 | 3/17 | 365 | 77 |
| 2007 | 3/9 | 365 | 68 |
| 2006 | 4/8 | 365 | 98 |
| Average Finish Day | | | |
| Average Finish Day | 80 | | |
| Average Finish Date | 3/21 | | |

Interaction between Avian Activity and Snow Grooming

Based on established activity periods for goshawks and California spotted owls there are periods of overlap between OSV activity and early goshawk and spotted owl breeding seasons (Fig. 1). Surveys of Forest Snow Parks and designated OSV route access points has indicated that low levels of OSV use (< 10 vehicles per site/day) persist beyond the end of the road closure for OSV only use on March 31. OSV use was documented until the end of April, at which point snow levels no longer allow continued use of designated OSV routes. For purposes of analysis, April 30 was used as a cut-off date for the maximum period of interaction (NGO: Feb 15- Sep 15, 74-75 days, CSO: Mar 1- Aug 31, 61-62 days). We focused

specifically on both NGO and CSO PACs that are adjacent to these designated OSV routes. PACs were selected for monitoring and analysis if they fell within a 400m (1/4 mile) buffer of the OSV routes.

OSV User Activity

The National Vehicle Use Monitoring Program (NVUM) released reports for the US Forest Service, Southwest Region in 2000 and 2005. The reports do not specifically address OSV use in a fashion to provide reliable statistics for the snow parks managed by Lassen National Forest. Interpretation of the reports indicated that Lassen NF likely receives 10000-20000 yearly visitors distributed across the forest depending on local snow levels at the Snow Parks (Note: This is a crude estimate, and the standard error could not be determined).

Lassen National Forest has 5 designated OSV route systems which the Forest Service is responsible for maintaining. Ashpan Snow Park is located on the Hat Creek Ranger District off of Hwy 44 (Fig. 2). Morgan Summit Snow park (Fig. 3) and Bogard Snow park (Fig. 4) are located on the Almanor Ranger District, off of Hwy. 36 and 44 respectively. Swain Mountain Snow park (Fig. 5) and Fredonyer Snow park (Fig. 6) are located on the Eagle Lake Ranger Districts off Hwy A-21 and Hwy 36.

Results

NGO

Lassen National Forest has 174 NGO PACs, of which 33 (19%) are within 400m of designated OSV routes. Twenty-three NGO PACs fell within the scope of the GIS analysis conducted. The other 10 PACs were on the Almanor RD and fall along the Jonesville Snow Park OSV routes which is managed by the Forest Service aside from the existing Collection Agreement with State of California.

CSO

Lassen National Forest has 118 CSO PACs, of which 42 (36%) are within 400m of designated OSV routes. Only 29 of the CSO PACs were within the scope of the GIS analysis conducted. The other 13 PACs were on the Almanor RD and fall along the Jonesville Snow Park OSV routes which is managed by the Forest Service aside from the existing Collection Agreement with State of California.

GIS proximity analysis was completed on NGO PACs (Table 9) and CSO PACs (Table 10) using ArcGIS (ESRI, Version 9.3.1) to evaluate whether the distance of a PAC from a snow park is a predictor for the status of the PAC. No relationship was apparent between a PAC's distance from a snow park and whether it has been recently occupied.

Table 9. Distance to NGO PAC centroid from Snow Park access as determined by Proximity Analysis.

| Site Name | OSV Snow Park/ Route Access | Current Status | Distance from Snow Park to PAC centroid in meters |
|---------------------------|-----------------------------|----------------|---|
| Fredonyer Pass | Fredonyer | Unknown | 500 |
| Summit Creek | Morgan Summit | Active | 1130 |
| Ashpan | Ashpan | Active | 2054 |
| Crazy Harry Gulch | Fredonyer | Unknown | 2745 |
| Mill Creek | Morgan Summit | Unknown | 2860 |
| Crater Mountain | Bogard | Abandoned | 3480 |
| Caldera | Bogard | Unknown | 3500 |
| Grayback | Ashpan | Unknown | 3915 |
| Bunchgrass Valley | Ashpan | Unknown | 4060 |
| Roxie | Fredonyer | Unknown | 4910 |
| Red Lake | Ashpan | Unknown | 5500 |
| Hole in the Ground | Morgan Summit | Unknown | 5920 |
| The Hole | Swain Mountain | Unknown | 6680 |
| Battle Springs | Ashpan | Unknown | 8050 |
| West Pegleg | Swain Mountain | Unknown | 8830 |
| North Fork Antelope Creek | Morgan Summit | Active | 9300 |
| Willard Creek E. Fork | Fredonyer | Unknown | 9340 |
| Willard Creek SOHA | Fredonyer | Unknown | 9370 |
| Rock Creek 1 | Swain Mountain | Unknown | 9585 |
| North Battle Creek | Ashpan | Unknown | 9810 |
| North Pegleg Mountain | Swain Mountain | Unknown | 9815 |
| Rock Creek 2 | Swain Mountain | Unknown | 9970 |
| Huckleberry | Ashpan | Active | 11600 |

Table 10. Distance to CSO PAC centroid from Snow Park access as determined by Proximity Analysis.

| Site Name | OSV Snow Park/ Route Access | Current Status | Distance from Snow Park to PAC centroid in meters |
|---|--------------------------------|-------------------|--|
| cso PAC LAS0025 - Fredonyer Pass | Fredonyer | Active | 740 |
| cso PAC SHAxxxA (HC15) | Ashpan | Unknown | 1400 |
| cso PAC TEH0009 - Christie Hill | Morgan Summit | Active | 2020 |
| cso PAC SHA0015 (HC11) | Ashpan | Active | 2140 |
| cso PAC TEH0067 - Morgan Mtn. SOHA | Morgan Summit | Unknown | 2700 |
| cso PAC LAS0016 - Crazy Harry Gulch | Fredonyer | Active | 2920 |
| cso PAC LAS0006 - Hamilton Mt. | Fredonyer | Active | 4075 |
| cso PAC LAS0003 - Pine Cr. | Bogard | Active | 4750 |
| cso PAC LAS0012 - Coyote Peak | Fredonyer | Unknown | 5800 |
| cso PAC LAS0043 - Jennie Creek | Swain Mnt. | Unknown | 6150 |
| cso PAC TEH0008 - Hole in Ground SOHA | Morgan Summit | Active | 6340 |
| cso PAC PLU0001 - Jennie Mt. SOHA | Swain Mnt. | Active | 6600 |
| cso PAC PLU0057- Star Butte SOHA | Swain Mnt. | Unknown | 6630 |
| cso PAC SHA0011 (HC10) | Ashpan | Active | 7190 |
| cso PAC SHA0014 (HC13) | Ashpan | Unknown | 7960 |
| cso PAC TEH0006 - Cold Creek | Morgan Summit | Active | 8000 |
| cso PAC SHAxxxB (HC16) | Ashpan | Unknown | 8000 |
| cso PAC TEH0021 - Mill Creek | Morgan Summit | Active | 8740 |
| cso PAC LAS0031 - West Branch Pine Cr. | Fredonyer | Unknown | 9270 |
| cso PAC LAS0027 - Willard Cr. S | Fredonyer | Active | 9290 |
| cso PAC LAS0009 - Mt. Meadows Cr. E | Fredonyer | Active | 9790 |
| cso PAC LAS0018 - Pegleg | Fredonyer | Active | 10150 |
| cso PAC TEH0080 - Battle Creek | Morgan Summit | Unknown | 10400 |
| cso PAC TEH0081 - Turner Mtn. | Morgan Summit | Active | 10570 |
| cso PAC TEH0068 - Big Bend SOHA | Morgan Summit | Unknown | 10590 |
| cso PAC TEHNEW2 - Monterey Point | Morgan Summit | Unknown | 12340 |
| cso PAC PLU0053 - Mud Creek SOHA | Swain Mnt. | Unknown | 13740 |
| cso PAC PLU0054 - Last Chance Creek | Swain Mnt. | Unknown | 15430 |
| cso PAC PLU0052 - Last Chance Mud | Swain Mnt. | Active | 15790 |

Discussion

Compilation of existing monitoring data for NGO showed that data gaps exist for some PACs which have not been recently surveyed. Supplemental monitoring was conducted during the summer of 2010 (June-August). The objective of this monitoring was to survey all PACs within 400m of designated OSV routes which have not been surveyed in the past 5 years. Three PACs remain to be surveyed in 2011.

11) What Management policies/ Management Actions are in place by USFS which govern OSV use and minimize environmental impacts?

The Forest Service has initiated focus studies examining responses of Northern goshawks and California spotted owls to OSV disturbance. These studies will help inform managers of specific relationships and responses of these species to noise and activity-related disturbance which may affect breeding activity.

Managers have the option of initiating a Limited Operating Period (LOP, see Glossary) which would limit access to OSV routes during the breeding seasons for NGO and CSO. This option has not been used pending further monitoring of the PACs to determine if a cause/effect relationship exists. Another study (Zielinski *et. al.* 2007) examining relationships between American marten and OHV/OSV disturbance was inconclusive in demonstrating whether the motorized vehicles impacted the animals breeding activity.

Snow Management Program

Based on the overlap with the breeding seasons for both NGO and CSO, it is recommended that snow grooming activities should not be allowed to extend beyond the Forest Order expiration date of March 31, as occurred during the 2006 season.

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Glossary

CSO: California spotted owl.

LOP: Limited operating period, An LOP is a management action taken to limit the disturbance of a biological resource during a key period of concern.

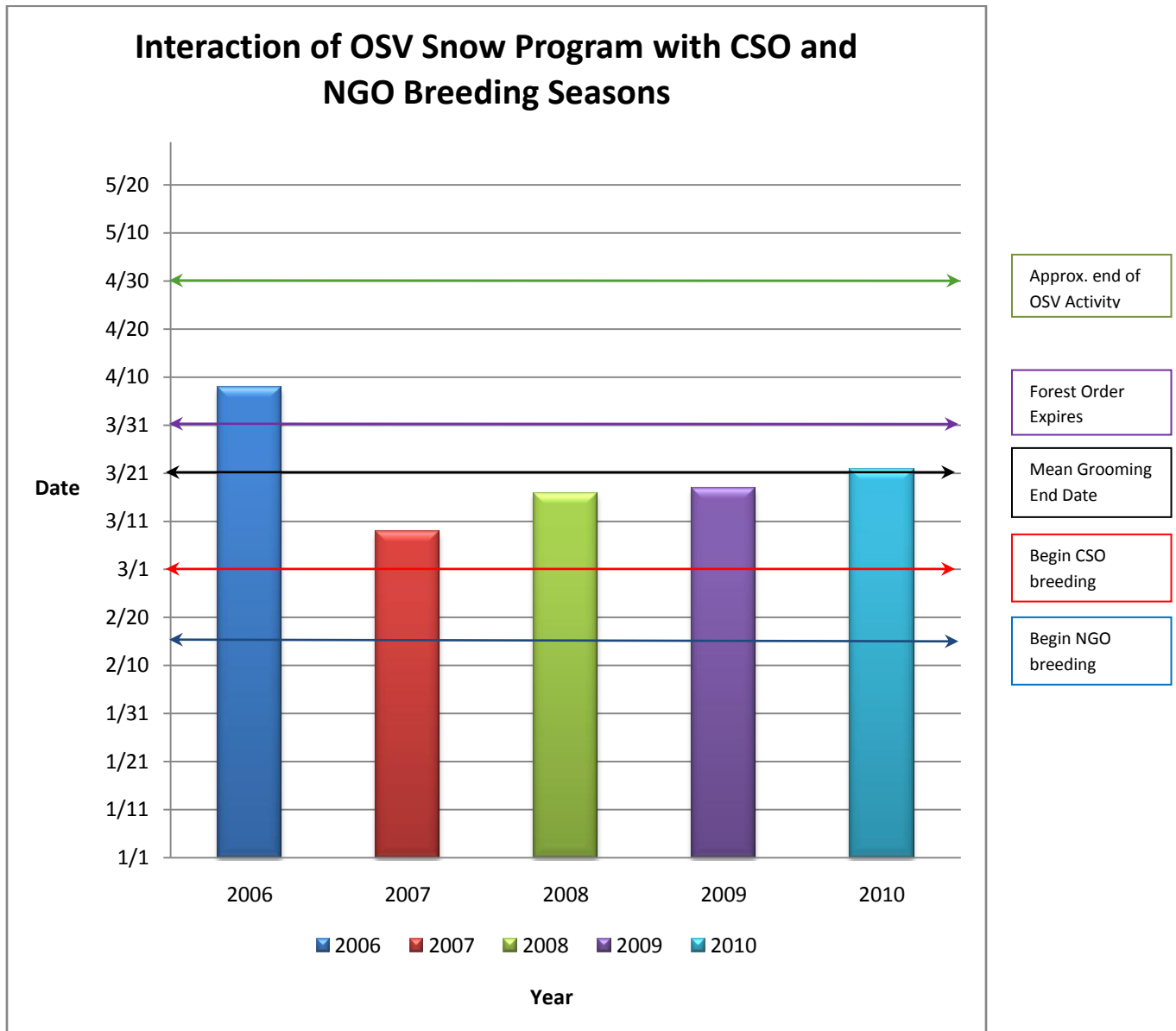
NGO: Northern goshawk.

OHV: (Off-Highway Vehicle) Includes both highway legal vehicles driven off-road and All-Terrain Vehicles

OSV: (Over Snow Vehicle) Snowmobiles, snow grooming machinery.

PAC: (Protected Activity Center) An area of habitat used by both NGO and CSO which encompasses the core of their breeding territory. They are delineated to include known and suspected nest stands, and encompass the best available 200 (NGO) or 300 (CSO) acres of habitat in the largest contiguous area possible (for NGO) or as compact a unit as possible (for CSO).

Figure 1. Snow grooming completion dates for the past 5 years, 2006-2010, and how they interact with CSO and NGO breeding seasons.



¹ Breeding initiation dates for CSO and NGO were approximated from information available in the literature due knowledge gaps concerning local populations.

² A reoccurring Annual Forest Order closes designated forest roads for OSV-only traffic from 12/25-3/31 each year.

Figure 2. Hat Creek RD- CSO and NGO PACs within 400m of Ashpan Snow Park OSV routes, Lassen NF.

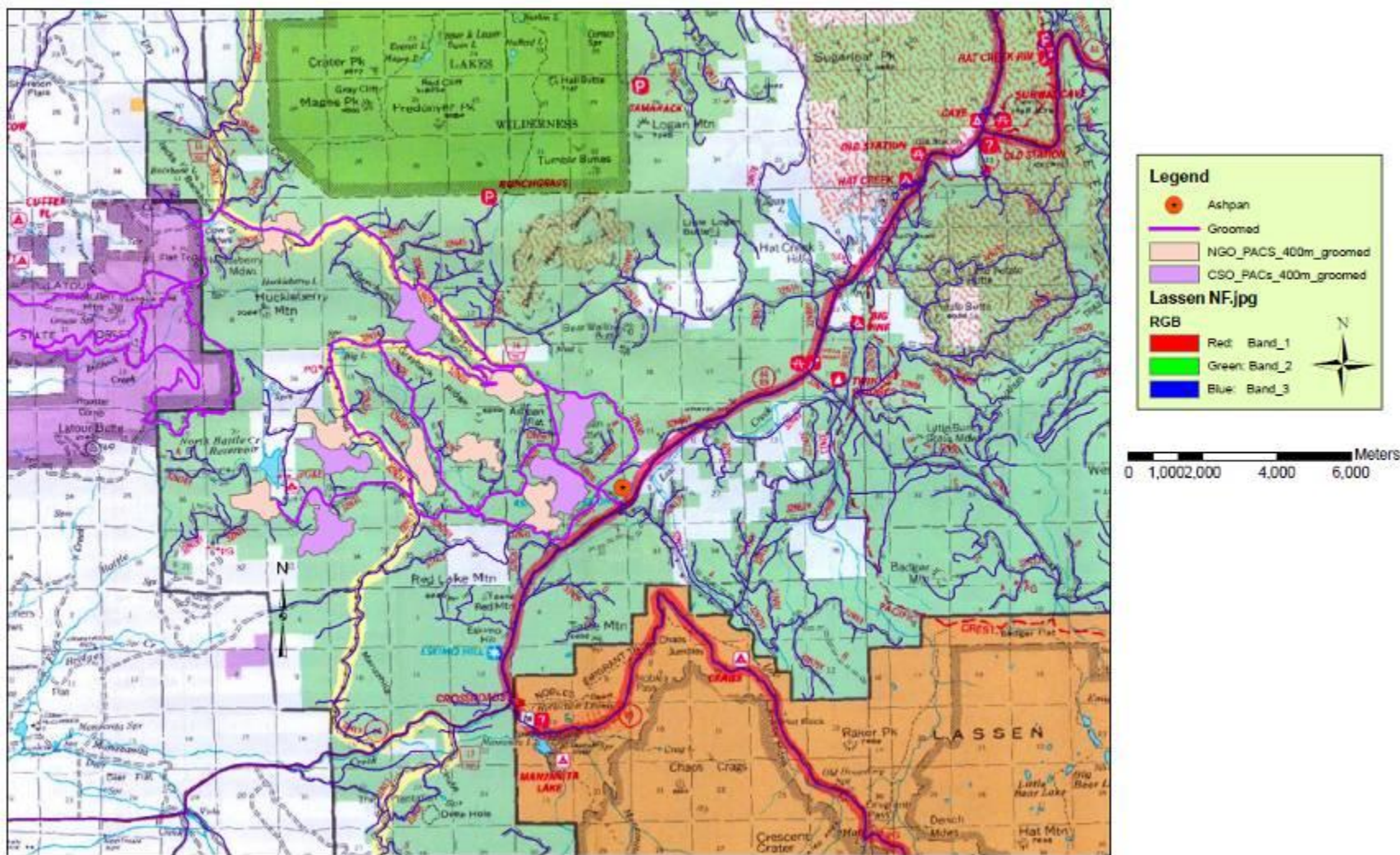


Figure 3. Almanor RD- CSO and NGO PACs within 400m of Morgan Summit Snow Park OSV routes, Lassen NF.

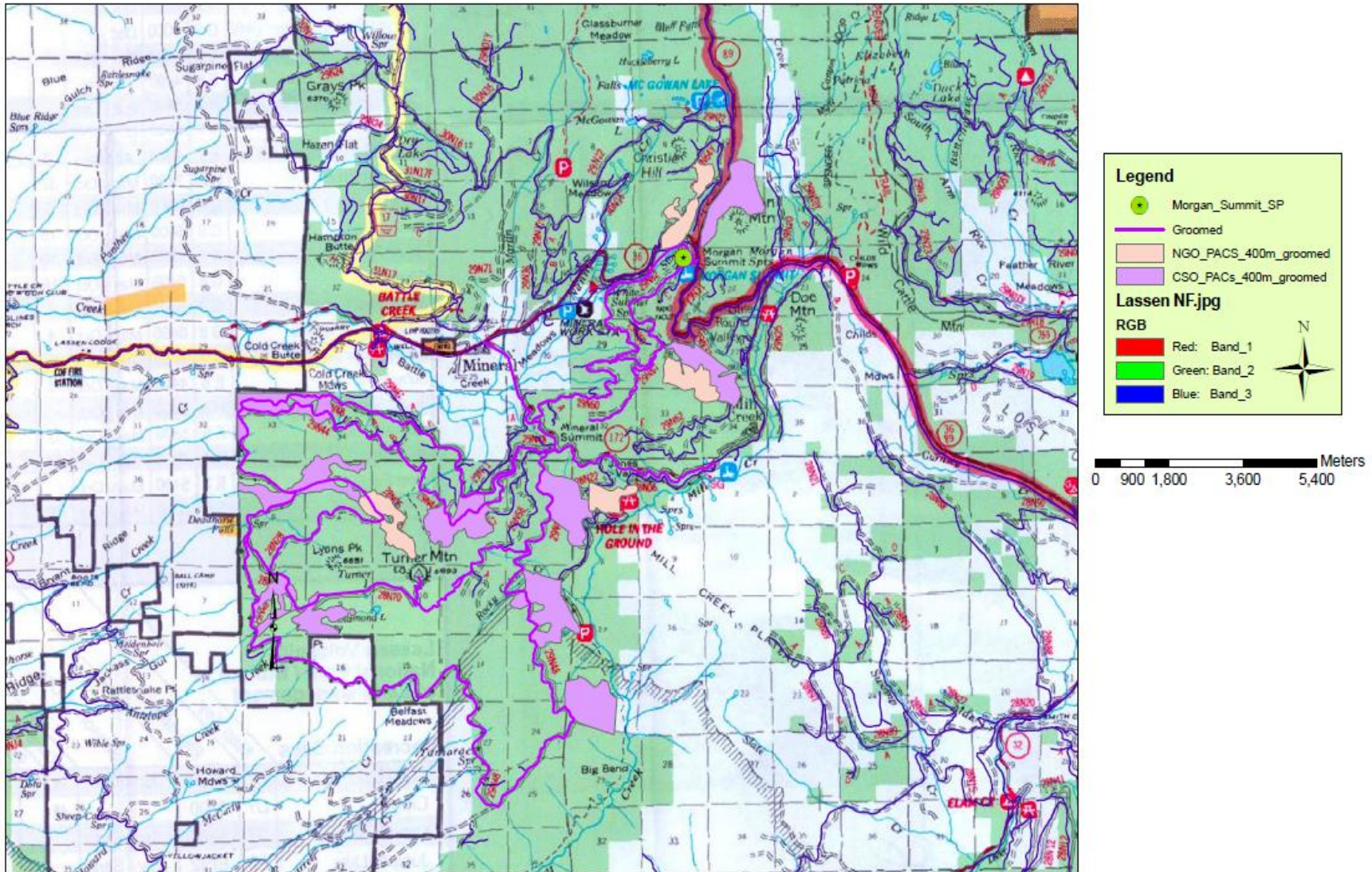


Figure 4. Almanor RD- CSO and NGO PACs within 400m of Bogard Snow Park OSV routes, Lassen NF.

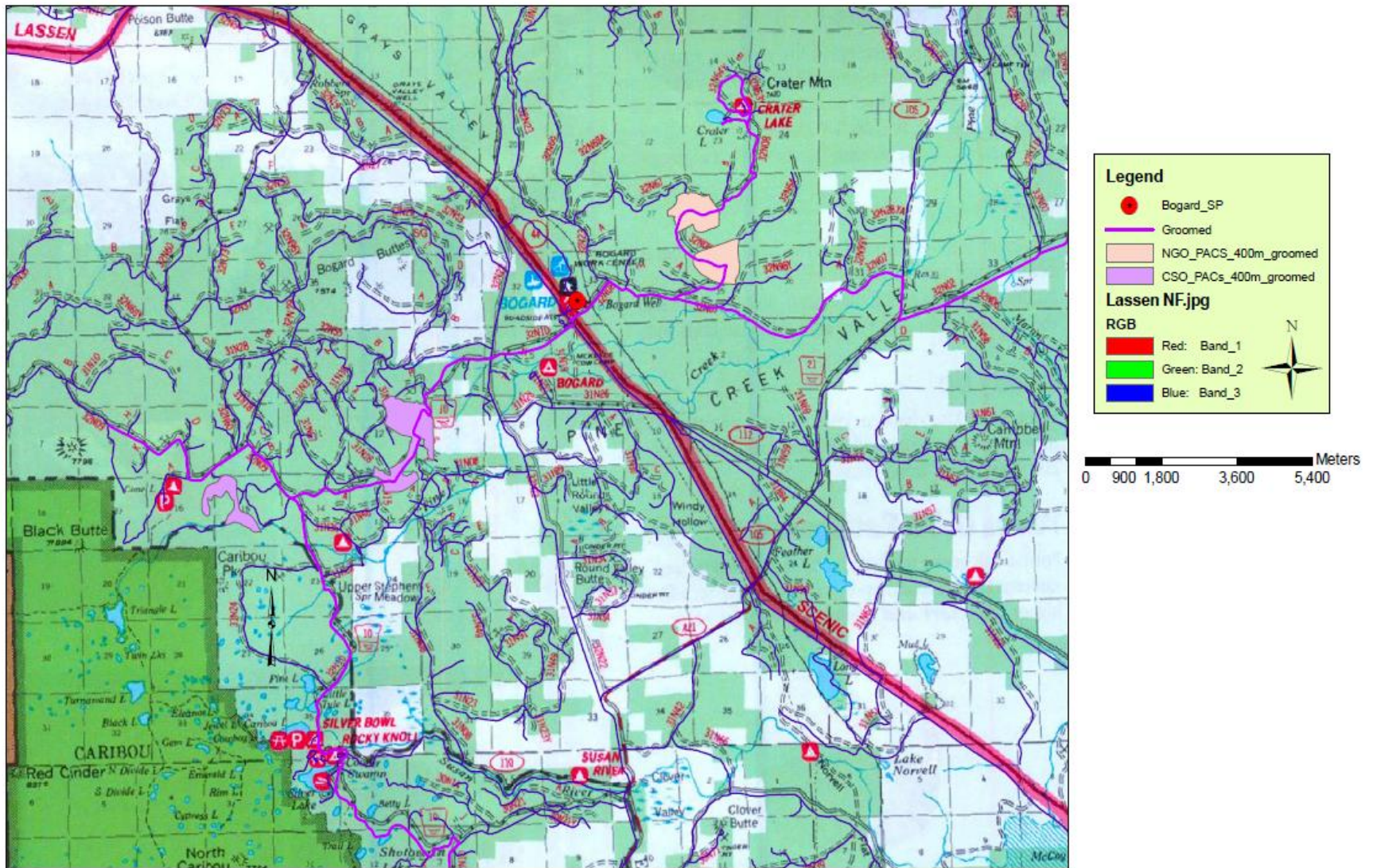


Figure 5. Eagle Lake RD- CSO and NGO PACs within 400m of Swain Mountain Snow Park OSV routes, Lassen NF.

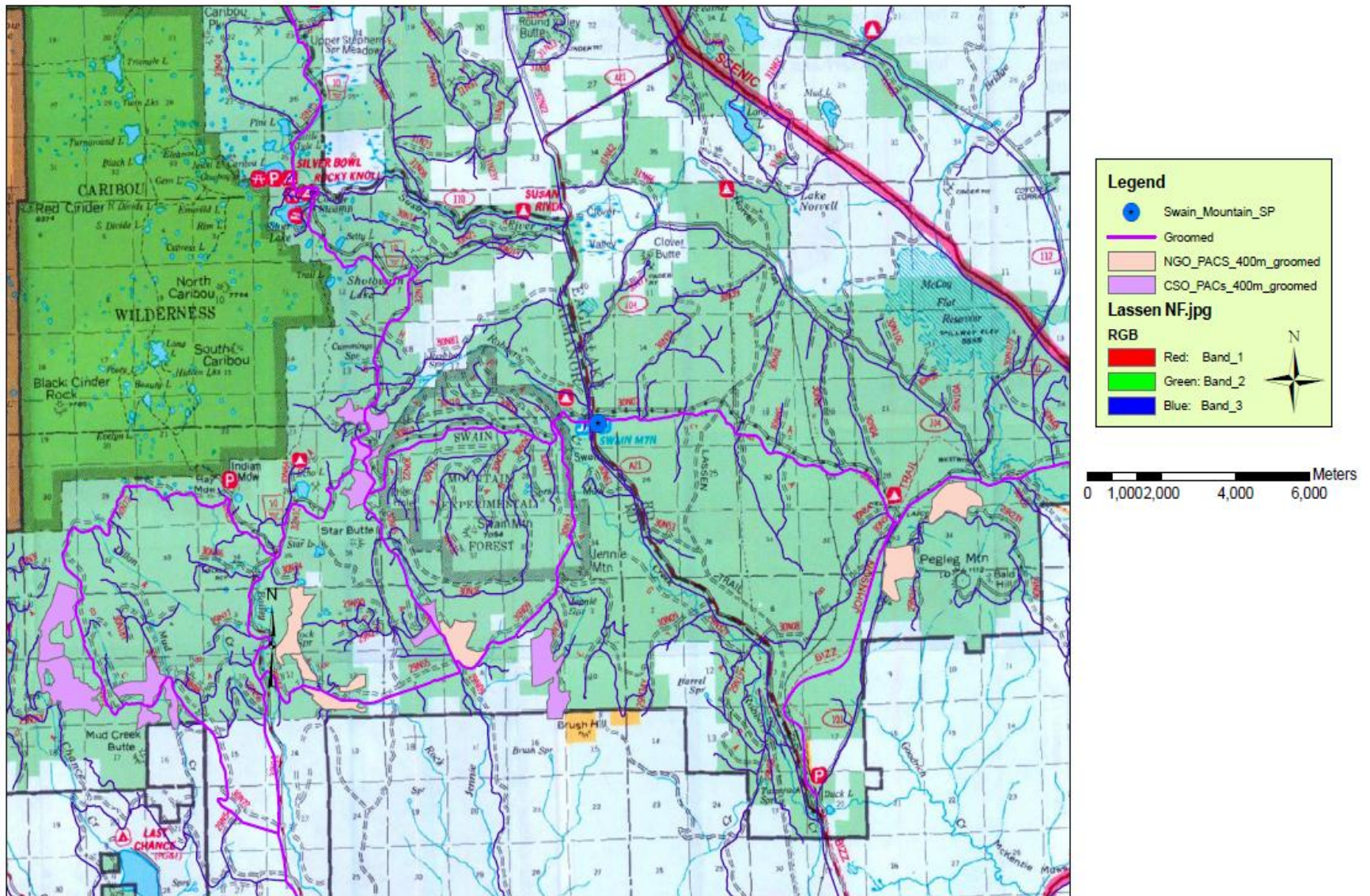
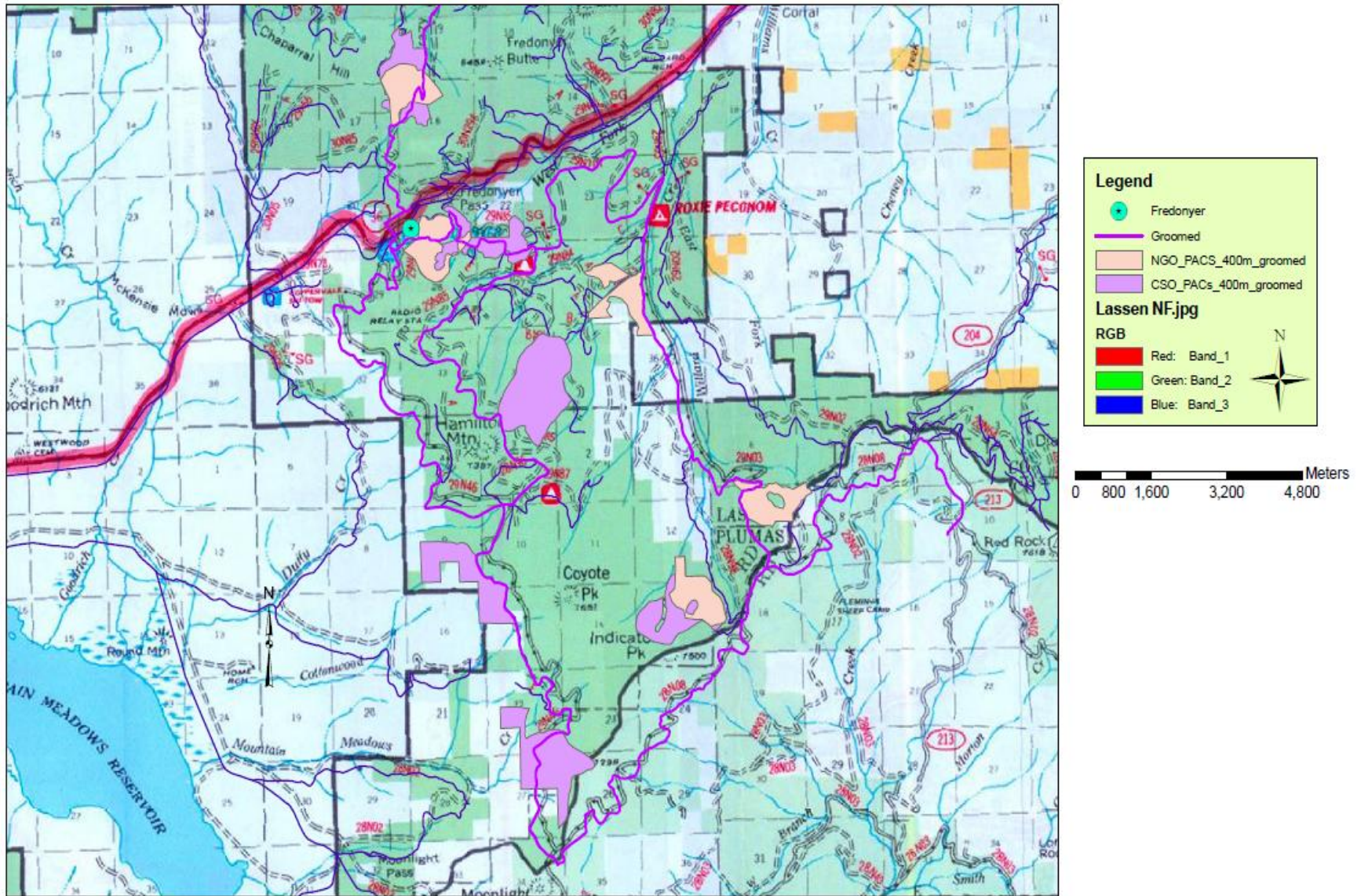


Figure 6. Eagle Lake RD- CSO and NGO PACs within 400m of Fredonyer Snow Park OSV routes, Lassen NF.



Comment Letter #2: Center for Biological Diversity

CENTER for BIOLOGICAL DIVERSITY

VIA ELECTRONIC MAIL AND U.S. MAIL

November 21, 2010

California Department of Parks & Recreation
Off-Highway Motor Vehicle Recreation Division
Ms. Connie Latham – Associate Park and Recreation Specialist
1725 23rd Street, Suite 200
Sacramento, CA 95816
osvprogrameir@parks.ca.gov

Re: Comments on Over Snow Vehicle Program Draft Environmental Impact Report Program Years 2010 – 2020 (State Clearinghouse # 2009042113)

Dear Ms. Latham:

The Center for Biological Diversity (“Center”) submits these comments on the California Department of Parks & Recreation, Off-Highway Motor Vehicle Recreation Division’s Over Snow Vehicle Program Draft Environmental Impact Report Program Years 2010 – 2020 (State Clearinghouse # 2009042113) (“DEIR”) regarding the Division’s proposed 10-year funding commitment of the Over Snow Vehicle (OSV) Program for the operation, maintenance, and grooming of winter recreation trails and trailheads in mountainous regions throughout California (“proposed project” or “program”).

The Center is a non-profit environmental organization dedicated to the protection of native species and their habitats through science, policy, and environmental law. The Center has over 255,000 members and online activists throughout the United States including many members who reside in California, visit the areas that are impacted by the program, and have interests in the preservation of the species that are impacted by the program. The Center incorporates by reference herein the comments on the DEIR submitted by the Snowlands Network, Winter Wildlands Alliance, The Wilderness Society and the Center for Sierra Nevada Conservation, and provides the following additional comments.

#2-1

Identification and Analysis of Impacts to Biological Resources, Including Imperiled Species, is Inadequate.

Baseline: The DEIR does provide some detailed information regarding significant

#2-1

impacts to listed, rare, and imperiled species that are affected by the proposed project.¹ However, the DEIR largely dismisses these impacts and fails to address ways to avoid, minimize, and mitigate these significant impacts to imperiled species by attempting to shield them from review as part of the “baseline” conditions. The DEIR attempts to describe activities which occur newly each year as “ongoing” activities—this is inaccurate. In this case the existing environment or baseline that should have been used is the condition on the ground each year before any snow grooming and clearing activities commence.

CEQA defines the “baseline” as “the physical environmental conditions in the vicinity of the project, as they exist at the time the notice of preparation is published.” (CEQA Guidelines, § 15125, subd. (a).) The notice of preparation was issued for this project on April 24, 2009, well before any 2009 snow grooming or clearing activities would have commenced and far before any activities undertaken under the proposed ten year project would begin. Under CEQA, the DEIR should compare existing physical conditions with the physical conditions that are predicted to exist at a later -- after the proposed project is approved and the project impacts occur. In evaluating project impacts, courts have repeatedly held that existing, actual existing environmental conditions control, not hypothetical ones that would otherwise serve to minimize the impacts of the proposed project and allow the agency to avoid analysis and mitigation. *See, e.g., Woodward Park Homeowners Ass’n, Inc. v. City of Fresno*, 150 Cal. App. 4th 683, 691 (2007) (“hypothetical office park was a legally incorrect baseline [against which to measure significance] which resulted in a misleading report of the project’s impacts.”); *Env’t Planning & Information Council v. County of El Dorado*, 131 Cal. App.3d 350 (1982) (EIR for area plan invalid because impacts were compared to existing general plan rather than to existing environment).

Because the baseline determination “is the first rather than the last step in the environmental review process,” (Save Our Peninsula Committee, at p. 125), an inaccurate baseline undermines all of the analysis of impacts in the DEIR. Here, the baseline chosen by the Division is legally insufficient because it fails to compare what will happen if the proposed funding is approved with what will happen if the proposed activities do not occur each year—that is if these sites are left alone going forward. *See Woodward Park Homeowner's Assn., Inc. v. City of Fresno* (2007) 150 Cal.App.4th 683, 707 (the EIR must do “what common sense says it should do and what the EIR’s most important audience, the public, will naturally assume it does: compare what will happen if the project is built *with what will happen if the site is left alone.*” [emphasis added]).

In sum, the DEIR’s analysis is fatally flawed from the outset because it used an inaccurate baseline. For biological resources this error is of particular concern because it has lead the Division to conclude that even though there are admittedly significant impacts to many rare, imperiled and special status species from the proposed project, the Division need not look at

¹ The Division notes that the Department of Fish and Game is a trustee agency but does not discuss whether the Department has provided any input on the proposed project to date. The Division also appears to have failed to acknowledge in the DEIR all of the responsible agencies including, Department of Fish and Game, regional water boards, and the State Water Resources Control Board.

ways to avoid, minimize and mitigate these impacts. As a result of the inaccurate baseline, the alternatives considered are far too narrow and the alternatives analysis is inaccurate as well. This is a clear violation of both the letter and spirit of CEQA. The DEIR must be supplemented or revised and re-circulated to take into account a proper baseline from which to analyze the impacts of the proposed project.

#2-2

Alternatives: Under CEQA, a lead agency may not approve a project if there are feasible alternatives that would avoid or lessen its significant environmental effects. (Public Resources Code §§ 21002, 21002.1(b).) To this end, an EIR is required to consider a range of potentially feasible alternatives to a project, or to the location of a project, that would feasibly attain most of the project's basic objectives while avoiding or substantially lessening any of the project's significant environmental impacts. (*Save Round Valley Alliance v. County of Inyo* (2007) 157 Cal.App.4th 1437, 1456.)

As the Supreme Court put it:

The core of an EIR is the mitigation and alternatives sections. The Legislature has declared it the policy of the State to "consider alternatives to proposed actions affecting the environment." (Pub. Resources Code, § 21001(g); *Laurel Heights*, supra, 47 Cal.3d at p. 400.) Section 21002.1, subdivision (a) of the Public Resources Code provides: "The purpose of an environmental impact report is to identify the significant effects of a project on the environment, *to identify alternatives to the project*, and to indicate the manner in which those significant effects can be mitigated or avoided." (Italics added. See also Pub. Resources Code, § 21061 ["The purpose of an environmental impact report is . . . to list ways in which the significant effects of such a project might be minimized; *and to indicate alternatives to such a project.*"].)

(*Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553, 564-65 [italics in original].)

#2-3

Because the proposed project affects a wide range of habitat types within the montane regions from 4,000 to 10,000 feet in elevation it has the potential to significantly affect many imperiled, rare and special status species, including several fully protected species. Because the proposed project facilitates high levels of motorized OSV use in habitat for many imperiled wildlife species and also impacts movement corridors the proposed project has significant impacts to species that should be avoided, minimized and mitigated. The wildlife species that will be adversely impacted by the proposed project include, but are not limited to, the following: California spotted owl, Northern spotted owl, great grey owl, northern goshawk, bald eagles, golden eagles, pacific fisher, Sierra Nevada red fox, mountain lion, Yosemite toad, and Sierra Nevada mountain yellow-legged frog. Rare plants and riparian and wetland habitats can also be significantly impacted particularly due to compaction and riding in areas where snow is thin or riding over or across wetland and riparian areas which can significantly impact soils and soil structure.

Wildlife are directly affected by OSV use in many ways as noted in the DEIR:

#2-3

The OSV Program could have both direct and indirect impacts on wildlife. These impacts are associated with vehicle collision, home range use, breeding, physiological stress, opening corridors for predators that would not ordinarily be available, and snow compaction, It is possible that OSV use would have a greater impact on wildlife during severe winters when wildlife is already stressed by environmental conditions. (DEIR at 5- 32 to 33.)

#2-4

The DEIR notes but does not “count” many significant impacts which are considered as part of the “baseline” or “ongoing” or a result of “continued funding”, although, in fact, these impacts occur anew each year and are significant. The DIER acknowledges that any increases would also be significant and even these that so-called “ongoing” impacts may adversely affect already impaired species. For example, at the DEIR states:

Home Range Use. Noise and extended human presence from OSV activities could reduce the size of the winter home range for several wildlife species. The home range provides food, shelter, and breeding opportunity, and if it is reduced, could compromise species survival, particularly during stressful survival conditions in the winter. Trail grooming activities occur at night, are infrequent, and move slowly enough that grooming is not expected to have a substantial adverse effect on wildlife home range. Many of the species that may be active or present during the OSV Program season are nocturnal and may not be affected by daytime snowmobile activities at all; however, 29 percent of snowmobilers report some nighttime riding² (Project Description, Table 2-9). This can include daytime riders who do not return to the trailhead before early nightfall and those that ride in late night hours. For diurnal species, OSV use of the trails may result in animals avoiding areas used by snowmobilers. For nocturnal and crepuscular species trail grooming and OSV use may also result in animals avoiding areas frequented by snowmobilers and groomers. *The continued funding* of the Program would not change the extent of existing effects; however, with the anticipated increase in riders accessing the backcountry, extended human disturbance may reduce the home range for special-status wildlife species. The impact by the OSV Program is not considered to have a substantial adverse effect on common species’ populations or home range use either directly or through habitat modifications. *However, an adverse impact may be felt by special-status species already pressured by existing forest uses and by an increase in riders.* The national forests operating under the OSV Program operate under numerous Land Resource Management Plan policies (Appendix D) that address this issue and mitigate any substantial adverse impact to less than significant.

Breeding Disruption. If the winter season overlaps with the beginning of breeding season as may be the case for species such as the yellow-bellied marmot and other birds and mammals, the presence of OSVs in the forests could disrupt courtship

² Notably, the DEIR also states that: “Trail grooming generally occurs at night between dusk and sunrise.” (DEIR at 5-33).

#2-4

and nesting or denning activities due to noise and/or visual disturbance that result in behavioral changes in the animals. *This ongoing impact*, along with the anticipated increase in riders over the next 10 years, may have a minor to moderate effect on common species as it would affect individuals, but it would not affect the viability of common wildlife species' populations. For special-status species, *breeding disruption could be a significant adverse impact to a species with an already low population*. With the implementation of the Management Actions already in use (Table 5-5) by the national forests and Mitigation Measures BIO-1 and 2 identified below in Section 5.4, the project impacts during early courtship and nesting/denning periods would remain at existing levels. *No new impacts would occur as a result of the continuation of the OSV Program* and therefore, the Project's effect on special-status birds is less than significant. (DEIR at 5-33 to 34 [emphasis added].)

#2-5

As a result the DEIR is both equivocating and inaccurate— special listed, rare, and other special status species are already imperiled and declining under the current Forest Service management including the activities that have been funded by the Division in the past. Moreover, there is no showing that the land management plans have in fact mitigated such impacts in the past or will adequately do so in the future. To the contrary, there is substantial evidence that the proposed project will support significant impacts occurring again in the future that are similar to in the activities in the past that contributed to the decline of these special status species and that it will also support increasing impacts in the future if it is approved. As a result, already imperiled species will be impacted once again and increasingly under this proposed project undermining their survival and chances for recovery. The DEIR fails to adequately disclose these facts or to provide adequate alternatives to avoid them or measures to minimize and mitigate these impacts in violation of CEQA.

#2-6

Moreover impacts to plants, wetlands and other resources due to compaction, degradation, or in areas where snow is thin and soils are directly affected are also significant and must be avoided where feasible, and minimized and mitigated. It is not sufficient for the Division to rely on the Forest Service plans to protect these species many of which have continued to decline under current Forest Service management. Promises of future “adaptive management” actions based on future studies are also insufficient to meet CEQA's requirements for avoidance, minimization and mitigation.

#2-7

Alternatives are available that would avoid and significantly reduce impacts to species if the proposed project were denied or one of the alternatives selected. As the DEIR admits (even based on the under-estimated impacts of the project) the alternative of Funding of Restricted Riding Areas Only would be the environmentally superior alternative because it significantly avoid many impacts of the proposed project. (DEIR at 9-11, 9-7 to 9-10)

#2-8

In contrast, the DEIR also rejects a similar alternative Closure of Off-Trail Riding Areas as “infeasible” based on an erroneous re-framing of the issue as whether the Division itself could close areas to off-trail riding. (DEIR at 9-2.) Even if the Division cannot alone close areas to off-trail OSV use, it could significantly influence the level of such activities by not funding any grooming and clearing activities in areas where off-trail riding is allowed. As the DEIR

#2-8

elsewhere admits, this would reduce the use of those areas significantly leading to improved conditions for wildlife and other biological resources. In fact, even though the Division is not the land manager for the trails at issue, the Division's control of significant funding for the trail grooming and clearing activities provides it with the ability to select from wide a range of alternatives that would likely result in significant avoidance and reduction of impacts to biological resources. Similarly, the rejection of a prohibition on two-stroke engines is formulated such that it is not feasible but a feasible alternative is available—the Division could decline to fund activities in any areas that allow two-stroke OSVs. To propose alternatives simply to reject them is little more than a slight of hand, setting up “straw-man” alternatives only to reject them fails to meet CEQA's requirements that the agency consider a range of alternatives.

#2-9

Cumulative Impacts: In addition to relying on a flawed baseline for biological resources and failing to adequately address alternatives, the DEIR also fails to adequately consider the impacts of past OSV activities in the analysis of cumulative impacts to biological resources. For example, the DEIR fails to consider the impacts of past snow grooming and clearing activities and OSV use resulting from the Division's funding activities which may have already contributed to the imperiled and declining status of many species in these areas. (DEIR at 5-50 to 51.)

The cumulative impacts that must be considered include, “the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.” CEQA Guidelines Section 15355(b). In addition to considering other activities in these areas that may affect the biological resources, and specifically wildlife, the DEIR should have taken into account the cumulative impact of the proposed project in conjunction with the past grooming clearing and OSV activities that have caused impacts to the biological resources in these areas as well.

Cumulative impacts analysis is a critical part of any CEQA analysis.

[t]he cumulative impact analysis must be substantively meaningful. “A cumulative impact analysis which understates information concerning the severity and significance of cumulative impacts impedes meaningful public discussion and skews the decisionmaker's perspective concerning the environmental consequences of the project, the necessity for mitigation measures, and the appropriateness of project approval. [Citation.] [Citation.] [¶] While technical perfection in a cumulative impact analysis is not required, courts have looked for ‘adequacy, completeness, and a good faith effort at full disclosure.’ (Cal. Code Regs., tit. 14, § 15151.) “A good faith effort to comply with a statute resulting in the production of information is not the same, however, as an absolute failure to comply resulting in the omission of relevant information.” [Citation.]” (*Mountain Lion Coalition v. Fish & Game Comm.* (1989) 214 Cal. App. 3d 1043, 1051-52.)

(*Joy Road Area Forest and Watershed Assoc. v. Cal. Dept. of Forestry* (2006) 142 Cal. App. 4th 656, 676.)

#2-9

Where, as here, the impacts of a project are “cumulatively considerable” the agency must also examine alternatives that would avoid those impacts and mitigation measures for those impacts. (CEQA Guidelines §15130(b)(3).) The DEIR must be supplemented or revised and re-circulated to take into account all of the cumulative impacts of the proposed project.

#2-10

For each of these reasons, and others, the identification and analysis of impacts to biological resources in the DEIR is inadequate and must be revised or supplemented and the revised information and analysis must be re-circulated for public review and comment.

The Identification and Analysis of Impacts to Air Quality is Inadequate and Incomplete Regarding Greenhouse Gas Emissions.

#2-11

The DEIR provides information on the greenhouse gas emissions from the direct activities and the use of the trails that will occur under the proposed project as well as the increase in emissions likely over the 10-year life of the proposed project. However, the analysis of the significance of these emissions is inadequate. For the so-called baseline emissions, the DEIR makes an unfounded assumption that “Although these current conditions are contributing toward the statewide exceedance of the GHG emissions levels in excess of the 1990 rollback goal specified for the state, the impact is not considered significant as it is not a net increase above the current baseline and is not a net increase in GHG.” The DEIR states that for baseline

#2-12

the levels of direct GHG emissions are not significant and although the DEIR admits that the indirect GHG emissions (including both OSV use and travel to and from the area) from the baseline levels which would continue under the proposed project are cumulatively considerable (DEIR at 4-32 to 33).

#2-13

First, the Division is wrong that these emissions are properly analyzed as “baseline” because they will only continue to occur at the past levels if the proposed project goes forward and provides yearly funding. The correct baseline is the conditions in these areas each year before any snow grooming activities or snow clearing begins, and each year these emissions are “new” emissions. Second, even if these emissions were properly considered “ongoing”, these so-called baseline emissions are significant and should be avoided, minimized, and mitigated. The failure to immediately and significantly reduce emissions from existing levels will result in devastating consequences for the economy, public health, natural resources, and the environment. Based on the scientific and factual data, these emissions meet thresholds developed by many agencies (as the Division recognizes in its discussion of the growth in emissions) and the Division’s failure to consider ways to reduce these emissions is unsupportable in the face of the profound threats posed by global warming.

#2-14

Substantial guidance on reaching a determination of significance for greenhouse gas impacts is available. For example, in January 2008, the California Air Pollution Control Officer’s Association (CAPCOA), released a white paper entitled CEQA and Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to CEQA (available at www.capcoa.org). Among other topics, the paper discusses different approaches for making a determination whether a project’s greenhouse gas impacts would be significant of less-

#2-14

than-significant. Notably, CAPCOA concluded that only a threshold of zero or 900 tons was highly compliant with California's emission reduction objectives and highly effective at reducing emissions. Accordingly, a threshold of zero has been used to analyze project GHG impacts and should be applied here. *See, e.g., Communities for a Better Env't v. City of Richmond*, 184 Cal.App.4th 70 (2010).

#2-15

For the GHG emissions growth the proposed project will support the DEIR states that it does reach the significance thresholds adopted by several agencies (DEIR at 4-35) but then dismisses these thresholds because the proposed project is "statewide". However, the use of the per capita "efficiency-based threshold" makes little sense in this context. The DEIR states: "The BAAQMD has also developed an efficiency-based threshold of 4.6 MTCO₂e per service population per year that is meant to allow efficient projects with higher mass emissions to meet the overall GHG reduction goals of AB32." (DEIR at 4-35.) The proposed project is not an "efficient" project in the context in which those thresholds were developed. The use of the per service population per year standard as an alternative to a hard cap of 1,100 MTCO₂e was intended to accommodate larger projects that would potentially *increase* efficiencies and therefore a larger "service population" would be benefited.³ Thus the use of the efficiency-based threshold can not properly be applied to this proposed project in conformance with the BAAQMD standards. Indeed, that the BAAQMD standard is mis-applied is quite clear in this case where the so-called "analysis" proffered by the Division amounts to little more than adding up the emissions from the equipment use and OSV users themselves and then dividing them again—this shows that there is no "service population" across which any efficiency is being spread. As a result, the DEIR entirely fails to address the cumulatively considerable GHG emissions that result from this proposed project.

#2-16

In order to comply with CEQA and the State's GHG goals, the Division must look at ways to avoid, minimize and mitigate the GHG impacts of this proposed project in a supplemental DEIR. The use of diesel fuel for the trail maintenance equipment is of particular concern as it not only releases GHGs but also increases other air pollutants and deposits particulate matter directly on snow surfaces. Recent studies have shown that this kind of soot contributes to early snow melt and can accelerate the impacts of global warming in conjunction with GHGs. Avoidance measures could include, for example: requiring a shift from diesel to other cleaner fuels on an accelerated schedule (rather than passively assuming some beneficial changes might occur in the future); adopting the environmentally superior alternative of limiting funding to those areas which require OSV to stay on trails ("Funding Restricted Riding Areas Only" alternative) which would significantly reduce use and GHGs; and/or limiting funding support to those areas which allow only OSV that emit lower emissions such as newer four-stroke engines (i.e., prohibiting two-stroke engines).

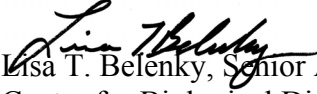
#2-17

Thank you for your consideration of these comments. We look forward to reviewing a Supplemental DEIR for this project that accurately portrays the impacts of the proposed project including impacts to biological resources and GHG emissions and provides for alternatives that

³ Moreover, the proposed rules for the BAAQMD specifically noted that if the project's emission on a mass level will have a cumulative considerable impact on the region's GHG emission, then the efficiency-based threshold would be overcome. Such is the case here.

avoid those impacts, and minimization and mitigation of any remaining impacts. Please include me on the notice list for all documents and actions related to this project going forward. Do not hesitate to contact me if you have any questions regarding these comments.

Sincerely,


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Comment Letter #3: Recreation Outdoors Coalition

Recreation Outdoors Coalition

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State Of California, Department of Parks and Recreation

Off-Highway Motor Vehicle Recreation Division

P.O.B. 942896

Sacramento, CA 95816

Re: Over Snow Vehicle Program Draft Environmental Impact Report

#3-1 Thank you for this opportunity to comment on your DEIR for the ten-year funding commitment of the Over Snow Vehicle (OSV) Program for the maintenance and grooming of winter recreation trails and trailheads throughout California. Although the primary purpose of this program is to benefit motorized vehicles by plowing roads, grooming trails and maintaining facilities it also benefits non-motorized users as well. When these funds can be of benefit to more than just the intended purpose it is a wise expenditure of funds.

#3-2 The preparation of a ten year funding program makes sense. Agencies receiving these funds will know for years in advance that the funds will be there and are stationary. Not having to go through the process every year should also save money by eliminating the yearly planning.

#3-3 With the projected increase in population and inadvertently in this type of use it is important to look at how to meet the needs in the future. By keeping up with the growth and increased needs the public is better served than waiting until the use increases past bearing capacity and trying to deal with the problems related to overuse and under service. Right now, when one looks at the date of establishment of this program and the lack of continual expansion to meet the increased needs I believe this has been a very well managed program. However, how long can it sustain the increased growth without an increase of opportunities? The snow and the open areas are available so expansion of the winter program does not put an additional strain on the resources. Increasing managed, well planned trailheads keeps riders in appropriate locations and not in areas such as wilderness areas and on private lands where use is inappropriate.

#3-4 In looking at the number of groomed miles compared to the number of OSV's today average use is .011 miles of groomed trail per vehicle. If projected growth materializes and there is no increase in groomed miles by 2020 the number of miles of groomed trails per OSV will be .007 which has them on top of each other on a busy day. Safety could be compromised and chances of increased conflict could occur.

When reviewing this document I find the following conclusions:

#3-5 To provide a quality OSV Program it is obvious why this plan rejects a number of alternatives listed in this document.

#3-6 Since the inception of groomed trails the number of OSV's using these trails has increased much faster than additional trails. With the projected further growth it is imperative that the winter program be expanded. A number of potential sites have been identified that will help to accommodate this growing need. First things to look at are safety and management. Areas that would create a challenge to manage should rank lower on any scale of development.

#3-7 Although no new trailheads or expansion are proposed at this time this possibility should not be ignored. Because of the time involved in the planning and implementation of any new opportunities we should be ever diligent in seeking and planning new activities in the event the financial shape of the state changes and the opportunity to entertain an expansion should occur. Increased parking and grooming at acceptable locations could help with expected congestion with increased volume of OSV's.

#3-8 This document is very comprehensive, well written and covers all aspects of OSV activity. However, there are several areas where I would like to either see more information or the information is not correct.

#3-9 It would be helpful to see a graph on the increase in snowmobiles by the year. The average for the 10-year period reflects 4% growth per year spread over each year the greatest growth has been in the past five years which would reflect a much greater growth rate for the next ten years should the economy turn around.

#3-10 On page 2-15 in **Table 2-6. OSV Program, Plowed Access Roads And Trailheads** the Contract Agency/Service Provider listed for Lassen/Morgan Summit is listed as Lassen NF/Caltrans. I believe the main service provider in this instance is the Lassen Volcanic National Park.

#3-11 While the Lassen Volcanic National Park is listed in **Table 3-2. As a Special Interest Area in Project Area Vicinity** this park is about 5 miles from Morgan Summit and it is virtually impossible to ride a snowmobile from the designated OSV area to any portion of the park. The riding area is south of Highway 36 and a designated cross country ski area is on the north side of the highway. These two obstacles, along with the topography, make it impossible to trespass from the OSV area..

#3-12 On page 3-12 under **3.3.2.2 OSV Intrusion into Closed Areas, further, Wilderness Areas and the Lassen National Forest** there are two errors in information. The statement, "Trespass into Lassen Volcanic National Park likely originates from Ashpan or Morgan Summit trailhead". As explained prior it is virtually IMPOSSIBLE to access LVNP from Morgan Summit Trailhead due to highway, cc ski area and topography of the park on that side. Ashpan is also on the north side of Hwy 44 and does not lend itself to any trespass on that side. Any trespass into the park on the south side likely comes from the area between Childs Meadows, east of Mineral across Mill Creek, and the Chester area. On the north side of

the park trespass most generally occurs from USFS road 29N17 and Bogard area, where signage is poor at best.

#3-13 This false information is again reflected on page 3-14 in **Table 3-3. OSV Intrusion Areas, 2009** the origin of perpetrators are again listed as Ashpan and Morgan. It is very difficult to access LVNP from Ashpan as there has to be a high snowfall to access the park from that side and it is virtually impossible to do so from Morgan.

#3-14 Caribou Wilderness is accessible from Swain, Bogard and Chester trailheads.

#3-15 On page 8-10, **Table 8-3. OSV Program Parking Demand, Baseline 2010** the table shows Morgan Summit at potential parking number of 16, with no overflow frequency. There have been a number of days where this lot is completely full, most of the vehicles being for snowplay participants. Snowmobilers have the choice of driving back to the community of Mineral or on into Chester to find suitable off road parking. There are pictures that verify this situation. Discussion has gone on with the Almanor District Office about the potential of enlarging this parking area or creating an additional parking area for snowplay in a different location. However, these discussions have gone nowhere.

#3-16 It is nice to see that this Division has one eye to the future in preparing for growth in OSV use. The areas selected for future expansion are very suitable and well located. The Lake Davis area is well suited for expansion. This area was previously on the Plumas National Forest winter recreation map as a trailhead for OSV and needs to be put back on the map. Until the funds are available from the winter program to provide a groomer and fuel the community is working on a plan to provide these services temporarily to help provide revenues to the community. While attending a poker run in the area last winter a large group from the Reno area was heard to say that if they had grooming at the Lake they would spend much more time there as opposed to going to Tahoe which is impacted with riders. They do come when there is a poker run because they know the trails will be groomed at that time by the local power company for the event.

Information contained in this DEIS is well articulated and very thorough in explaining all aspects of current and future use and potential growth. Division should be commended for a job well done.

Respectfully submitted.


Sylvia Milligan, Chair

Recreation Outdoors Coalition

Comment Letter #4: Snowlands Network



Promoting opportunities for quality, human-powered winter recreation and protecting winter wildlands

California Department of Parks & Recreation
Off-Highway Motor Vehicle Recreation Division
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Sacramento, CA 95816
Attention: Ms. Connie Latham – Associate Park and Recreation Specialist
VIA EMAIL: osvprogrameir@parks.ca.gov

November 19, 2010

RE: Comments on Over Snow Vehicle Program
Draft Environmental Impact Report
Program Years 2010 – 2020

Dear Sirs:

Snowlands Network, Winter Wildlands Alliance, The Wilderness Society and the Center for Sierra Nevada Conservation (“Petitioners”) hereby comment on the proposed ten-year funding commitment to the Over Snow Vehicle Program by the California Department of Parks and Recreation, Off-Highway Motor Vehicle Recreation Division (the “Agency”), and on the associated Draft Environmental Impact Report dated October 20, 2010.

Snowlands Network represents the interests of skiers, snowshoers and other winter recreationists who desire to recreate in areas free from motorized use in California and Nevada. Snowlands has 560 members.

Winter Wildlands Alliance is a national nonprofit organization promoting and preserving winter wildlands and a quality human-powered snowsports experience on public lands nationwide. It has 1,300 members and 40 affiliated organizations who together have an additional 30,000 members.

The Wilderness Society is the leading American conservation organization working to protect our nation’s public lands, the 635 million acres collectively owned by the American people and managed by our government. Today, with more than 500,000 active members and supporters, TWS continues its vital mission to protect wilderness and inspire Americans to care for our wild places.

The Center for Sierra Nevada Conservation advocates sound management of public lands and wise government land use policies.

Several of the Petitioners have previously commented to the Agency on the issues presented by this project.¹

#4-1 The Agency sorely underestimates the impact of its grooming program. The Agency's grooming program in fact is having a huge impact on shaping winter recreation opportunities in California. The program has substantial impacts on the natural environment, including wildlife, water quality, air quality and vegetation – as well as on local economies -- that have not been adequately addressed. The program needs to be modified including through additional mitigation measures.

#4-2 All or almost all the Agency's grooming programs are on lands administered by the United States Department of Agriculture, Forest Service. The Agency relies on mistaken assumptions regarding Forest Service attention to the above issues in order to conclude that its program has an insignificant impact. In fact, the Forest Service is not adequately addressing the user conflicts and reduced recreational opportunities for clean and quiet winter sports caused by this grooming program. The Forest Service is not providing mitigation efforts (through law enforcement, etc) at an effective level.

#4-3 Among other mitigation steps, Petitioners respectfully urge that a portion of the OSV program funds be used to create and maintain trailheads plowed and reserved for human-powered recreation. This will have substantial benefits to the local economies. The sports of backcountry skiing and snowshoeing are two of the fastest growing sports and can substantially contribute to the economies of local communities in and near California's national forests.

#4-4 A growth in human-powered recreation will, in fact, substantially contribute to these economies. An economic impact study conducted by the Gallatin National Forest in 2005 found that non-motorized users generated nearly twice as much spending as motorized users. The study found that non-motorized recreation generated \$7.3 million in economic activity and supported 330 jobs while motorized recreation, particularly snowmobiling, created \$3.9 million in spending and 185 jobs. These statistics and examples illustrate the economic importance of protecting opportunities for quality non-motorized winter recreation.

#4-5 The importance to the people of California in having opportunities for quiet, healthful and clean winter recreation is well-known to the Agency. We ask that the Agency recognize the impact of its grooming program on quiet, human-powered recreation and make adjustments to its program to appropriately balance motorized and non-motorized recreation.

- I. General Discussion
- II. Specific Faulty Statements or Assumptions in the DEIR
- III. Necessary Changes and Mitigation

¹ Letter dated December 19, 2008, and other communications.

I. General Discussion

#4-6

It is a basic fact that some forms of recreation are low impact, and some are high impact. Low impact recreation does not significantly impact the environment or detract from the recreational experience of other users, while high impact recreation does.

- An extremely low impact recreation is skiing or snowshoeing across hardened snow.
- An extremely high impact recreation is driving a fossil fuel-powered over-snow-vehicle across a wild landscape.

The huge disparity between the above recreational uses sets the background for our comments.

Snowmobiles are a high impact recreational use that impact wildlife, air quality, water quality and vegetation to a greater degree than the Agency has acknowledged. In the last fifteen years, technology has vastly expanded the capabilities of snowmobiles. They can now travel into remote backcountry areas previously not threatened by their impact. These machines are loud, fast, and require skilled operators for safety. As Winter Wildlands has stated,

“Until the 1990’s, there was little overlap between motorized and non-motorized winter forest users. Before that time, motorized use was generally restricted to packed trails and roads as early snowmobiles would easily become bogged down in deep snow. Skiers and snowshoers wishing to avoid motorized impacts could go off trail to areas unreachable by snowmobile. In the 1990’s, however, the development of the “powder sled” vastly increased the reach of snowmobiles allowing the newer, more powerful machines to dominate terrain previously accessible only by backcountry skis or snowshoes and putting the two user groups on the current collision course.”²

#4-7

The Agency has turned a blind eye to this issue of user conflicts, by hiding behind the notion of multiple use. Multiple use does not mean multiple use on every acre of ground, nor on every trail. Some uses are not compatible with other uses, and must be constrained or they will monopolize recreation opportunities. This is happening in California. The Agency’s actions through this program substantially favor the use of forest lands for motorized recreation over human-powered recreation. This creates de facto single-use forest lands. *In contrast to current practice, the concept of “multiple use” calls for balancing motorized and human-powered opportunities. This necessarily means closing some areas to snowmobiles in order to ensure the continued availability of places for quiet, non-motorized recreation experiences.*

#4-8

A fundamental difference between winter recreation and summer recreation on national forest lands is access. In winter, trailheads start only from plowed roads, and only from plowed roads where there are plowed parking areas. Winter parking access is less than 1% of summer parking access. Thus, the Agency’s program, in making trailheads available for OSV use, is a critical factor in shaping winter recreation in California.

² Winter Wildlands Alliance, Winter Recreation on Western National Forest Lands, 2006, at p. 1.

#4-8

The trailheads plowed under this program, and under the Sno-Park program (which also benefits motorized users) provide, in many areas, the only reliable access to winter recreation on forest lands. But, with a few exceptions, they are monopolized by snowmobiles. Accordingly, the program creates a huge and unfair balance, with Forest Service lands – which are intended to be multiple use – devoted to serving a small percentage of users. Agency data confirms this gross imbalance, showing more than TEN times as many trails groomed for snowmobile recreation as for nonmotorized recreation in California National Forests (DEIR Table 8-2). Agency data shows very few plowed access points where clean and quiet recreation opportunities are protected.

#4-9

It is a fact, not a conjecture, that skiers and snowshoers do *not* want to recreate in the vicinity of snowmobiles. Many of these winter recreationists specifically seek quiet lands free from the whine and noxious emissions of motorized transport. For many people, outdoor recreation means the absence of noise and noxious exhaust.

Due to their noise and air pollution and the relative barrenness of the winter landscapes, snowmobiles perhaps have a unique ability to disturb a great many people over a wide area. Reported conflicts are minimized because skiers and snowshoers avoid these areas. CDPR's 2009 Winter Trailhead Survey results confirm this fact, with skiers and snowshoers constituting less than 16% the number of snowmobilers at OSV program locations, despite there being far more skiers and snowshoers in California than snowmobilers. Many if not most of that 16% are at the OSV program area only because of the lack of comparable areas reserved for quiet recreation. They quietly suffer a poor recreation experience because it is better than none at all. Because areas protected for quiet recreation are very limited, the result is an artificial promotion of the sport of snowmobiling by the State of California and the Forest Service, and an artificial repression of the quiet and environmentally favorable, low-impact sports of skiing and snowshoeing.

#4-10

The Agency proposes to exacerbate this huge imbalance by the creation of additional OSV trailheads to its program. This will further encourage the growth of snowmobiling to the detriment of human-powered winter recreation. More trailheads and more areas will become monopolized by OSV vehicles and human-powered recreationists will lose the remaining quiet recreation opportunities that currently exist.

#4-11

Petitioners submit that these human-powered sports serve stated government policies to a far greater extent than gas-powered high-impact sports. Human-powered sports can provide opportunities for the greatest number of individuals, do not stimulate our dependency on oil, do not in themselves contribute to global warming, provide a larger benefit to local economies and do not impact the State's air quality, water quality and wildlife.

#4-12

Petitioners also submit that these sports would achieve any even larger popularity and much higher use numbers *were the State of California and the Forest Service to provide human-powered recreationists a fair share of recreational opportunities.* Instead, the OSV grooming program, by placing large numbers of OSV vehicles at the primary locations for winter recreation, is monopolizing federal lands for a single purpose and retarding the growth of human-powered recreation. Snowmobiling as a sport is encouraged, while cross-country skiing, snowshoeing, and other low-impact forms of winter recreation have their recreation opportunities

taken away. Trailheads that might otherwise be open to quiet winter recreation are being monopolized by snowmobiles.

#4-13

NVUM data demonstrates that skiers and snowshoers outnumber snowmobilers. In fact, due to bias or oversight in the NVUM methodology (discussed further below), the disproportion is far greater than NVUM data indicates. National data shows that snowshoeing and backcountry skiing are two of the fastest growing sports, increasing at rates far greater than the increase in snowmobiling. This is good for public health and the environment, and should be facilitated and encouraged.

#4-14

It is often pointed out that areas designated as Wilderness are closed to all motor vehicles, including OSVs. However, Wilderness areas are frequently located deep in the national forests, far from plowed trailheads and particularly difficult to access in winter. Also, Wilderness areas generally have more mountainous terrain, suitable for telemark or AT skiing but not well-suited to cross-country touring or novice travel. They simply do not and cannot meet the current demand for areas reserved for quiet, human-powered recreation *that are readily accessed in winter*.

II. Specific Faulty Statements or Assumptions in the DEIR

1. Alternatives

#4-15

The Agency failed to consider a fair range of alternatives, in part because the Agency failed to recognize that it can influence Forest Service action. The Agency failed seriously to consider the alternative of requiring use of newer and less polluting technology (i.e four-stroke snowmobiles, which generally create far less noise and pollution than two-stroke snowmobiles.) The Agency improperly discounted alternative S.3.3, Funding Restricted Riding Areas only, because it wrongly assumed that it could not influence coordinated action from the Forest Service. The Agency should confer with the Forest Service first, and determine whether the Forest Service would close existing areas to off-trail riding in exchange for continued receipt of grooming funds for such areas. This action would provide better mitigation of the adverse impacts from the program.

#4-16

In addition, the Agency failed to consider an alternative that recognizes the de facto winter recreation management plan the program creates on National Forest lands. The Agency is essentially crafting a winter recreation plan for National Forest lands in California without adequate public comment or process. The Forest Service has a duty to manage motorized oversnow vehicles in such a way as to minimize impacts to water, wildlife, vegetation, and other resources, as well as to other recreational uses (proposed and existing). See Executive Order No. 11644 as amended by Executive Order No. 11989. It is inappropriate for the Agency to continue with its extensive grooming program – or to expand such program -- until the Forest Service through a public planning process determines winter allocations compliant with the Executive Order direction.

2. Area of Controversy

#4-17

The primary issue of concern raised by these comments is NOT the environmental effects of snowmobiles in general. The primary issue raised by these comments is the environmental effect of the Agency's grooming program itself in disproportionately encouraging the monopolization of winter recreation in California by snowmobiles. The grooming program actively promotes the growth of snowmobiling, and unfairly restrains the growth of quiet winter recreation such as skiing and snowshoeing.

3. Baseline

#4-18

The Agency wrongly applies conditions that exist under its current OSV program as the appropriate baseline for consideration of the impacts from continuation of such program. This is inappropriate bootstrapping.

4. Growth in Winter Recreation

#4-19

The Agency seriously and systematically underestimates the demand for nonmotorized winter recreation. The Agency determines the growth in the sport of snowmobiling by the increase in the number of registered snowmobiles, but determines the growth in nonmotorized winter recreation by the increase (or decline) in sales of Sno-Park permits. This gives a seriously flawed result. The decline in sales of Sno-Park permits may be due to several reasons, including perhaps a sentiment that cross-country skiing and snowshoeing on our national forests ought to be free, *like snowmobiling on our national forests is free*. In fact, national winter recreation trends show a substantial growth in the sports of cross-country skiing and snowshoeing, *each by over 20% a year*.

NVUM and other usage figures understate human-powered recreation because they overlook two newly popular winter sports. Historically, participants in these sports were not counted because they were so few. One of these activities is backcountry skiing using skins, lightweight wide skis and Alpine Touring (AT) bindings. Previously, this sport had been pursued by backcountry telemark skiers, but today AT skiers outnumber the "old school" telemark skiers. According to SnowSports Industries America, sales of AT skiing gear increased 60% from 2007 to 2009.³

The second sport is backcountry snowshoeing, which is increasing at an equally dramatic pace. Nationally, snowshoeing increased an incredible 43% in just two years, from 2007 to 2009.⁴ *NVUM data has not tracked snowshoeing, a sport which has rapidly grown in only the last five years*. The popularity of these two sports – and the rapid increase in the number of new winter recreationists recreating in this manner – is obvious to anyone who spends time forest lands in winter. In contrast to the rapid growth in human-powered winter recreation, the Outdoor Foundation's 2009 survey shows that snowmobiling is in decline, with a 3.1% decrease in participants from 2007 to 2008.⁵

³ From \$5.2 million for the 2006-2007 season to \$8.6 million in the 2009-2010 season.

⁴ Data collected by The Physical Activity Council and reported in "Outdoor Recreation Participation Top Line Report 2010" available at www.outdoorfoundation.org.

⁵ Outdoor Foundation, Outdoor Recreation Participation Report, 2009 at page 46.

#4-19

The Agency's blindness to the growth in these sports (as well as the resurgence of cross-country skiing and skate skiing), allows it to make this disingenuous statement: "Given the downward trend in day permit purchases, projecting an increase in non-motorized recreation use levels at sno-parks...is tenuous."⁶ The Agency needs to look behind this statement and understand what is really occurring. The demand for cross-country ski and snowshoe areas is not being met by the sno-parks, while the Agency's OSV program continues to encourage the growth in snowmobiling opportunities at the expense of cross-country and snowshoe opportunities.

#4-20

5. Intrusion into Closed Areas and Enforcement

The DEIR notes that snowmobiles using the program's trailheads trespass into areas closed to OSV use (generally Wilderness areas) The Agency wrongly relies on mitigation measure LU-1 to render the impact of this trespass insignificant.

The Agency underestimates the severity of the trespass and, without foundation, assumes that a reference to Forest Service enforcement efforts—which are universally underfunded and inadequate— somehow will provide adequate mitigation.

Snowlands Network and Winter Wildlands Alliance receive many comments from their members complaining about the effects of illegal snowmobile use on their most treasured recreation experiences. The most virulent letters go something like this: They describe the members' desire to ski in clean and quiet areas, without noise and pollution from snowmobiles. They describe the hours of effort in traversing by one's own power miles of snow-covered terrain to reach the Wilderness. They describe the skier's joy at finally reaching the slopes he wants to ski in the Wilderness, finally free from motorized intrusion. And then they describe the skier's utter rage and disappointment at finding the slope tracked up by trespassing snowmobiles and the serenity of the Wilderness shattered. All that effort – perhaps weeks in anticipation and planning for the full-day or multi-day excursion -- only to feel at the end that one has been robbed. It may be that only a small percentage of snowmobilers engage in trespass, but the fact is trespass continues. Trespass is frequently witnessed. Trespass is a serious and substantial problem.

The Forest Service recognizes this problem but simply does not have the manpower to stop trespass through enforcement. The boundaries between open areas and wilderness are not readily monitored from the road; they are generally miles from the road, deep in the forest. The few individuals who are caught in the act of trespass often escape or are not prosecuted; they are a small handful of the actual trespassers in any event. The budget for enforcement needs to be increased a multiple of times before it would be a truly effective mitigation measure...and broader zones need to be closed to motorized vehicles so that some enforcement can occur simply by monitoring roadways.

The Agency legally may not take credit for mitigation that is not happening, simply by declaring mitigation to be the responsibility of another agency. It is arbitrary and capricious for

⁶ DEIR 2.7.2.2

the Agency to assert – as it does in section 3.3.2.2, that its referral of the trespass program to the Forest Service will “ensure” that trespass remains “less than significant”.

6. Air Quality, Energy and Greenhouse Gases.

#4-21

The DEIR states “With the uncertain future emissions restrictions, fleet mix, user acceptance, and rate of phase out of older equipment, it is difficult to predict what in-use OSV emissions will be over the next 10 years.” (DEIR 4.1.3.3) This statement also is disingenuous. Such emissions will almost certainly remain unacceptably high unless action is taken to reduce snowmobile emissions. Snowmobiles emit pollution to a larger degree than most other vehicles. The EPA has noted that a two-stroke snowmobile can emit as much hydrocarbons and nitrogen oxides as almost 100 cars and create up to 1,000 times more carbon monoxide.⁷ The Agency’s own pollution estimates show that the OSV use from the program pollutes more than 100 times the amount of hydrocarbons as are emitted from users driving their vehicles to the trailhead. (DEIR, table 4.11)

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In order to give a fair environmental review, the DEIR must compare existing restrictions on snowmobile emissions to existing restrictions on passenger vehicle car emissions to indicate the relative significance of snowmobile emissions. The Agency must consider whether the relative pollution contributed by this form of transport, as compared to other forms of transport, is itself a significant impact.

#4-23

The Agency’s assumptions regarding future composition of snowmobile fleets is undisclosed and, on information and belief, arbitrary and capricious. The Agency must reveal its projected fleet assumptions and explain their basis in fact. The Agency must also show estimates of future pollution assuming no changes in the relative composition of fleets between older two-stroke and newer four-stroke technology.

#4-24

The Agency fails to adequately consider the impact of OSV air pollution on other users. Snowmobile exhaust lingers on OSV trails, rendering them an unhealthy environment for the aerobic sports of skiing and snowshoeing. Human-powered recreationists must traverse through clouds of snowmobile emissions at and close to trailheads, which exposes individuals to far greater levels of air pollution than they normally encounter. The levels of air pollution prevalent at trailheads should be measured and compared to existing standards for clean air, including under OSHA and other rules affecting workplace conditions.

#4-25

The Agency must adopt policies, including selected prohibition of older technology or altered machines, in order to mitigate this and other impacts of OSVs.

7. Biological Resources; Hydrology and Water Quality.

#4-26

Here and in other areas, the Agency assumes the Forest Service has considered the impacts of its OSV grooming program when, in fact, the Forest Service has not. The Forest Service has not determined to manage snowmobiles with respect to the significant environmental issues noted in the DEIR. The Forest Service does not even conduct an environmental

⁷ Environmental Protection Agency. 2002. Environmental Impacts of Newly Regulated Non-road Engines: Frequently Asked Questions. Office of Transportation and Air Quality.

assessment regarding its implementation of the OSV Program, relying instead on a categorical exclusion which avoids an analysis of impacts.

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The Agency also makes several statements and determinations that are not rooted in sound science or evidence. The Agency notes that “Most scientific studies looking at snowmobile effects on wildlife populations were conducted many years ago when snowmobile technology was in its infancy and available speeds were much lower than the high speeds that the current snowmobile models can attain.” (DEIR 5.3.3.1 et al) But this statement is belied by the fact that the Agency itself continues to use and reference these studies. In fact, some evidence indicates a much larger impact from snowmobiles than shown by earlier studies. Due to the ability of today’s machines to travel large distances and access remote terrain, and the fragility of the mountain environments in which they operate, the Agency must give these issues closer consideration. Petitioners will separately provide the Agency a discussion of the impacts of snowmobiles as documented by scientific studies, to be included as an Exhibit to these comments.

#4-28

In addition, the Agency has apparently measured the relative soil compaction caused by snowmobiles by dividing their weight by their surface area and comparing such impact to comparable measurements for humans, etc. (DEIR table 6-2) This analysis ignores the fact that snowmobiles can be travelling at speeds over 60 mph and often are engaged in jumping, carving and deep cut turns by more advanced riders as well as simply riding up and down across varied terrain, where the impact to the ground depends on one’s speed. Snowmobiles have a far greater compressive effect on the soil than the Agency has assumed – perhaps not when cruising flat trails, but when high-marking, riding hard over rough terrain and crossing dips such as stream courses.

#4-29

As with the other mitigation efforts described in the DEIR, the Agency must provide for (i) verifiable reporting of the success of the mitigation efforts and (ii) an automatic suspension of grooming activities in the event impacts are occurring at a level that is more significant than the Agency has assumed in the DEIR.

8. Noise.

#4-30

One need not make technical noise measurements to recognize that the typical snowmobile creates a huge amount of noise – comparable to aircraft. The noise of most snowmobiles destroys the quiet recreational experience of other users within a mile - or several miles - of the snowmobile. The Agency capriciously discounts the problem of snowmobile noise in several ways.

First, the Agency determines that by definition the problem does not exist. Throughout its review, the Agency notes that its OSV program areas are intended for snowmobile use and, accordingly, other users are on notice that snowmobiles will be there. Thus, the impact of snowmobiles is negligible. In the words of the Agency, “Nonmotorized users of the trail system know in advance that OSV use occurs on and off the trails in the Project Area and that project trails do not offer protection from intrusive sights of sounds of snowmobiles.” (7.3.2.1) *If giving people notice of noise were a sufficient justification to allow noise pollution, there would never be noise pollution.* Most offensive sources of noise are well-known, recognized and highly

#4-30 | predictable in their recurrence. This tautology is not justification or mitigation. The Agency further ignores the fact that there simply are NOT accessible alternative areas where many of these skiers and snowshoers can pursue their sport free from the noise of motorized vehicles.

#4-31 | Second, the Agency willingly ignores the actual level of snowmobile noise. The Agency concludes that a 73 db level of noise is insignificant (7.3.2.2), but in fact – as the Agency recognizes elsewhere - snowmobile noise is far greater than 73 db. *73 db is a voluntary standard for snowmobiles travelling essentially at idle power* and the Agency recognizes that many users alter their vehicles to increase power, violating even the higher legal standard of 82 db. It would appear that the Agency has made no effort to determine actual noise levels prevalent at its program locations! Snowmobile noise levels can be casually assessed by standing on roadways adjacent to areas of snowmobile activity. It is readily apparent that snowmobiles in fact create *far greater* noise than passenger vehicles travelling on highways.

#4-32 | Third, the Agency wrongfully assumes that the winter landscape deadens the transmission of noise when, in fact, due to the cold air, the often hard surface of the snowpack in typical Sierra Nevada conditions, the smooth surface of the snowscape and its coverage of native shrubs, the Sierra Nevada winter landscape is *particularly susceptible* to noise pollution. As is apparent to any winter user, snowmobile noise travels *much farther* than the half mile generally assumed for OHV vehicle noise in summer.

#4-33 | Fourth, the Agency wrongly assumes that the Forest Service is addressing this issue through its zoning powers. The Agency states that “OSV use is restricted to specific trail locations in order to minimize conflicts between uses.” (DEIR 7.3.2.1) This simply is not true. There are relatively few areas outside of Wilderness where snowmobiles are restricted in the Sierra Nevada national forests.

#4-34 | Fifth, the Agency wrongly assumes that because the Forest Service has not set noise limits on OSVs, then the noise impacts must be insignificant. (DEIR 7.3.2.1, et al)

8. Recreation Conflicts

#4-35 | The Agency wrongly assumes that recreation conflicts are being addressed by the Forest Service through motorized travel plans and OSV regulations (DEIR 8.1.4). This is not true. In fact, many national forests are intentionally deferring consideration of the impact of snowmobiles, and snowmobile restrictions and prohibitions, due to the snowmobile non-rule, 36 C.F.R. 212.81.

#4-36 | The Agency wrongly relies on Sno-Park sales data and NVUM data to indicate user demand when it is apparent that these sources understate skier and snowshoer visits and demand. (DEIR 8.2.1) Sno-Park data indicates only the success of the Sno-Park program, and indicates only that the Sno-Park program is NOT meeting current demand. NVUM data – which as quoted by the Agency shows skier visits outnumber snowmobiler visits, still significantly understates the current number of skiers and snowshoers for several readily apparent reasons. The NVUM program has generally not tracked the numbers of snowshoers because this sport is new as a popular winter activity. The NVUM data also does not appear to track the number of backcountry skiers, who consider their sport very different from “cross-country skiing” and who

#4-36

– due to the relative paucity of trailheads that serve their needs, often are not counted in NVUM surveys. Even if backcountry skiers or snowshoers were counted as “cross-country skiers,” in the NVUM data, most of the data simply does not reflect the recent rapid growth of backcountry AT touring and of snowshoeing. These sports have blossomed in recent years due to a variety of factors, including more advanced gear and a watershed recognition of snowshoeing as a mainstream winter sport. In addition, in recent years, the sport of cross-country skiing has undergone a resurgence with the growth in popularity of skate skiing, which is particularly suited to the Sierra Nevada with its long spring season with hardened surface conditions.

Industry sales figures provide a reliable indication of the rapid growth in the sport and the recent increase in users. According to SnowSports Industries America, sales of AT skiing gear increased 60% from 2007 to 2009, despite the recession.⁸ The Physical Activity Council only started tracking AT touring as a distinct sport in the 2007-2008 season and its data shows an 11.6% growth in AT touring in the next year, 2008-2009.⁹ Telemark skiing also continues to grow at a rapid pace, with the Outdoor Foundation reporting a 22% growth from 2007 to 2008.¹⁰

Although it has been ignored by NVUM surveys, snowshoeing has recently had watershed recognition as a mainstream winter sport. According to The Physical Activity Council, the sport of snowshoeing increased an incredible 43% in two years, from 2007 to 2009.¹¹ The Outdoor Foundation likewise reports a 22% growth in snowshoeing in the one year from 2007 to 2008.¹² Also, according to SnowSports Industries America, in just three seasons, from 2007 to 2010, sales of snowshoe equipment increased 97%.¹³ Tahoe area cross-country ski resorts have recently recognized this new sport, adding snowshoe rentals and tours to their business.

Cross country skiing has also undergone dramatic recent change and growth. According to The Physical Activity Council, cross country skiing increased 17.8% in just two seasons, from 2007 to 2009.¹⁴ The California mountain snowscape is in many respects ideally suited to be a mecca for cross-country skiing. The newly popular sport of skate skiing generally requires groomed conditions. But, due to the rapid settling of the maritime snowpack, backcountry skate skiing is often feasible in the California mountains. This sport is destined to grow substantially as more people appreciate its possibilities and will create increased demand for quiet areas untracked by snowmobiles.

#4-37

The Agency wrongly assumes that “in practicality steep terrain, lack of snow, and poor access substantially limit areas available to OSV use.” (DEIR 8.2.2) Whereas this statement might have been true twenty years ago, it is no longer true today, as further described above.

⁸ From \$5.2 million for the 2006-2007 season to \$8.6 million in the 2009-2010 season.

⁹ SIA email to Snowlands Network.

¹⁰ Outdoor Foundation, Outdoor Recreation Participation Report 2009, at p. 10.

¹¹ Data collected by The Physical Activity Council and reported in “Outdoor Recreation Participation Top Line Report 2010” available at www.outdoorfoundation.org.

¹² Outdoor Foundation, Outdoor Recreation Participation Report 2009, at p. 10.

¹³ SIA email to Snowlands Network.¹⁴ Data collected by The Physical Activity Council and reported in “Outdoor Recreation Participation Top Line Report 2010” available at www.outdoorfoundation.org.

¹⁴ Data collected by The Physical Activity Council and reported in “Outdoor Recreation Participation Top Line Report 2010” available at www.outdoorfoundation.org.

#4-38

In finding no significant conflict with nonmotorized users, the Agency continues to rely on the 73 db noise level voluntary standard, even though this standard is irrelevant: it is a voluntary standard a snowmobile travelling at 15 mph, which is little more than idle for today's powerful machines. The Agency recognizes that this standard is irrelevant and yet uses it anyway. (DEIR 8.3.2.3)

#4-39

Throughout its discussion of recreation, the Agency continues to rely on the bootstrap argument that conflict is irrelevant because nonmotorized users know snowmobiles will be present, and on the false assumption that the Forest Service is providing a proportionate amount of areas reserved for and accessible to nonmotorized users. The fact is, nonmotorized users do NOT want to recreate in areas frequented by snowmobiles. They recreate in such areas only because the Forest Service does not make proportionate lands available for nonmotorized users to be free from motorized traffic. In analyzing the environmental impact of its program, the Agency needs to consider these realities.

III. Necessary Changes and Mitigation

#4-40

1. Increase in Trailheads Reserved for Clean and Quiet Recreation

In order to mitigate the significant adverse impacts of its program, the Agency needs to contribute funding to the creation of trailheads reserved for human-powered winter recreation, and cause the Forest Service to protect such areas from motorized travel. In some cases, this may be accomplished by dedicating existing Sno-park or OSV program locations to clean and quiet recreation, or by dividing existing locations into areas where OSV travel is permitted and areas where OSV travel is not permitted. In other locations new trailhead locations must be established, largely through dedicated funding of additional existing but unplowed trailhead locations. The Agency OSV Program must be made dependent on such mitigation measures creating a balance of opportunities for winter recreation in California.

#4-41

2. Restrictions on Older Technology

In OSV program areas where there is significant skier and snowshoer traffic, or significant demand for clean and quiet recreation opportunities, the Agency must restrict or require the Forest Service (as a condition to the receipt of grooming funds) to restrict the continued use of snowmobiles that emit substantial exhaust or substantial noise. Generally, this would require the use in these areas of newer generation snowmobiles (e.g. four-stroke engines) that have not been altered to increase performance or noise levels.

The Agency may not reject this alternative as beyond the scope of the OSV Program. The Agency is required to mitigate the effects of its program, and restricting the types of vehicles that may be used in an area is a well-established mitigation measure. The impact on owners of older technology equipment can be minimized by phasing the restrictions in over the program areas over a period of time.

3. Additional Funds for Enforcement

#4-42

The Agency needs to dedicate substantial additional funds to enforcement efforts and work with the Forest Service to improve enforcement against trespass by designating large areas as nonmotorized, where enforcement can be provided in part by monitoring roadways. This is particularly important in the vicinity of Wilderness.

4. U.S. Forest Service Recreation Plan Needed

#4-43

As noted above, the Forest Service has a duty to manage motorized oversnow vehicles in such a way as to minimize impacts to water, wildlife, vegetation, and other resources, as well as to other recreational uses (proposed and existing). See Executive Order No. 11644 as amended by Executive Order No. 11989. It is inappropriate for the Agency to continue with extensive grooming operations – and especially to begin planning for new trailheads devoted to this program-- which establishes de facto winter recreation allocations on National Forest lands, until the Forest Service through a public planning process determines winter allocations compliant with the Executive Order direction. The planning process must be spearheaded by the Forest Service as the land manager, but could be conducted in cooperation with the Agency.

Petitioners would appreciate the opportunity to meet with the Agency to further discuss their concerns in a cooperative manner.

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Appendix C

ENVIRONMENTAL IMPACTS FROM OVER-SNOW VEHICLE USE

Scientific evidence indicates significant OSV impacts on animals, plants, soils, air and water quality, and the ecology of entire winter ecosystems. OSV impacts to wildlife and wildlands represent a negative cycle where one impact leads to and compounds the next, and where the synergistic impacts cascade into major, long-term, and potentially cumulative adverse impacts. While the severity of OSV impacts will differ depending on the site-specific characteristics of an area, OSV use clearly impacts any winter ecosystem on which it occurs.

Soil and Vegetation Damage

Over Snow Vehicles cause significant damage to land cover through direct physical injury as well as indirectly through snow compaction. Impacts on soil and vegetation include retarded growth, erosion, and physical damage (Baker and Bithmann, 2005). These impacts are exacerbated on steep slopes (Stangl, 1999) or in areas with inadequate snow cover (Stangl, 1999; Baker and Bithmann, 2005). This erosion can lead to increased soil runoff resulting in sedimentation and turbidity in the immediate area and throughout the watershed (Stangl, 1999). Rongstad (1980) reported delayed flowering in some plants in spring, lower soil bacteria, and elimination of some plants due to snow compaction.

Snow compaction from snowmobiles can lower soil temperatures and reduce the survival of plants and soil microbes (Wanek, 1973). A natural, un-compacted snowpack greater than 45 cm deep will prevent frost from penetrating the soil (Baker and Bithmann, 2005). However, the thermal conductivity of snow, when compacted by snowmobiles, is greatly increased, resulting in both greater temperature fluctuations and overall lower soil temperatures (Baker, and Bithmann, 2005). This in turn inhibits soil bacteria that play a critical role in the plant food cycle (Stangl, 1999). Thus the growth and reproductive success of early spring flowers is retarded and reduced (Wanek, 1973). Packed snowmobile trails can also dilute important sunlight “cues” that filter down to subnivean plants and stimulate them to grow or reproduce (Canadian Wildlife Federation, 1998). Additionally, the timing of snowmelt determines the distribution of plant communities in subalpine zones, so delays in spring growth caused by snow compaction from snowmobiles can cause drastic changes in subalpine plant communities (Biodiversity Conservation Alliance, 2002).

Vegetation in riparian areas is highly susceptible to damage from snowmobiles (Stangl, 1999).

In their study of snowmobile impacts on old field and marsh vegetation in Nova Scotia, Canada, Keddy *et al.* (1979) concluded: Compaction may affect the soil surface microstructure, which Harper *et al.*, (1965) have shown will greatly determine the suitability of a site for seed germination. Compaction of the previous year’s vegetation and/or spring snow retention may also affect early spring germination and growth. Compaction of vegetation may affect seed dispersal from capsules still attached to dead

stalks. And finally, snow compactions may modify seed predation patterns by subnivean rodents. In his study of the effects of snowmobile activity on wintering pheasants and wetland vegetation in Iowa, Sojda (1978) revealed that snowmobiling caused a 23 percent decrease in cattail density, 12 percent decrease in cattail height, and a 44 percent increase in *Carex* density. These changes were believed to be caused by a change in gas exchange as a result of the cutting and submerging of litter by snowmobile activity.

When snowmobiles are riding over the snow, abrasion and breakage of seedlings, shrubs, and other exposed vegetation is common (Stangl, 1999). Neumann and Merriam (1972) showed that direct mechanical effects by snowmobiles on vegetation at and above snow surface can be severe. After only a single pass by a snowmobile, more than 78 percent of the saplings on the trail were damaged, and nearly 27 percent of them were damaged seriously enough to cause a high probability of death. Young conifers were found to be extremely susceptible to damage from snowmobiles. Wanek (1971a), in a study in Minnesota, reported that 47 percent of pines and over 55 percent of white spruce sustained damage by snowmobiles traversing his study site. In 1973, with reduced snowfall, Wanek (1973; undated) documented that 92.6 percent of white spruce were damaged, with 45.4 percent receiving heavy damage and 8 percent perishing altogether within his snowmobile study site. As part of ongoing efforts to evaluate regeneration and thinning needs the Gallatin National Forest conducted regeneration transect surveys of previously logged timber stands. Required by the National Forest Management Act the surveys look for a variety of damage types and causes, including insects, diseases, and recreation. On the 72,393 acres surveyed between 1983 and 1995, snowmobiles damaged between 12 and 720 trees per acre (WWA, 2009) (See Appendix ____). Given the recent petition to list the Whitebark Pine as an endangered species (NRDC, 2008), and the multiple ecosystem benefits this tree species provides, protection of sub-alpine vegetation from damage such as that caused by OSVs is imperative.

Air and Water Quality

Impacts of OSV use include the degradation of both air and water quality. Two-stroke engines, which represent the vast majority of OSV use on NFS land, are particularly onerous. A two-stroke snowmobile can emit as much hydrocarbons and nitrogen oxides as 100 cars and create up to 1,000 times more carbon monoxide (EPA, 2002).

Two-stroke engines emit dangerous levels of airborne toxins including nitrogen oxides, carbon monoxide, ozone, aldehydes, butadiene, benzenes, and extremely persistent polycyclic aromatic hydrocarbons (PAH).¹ Several of these compounds are listed as "known" or "probable" human carcinogens by the EPA. Benzene, for instance, is a "known" human carcinogen and several aldehydes including butadiene are classified as "probable human carcinogens." All are believed to cause deleterious health effects in

¹ In their study of cars and motorcycles (2 stroke and 4 stroke) with and without catalysts (catalytic converters), Chan et al. (1995) found that noncatalyst vehicle emission contained more volatile organic compounds (VOCs - benzene, heptene, heptane, toluene, ethylbenzene, m/p-xylene, isopropyl benzene) than those emitted by catalyst vehicles while two-stroke engines emitted more VOCs than four stroke engines.

humans and animals well short of fatal doses (EPA 1993). In addition, two-stroke engines also discharge 25-30 percent of their fuel mixture unburned directly into the environment (Blue Water Network 2002). Unburned fuel contains many toxic compounds including benzene, toluene, xylene and the extremely persistent suspected human carcinogen Methyl Tertiary Butyl Ether (MTBE). Winter recreationists are especially at risk because the concentration of these emissions increases with elevation and cold (Janssen and Schettler, 2003).

Clean Air Act

the United States government has enacted a series of air quality acts, beginning with the Air Pollution Control Act of 1955, and followed by the Clean Air Act of 1963, the Air Quality Act of 1967, the Clean Air Act Extension of 1970, and Clean Air Act Amendments in 1977 and 1990. These acts require the U.S. Environmental Protection Agency to set National Ambient Air Quality Standards for pollutants considered harmful to public health and the environment. Air quality standards for snowmobile emissions include carbon monoxide (CO), unburned hydrocarbons (HC), particulate matter (PM), and oxides of nitrogen (NO). As noted below, snowmobiles produce significant emissions including CO, HC, PM, and NO (Morris *et. al.*, 1999). In heavily traveled snowmobile use areas, snowmobile emissions likely exceed National Ambient Air Quality Standards.

In 2007, the U.S. Supreme Court ruled that carbon dioxide (CO₂) is an "air pollutant" under the Clean Air Act and that the Environmental Protection Agency (EPA) can regulate CO₂ emissions from motor vehicles (Greenhouse, 2007). Since then, states also have begun to assert independent authority to require consideration of climate change in environmental impact assessments (Grant and Webber, 2007). Future compliance to the Clean Air Act and NEPA will likely require consideration of carbon dioxide emitted by snowmobiles, as evidenced by recent proposals from both CEQ (Sutley, 2010) and EPA (EPA, 2008).

Carbon Monoxide

Dangerous levels of carbon monoxide (CO) and particulate matter (PM) are a primary concern. CO is extremely dangerous to humans (discussed below), and particulate matter is a recently confirmed human carcinogen by the Environmental Protection Agency. Snowmobiles emit dangerously high levels of carbon monoxide. A study conducted for the National Park Service in 1997 concluded that a single snowmobile produces 500-1000 times more carbon monoxide than a 1988 passenger car (Fussell-Snook 1997).²

²Notably, comparisons to a current model-year passenger vehicle would increase this figure significantly. Some modern cars emit only .12 grams/kW-hr as compared to CARB estimates of 1078 grams/kW-hr for snowmobiles. As a result, some snowmobiles produce almost 9,000 times more carbon monoxide during a given period than a modern car.

Due to the popularity and proliferation of snowmobile use in West Yellowstone during the 1990's, the Park Service conducted air quality studies under various conditions at the West Entrance. The park used stationary and mobile testing apparatus in 1995 and 1996, focusing on carbon monoxide (CO) and particulate matter concentrations at ground level. Preliminary results indicate that CO levels exceed federal and state ambient air quality standards at certain times.³ In fact, a reading of 36 ppm in 1996 was the highest concentration recorded for CO nationwide, including cities with notoriously high CO levels such as Los Angeles and Denver. Results from both years demonstrate a positive correlation between snowmobile density and high CO levels.

Carbon monoxide is also dangerous because it binds to the hemoglobin in blood (forming carboxyhemoglobin) and renders hemoglobin incapable of transporting oxygen (Fussell-Snook 1997). Elevated levels of carboxyhemoglobin can cause neural-behavioral effects at low levels (2-3 percent), headaches and fatigue (10 percent), and respiratory failure and death at higher levels. CO is particularly hazardous during pregnancy, and to the elderly, children, and individuals with asthma, anemia or other cardiovascular disease (EPA, 1994).⁴

Polycyclic Aromatic Hydrocarbons

PAHs are by-products of fuel combustion found in high concentrations in unregulated two-stroke emissions. They are particularly hazardous because they are both carcinogenic and mutagenic, and are extremely persistent in the environment. In a study of snowpack contamination by snowmobiles Matthew R. Graham of the University of Nevada-Reno found elevated readings of four PAHs -- acenaphthene, acenaphylene, naphthalene and phenanthrene -- in snow samples under field conditions. Graham detected levels of naphthalene, for instance, of up to 12,000 ppb. According to the Occupational Safety and Health Administration (OSHA), the short-term human exposure limit (STEL) for naphthalene is 15,000 ppb. OSHA's Health Hazard Data indicates that "contact may cause skin or eye irritation ... inhalation may cause headache, nausea and perspiration ... [and] ingestion may cause cramps, nausea, vomiting and diarrhea" (OSHA 1996).

Methyl Tertiary Butyl Ether

Methyl Tertiary Butyl Ether (MTBE) is a controversial fuel additive and suspected carcinogen. Although the additive is commonly regarded as a hazard to drinking water from underground storage tanks, fuel spills, snowmobiles and other OSVs are a significant source of MTBE.

³Federal standards for CO are 35 and 9 parts per million for a one and eight hour average, respectively, 40 CFR § 50.8(a)(1)(2). State standards differ for Montana and Wyoming. In Montana, the CO standards are 23 and 9 ppm for the 1 and 8 hour averages, respectively, while Wyoming's standards are identical to those of the federal government.

⁴For a summary of the human health effects of snowmobile pollutants, including carbon monoxide, nitrogen dioxide, sulfur dioxide, and particulate matter, see EPA (1994).

MTBE is a concern in snowmobiles and other OSVs for two reasons: 1) because these vehicles spill large quantities of unburned fuel into the environment, up to 15% of which is MTBE; and 2) because these vehicles produce very high emissions containing carcinogenic MTBE combustion by-products.

Although no studies have addressed wild animal sensitivity to MTBE in the environment, humans are extremely sensitive to the chemical. The Association of California Water Agencies reports that humans can consistently smell the chemical in the water at 15 ppb (Pirnie 1998). Only one-third of a gallon of MTBE is required to bring the drinking water consumed daily by 90,000 people to a contaminant level of 15 ppb. It is therefore safe to assume that even small amounts of raw MTBE from snowmobile exhaust leaching into snowpack and watersheds within National Forest boundaries should be considered a threat to the quality of Forest water and snow resources, with perhaps more serious implications for wildlife.

More research is needed on the suspected human health risks of MTBE,⁵ but EPA confirms that in laboratory animals a lifetime exposure to MTBE in air causes cancer. Animals exposed to small amounts to MTBE show kidney damage and other adverse effects on the developing fetus.⁶ The toxic effects of MTBE on micro-organisms, marine life, and vegetation have also not been extensively studied. According to preliminary reports from researchers at the University of California at Davis, MTBE is acutely toxic to various aquatic organisms at concentrations as low as 44 parts per billion (ppb), and bacterial assays are most sensitive in terms of toxicity measured at 7.4 ppb over a relatively short 48 hour period.

The combustion byproducts and human metabolites of MTBE are also a concern for snowmobilers and other recreationists exposed to snowmobile emissions, and may be a concern for the environment. MTBE reacts with natural oxygen and hydrogen molecules in the air to form tertiary butyl-formate (TBF), an extremely destructive compound to tissues of mucous membranes and the upper respiratory tract. MTBE combustion also increases airborne concentrations of formaldehyde, an EPA-listed "probable" human carcinogen and a confirmed immune system suppressant. Peter Joseph, Professor of Radiologic Physics at the University of Pennsylvania School of Medicine, believes that

⁵According to reports, however, the acute toxicity of MTBE is comparable to the known human carcinogen and reproductive toxin benzene. Dr. Myron Mehlman, an adjunct Professor of Public Health at the Robert Wood Johnson Medical School and editor of Toxicology and Industrial Health, believes that research shows that MTBE is a human carcinogen, causing the same cancers in laboratory animals as benzene, and at the same dosage levels (Bluewater Network 1999 citing personal communication with Dr. Mehlman). Considering that the EPA requires reporting of any benzene spill exceeding one pound due to its highly toxic properties and that snowmobiles, as previously reported, dump a pound of unburned MTBE into the environment every 1-2 hours, the presence of MTBE in gasoline as a highly water soluble and persistent suspected carcinogen, with projected yet unstudied effects on water and aquatic life, exacerbates the threat of significant air and water emissions from snowmobiles.

⁶EPA MTBE information obtained from the agency's Drinking Water Contaminant Candidate List (CCL), (<http://www.epa.gov>), June, 1998.

these byproducts of MTBE are responsible for creating major public health problems, including an explosion in asthma beyond anything experienced in human history (Bluewater Network 1999 citing a personal communication with Dr. Joseph). EPA also confirms that the human metabolites of MTBE are tertiary-butyl alcohol (TBA) and formaldehyde. TBA is listed as "harmful or fatal if swallowed," and also suppresses the immune system. In Wilmington, North Carolina, every one of 175 patients tested was found to have MTBE in their blood which resulted in significant immune system suppression (Bluewater Network 1999 citing a personal communication with Dr. Joseph).

Ozone

Pollutants generated by OSVs not only contain dangerous levels of airborne toxins, but can lead to the formation of additional ground level ozone from the photochemical reaction of released nitrogen and hydrocarbons. Health risks associated with exposure to smog and nitrogen include respiratory complications such as coughing, chest pain, heart problems, asthma, concentration lapses and shortness of breath. Elderly individuals and children are particularly sensitive to ground level ozone and nitrogen.

Aquatic and Terrestrial Impacts

Pollutants from snowmobile emission, including the highly persistent PAHs, are stored within the snowpack (Ingersoll, 1998). During spring snowmelt, these accumulated pollutants are released causing elevated acidity levels in surrounding waterways and resulting in higher death rates for aquatic insects and amphibians (Charette *et. al.*, 1990). The impact of the spring release of pollutants may have far-reaching consequences for surrounding watersheds. Acidity fluctuations can disable a watershed's ability to regulate its own pH level, which could trigger system-wide problems and result in a long-term alteration of an entire ecosystem (Shaver *et. al.*, 1998).

The direct deposition of unburned fuel into the environment represents a substantial impact caused by OSVs. As previously noted, two-stroke engines release more than 25 percent of their fuel unburned into the environment. A 2001 survey of snowmobilers in Wyoming revealed that on average snowmobilers use more than 11 gallons of fuel per visit (McManus, 2001). There are an estimated 340,200 annual snowmobile visits to Wyoming's Bridger Teton National Forest (National Visitor Use Monitoring data). By overlaying the daily fuel consumption on the estimated annual snowmobile visits it appears that each winter snowmobiles discharge more than one million gallons of unburned fuel into the Bridger-Teton National Forest. If extrapolated across the Snowbelt NFS lands, the amount of unburned fuel discharged directly into the snowpack by OSV use is staggering.

While two-stroke engines have since been banned in Yellowstone National Park (one of the only such bans in the U.S.), during the 1990's when two-stroke engines were in use, toxic raw fuel and air emissions accumulated in Yellowstone's snowpack along rivers, streams and lakes and roads where snowmobile use occurred. Ingersoll *et. al.*, (1997) found increased levels of sulfates and ammonium in Yellowstone's snowpack compared

to baseline conditions.⁷ Pollutants "locked" in the snowpack are released very rapidly during the first few days of snow melt. Researchers found that 80 percent of acid concentrates are released in the first 20 percent of snowmelt, and that this acid pulse is a major cause of death for aquatic insects and amphibians (Rawlins 1993, Hagen and Langeland, 1973). This acid pulse may also reduce the acid neutralizing capacity of aquatic systems, particularly those found at high elevations which typically are less capable of neutralizing acid deposition.⁸ In one study, Charette et al. (1990) determined that "during the spring melting, the massive liberation of atmospheric pollutants accumulated in the snow cover is connected to a very important increase of acidity, which may be more than 100 times higher than the usual acidity level in surface water."

Several studies have determined that the survival, productivity, and distribution of amphibians are drastically impacted by increasing acidity (Cooke and Frazier 1976, Beebee and Griffin 1977, Saber and Dunson 1978, Freda and Dunson 1985). Kiesecker (1991), for example, found that 60-100 percent of tiger salamander eggs were dead or unviable in ponds at pH 5.0 or less, 40 percent were dead or unviable at pH levels between 5 and 6, and 20 percent were dead or unviable in water with a pH above 6.0. At pH levels below 6.0, a slower hatching rate, slower growth to maturity, and a decreased ability of tiger salamanders to catch and eat tadpoles was observed. Pierce and Wooten (1992) also documented sublethal effects of lowered Ph on amphibians (e.g., slower growth of larvae) above the levels that kill embryos. Increased acidity also may cause amphibians to avoid breeding in low pH ponds (Beebee and Griffin 1977).

Harte and Hoffman (1989) studied a declining tiger salamander population in an acid-sensitive watershed in the Colorado Rockies and concluded that less than half as many tiger salamander embryos survived at about pH 5.6 or less compared to those surviving at about pH 6.1 or greater and that survival of zooplankton, a common food of the tiger salamander, was also drastically affected by increased acidity. Furthermore, they found that only a brief exposure to acid is needed to induce amphibian mortality, that acidified water resulted in developmental abnormalities, and concluded that episodic acidification may have contributed to the salamander population decline.⁹ Based on their results, Harte and Hoffman (1989) theorized that there are at least five possible mechanisms by

⁷Research in the Sierra Nevada in California and the Colorado Rockies has shown that a temporary depression of surface-water pH and alkalinity and a simultaneous increase in sulfate and nitrate levels occurs following spring snowmelt (Blanchard et al. 1987).

⁸Studies conducted in Yellowstone revealed that "many lakes and streams in Yellowstone are susceptible to acidification by atmospheric deposition" (National Park Service 1983). Similarly, in the Forest Service's Eastside Ecosystem Management Project, it was determined that concentrations of air pollutants in the snowpack "are greatest in Wyoming and in a small area within Montana just west of Yellowstone National Park. Some of the largest concentrations of sulfate, nitrate, and acidity were measured at sites near Yellowstone." (USFS 1996).

⁹While tiger salamanders have been determined to be particularly sensitive to increased acidity, the impact can effect the entire ecosystem. In Ontario, the artificial acidification of a lake from Ph 6.7 to Ph 5.0 resulted in an increase in biomass and change in species composition of phytoplankton when pH dropped below 6.0 (Findlay and Kasian 1986).

which episodic acidification might reduce the salamander population. It might (1) inhibit egg development, (2) exert a direct toxic effect upon the hatchlings, (3) exert a direct toxic effect upon the adult population, (4) inhibit reproductive activity, (5) damage the food chain (See also, Schindler *et. al.*, 1985). Other amphibians, including boreal toads, chorus frogs, and northern leopard frogs also experience significant mortality when water pH is between 4.3 and 4.9 (Corn and Vertucci 1992).

In a study on the impact of two-stroke emissions on fish, *Balk et. al.*, (1994) determined that hydrocarbons disrupt normal biological functions (e.g. DNA adduct levels, enzyme activity), including cellular and sub-cellular processes, and physiological functions (e.g. carbohydrate metabolism, immune system).¹⁰ Serious disruption of fish reproduction and fry survival also seems likely.¹¹ (See also, Tjarnlund *et. al.*, 1995, 1996). Baker and Christensen (1991), for example, found that embryo and fry of rainbow trout have increased mortality at about pH 5.5. Adams (1975) also found that the influence of lead and hydrocarbon on stamina, measured by ability to swim against a current, was significantly less in trout exposed to snowmobile exhaust than in control fish; the exposed fish made fewer tries to swim against the current, and swam for shorter lengths of time before resting.¹²

Pollution from OSV exhaust contains a number of elements which are damaging to vegetation. While the amount of pollutants emitted by two-stroke engines are greater than those emitted by four-stroke engines, the elements in the emissions, except for the unburned fuel emitted by two-stroke engines, are similar and include: 1) carbon dioxide which may act as a fertilizer and cause changes in plant species composition (Bazzaz & Garbutt 1988, Hunt et al. 1991, Ferris and Taylor 1995); 2) sulphur dioxide which is taken up by vegetation and can cause changes in photosynthesis (Winner and Atkinson 1986, Iqbal 1988, Mooney *et. al.*, 1988); 3) oxides of nitrogen which may be harmful to vegetation or may act as a fertilizer, causing changes in plant species composition

¹⁰Additional evidence of such impacts comes from toxicologist James Oris and his colleagues at Miami University who conducted a study on the effects of hydrocarbon pollution from two-stroke marine engines, the exact same engine used by snowmobiles, on fish growth. The study, funded by the National Marine Manufacturers Association, found fish growth to be decreased by as much as 46% as a result of exposure to two-stroke water pollution. Although the study addressed concern about marine engines, snowmobiles are capable of creating similar levels of water pollution in streams, lakes and rivers due to frozen or trapped hydrocarbon pollution in snowpack and polycyclic aromatic hydrocarbon contamination described above.

¹¹Juttner, et al. (1995) determined that the toxicity of water contaminated by a two-stroke engine was far higher than contamination caused by four-stroke engine or a catalyst equipped two-stroke engine. Two-stroke engines also emitted significantly more hydrocarbons and volatile organic compounds into the water than a four-stroke engine (Juttner, et al. 1995a). Experiments which replaced gasoline with 96 percent ethanol reduced the persistent toxicity but the toxicity of freshly contaminated water was still high. Modifying the lubricating oils used in the fuel blend, on the other hand, had little effect on toxicity.

¹²It is not clear in Adams (1975) whether the lead or hydrocarbons, or both, reduced the stamina measured in laboratory fish. Lead contamination is not as great a concern currently because of the existence and use of unleaded fuels. Unleaded fuel, however, contains trace amounts of lead which may accumulate in the environment causing adverse environmental impacts.

(Rogers and Campbell 1979, Falkengren-Grerup 1986, Iqbal 1990); 4) organic gases such as ethylene, to which plants may be extremely sensitive (Gunderson and Taylor 1988, Taylor *et. al.*, 1988); and 5) heavy metals which may cause phytotoxic damage (Atkins *et. al.*, 1982). Ozone, which is formed by the photochemical reaction of released nitrogen and hydrocarbons, may also injure plants and affect plant species composition (Reich and Amundson 1985, Becker *et. al.*, 1989, Ashmore and Ainsworth 1995, Warwick and Taylor 1995).

Shaver *et. al.*, (1988) reported that the effects of pollutants can be both biological and ecological, and both acute and chronic. Such effects on plants include foliar injury, reduced productivity, tree mortality, decreased growth, altered plant competition, modifications in species diversity, and increased susceptibility to diseases and pests. Alterations to the vegetative community are also likely to result in implications to herbivores and other ecosystem components. In addition, ingestion by herbivores of trace elements deposited on leaf surfaces may lead to other impacts to the individual organism and throughout the food chain.

The EPA has adopted emission standards for new machines. Unfortunately, several factors serve to reduce their impact and even trivialize them. The standards adopted do not eliminate noxious emissions but only reduce the amount of CO and HC emissions by 50 percent (Rivers and Menlove, 2006). Further, manufacturers have until 2012 to bring their fleets into compliance and they may meet the standards by using “fleet averaging,” which means that each manufacturer’s production fleet would only have to, on average, meet these emission reductions (NPS, 2000). Some of the models may continue to exceed the standard as long as other models beat the standard. High powered mountain, powder, and hill-climbing snowmobiles – those used in the backcountry–will surely exceed the emissions standard. Additionally, the standard only applies to stock models. Since the aftermarket parts sales are such an important part of a retailer’s revenue, it can be expected that many machines will be retrofitted, escaping the standards altogether (Rivers and Menlove, 2006). Finally, all existing snowmobiles are grandfathered into the EPA regulation.

Permitting unregulated use of OSVs on NFS lands fails to safeguard these areas from significant water and air pollution which threaten Forest resources, including wildlife, and Forest users. Such impacts are inconsistent with provisions set forth in the Clean Water Act, the Clean Air Act amendments of 1990, applicable Executives Orders, and USFS regulations and policies.

Noise Pollution

Natural soundscapes are intrinsic elements of the environment and are necessary for natural ecological functioning (Burson, 2008). Noise from snowmobiles severely affects the winter soundscape and impacts both wildlife and other visitors. Animals exposed to high-intensity sounds suffer both anatomical and physiological damage, including both auditory and non-auditory damage (Brattstrom and Bondello 1983).

Sounds can occur in both a continuous and intermittent manner. At high intensities, sounds can have a deleterious impact on human hearing if sustained for certain lengths of time (Brattstrom and Bondello 1983). Intermittent sounds or startle noises have been shown to have many effects on humans including annoyance, disruption of activity, increase in heart rate, vasoconstriction, increase in blood pressure, stomach spasms, headaches, stress, fetal convulsions, ulcers, and coronary disease (Baldwin and Stoddard 1973, Brattstrom and Bondello 1983). However, the larger, more sophisticated, better protected human ear is capable of withstanding high intensity sounds which easily damage smaller, more simplistic ears of many species of wildlife (Brattstrom and Bondello 1983) and thus animals may be more affected by noise compared to humans. Thus, a vehicle noise limit acceptable in urban areas may be capable of severely damaging the hearing of exposed wildlife populations (Brattstrom and Bondello 1983).

Indirectly, the noise generated by OSVs can adversely impact animals impairing feeding, breeding, courting, social behaviors, territory establishment and maintenance, increasing stress, and/or by making animals or their young more susceptible to predation (Janssen 1978, Weinstein 1978, Luckenbach 1975, Wilshire *et. al.*, 1977, EPA 1971, Bury 1980, Jeske 1985, Burger 1981, Vos *et. al.*, 1985, Baldwin 1970, Rennison and Wallace 1976). According to the Environmental Protection Agency, noise acts as a physiological stressor producing changes similar to those brought about by exposure to extreme heat, cold, pain, etc. (EPA 1971). The EPA states that:

Clearly, the animals that will be directly affected by noise are those capable of responding to sound energy and especially the animals that rely on auditory signals to find mates, stake out territories, recognize young, detect and locate prey and evade predators. Further, these functions could be critically affected even if the animals appear to be completely adapted to the noise (i.e., they show no behavioral response such as startle or avoidance). Ultimately it does not matter to the animal whether these vital processes are affected through signal-masking, hearing loss, or effects on the neuro-endocrine system. Even though only those animals capable of responding to sound could be directly affected by noise, competition for food and space in an ecological niche appropriate to an animal's needs, results in complex interrelationships among all the animals in an ecosystem. Consequently, even animals that are not responsive to or do not rely on sound signals for important functions could be indirectly affected when noise affects animals at some other point in the ecosystem. The 'balance of nature' can be disrupted by disturbing this balance at even one point.

Furthermore, the EPA anticipates that the consequences of a loss of hearing ability could include a drastic change in the prey-predator situation. It states:

The animal that depends on its ears to locate prey could starve if auditory acuity decreased, and the animal that depends on hearing to detect and avoid its predators could be killed. Reception of auditory mating signals could be diminished and affects reproduction. (Masking of these signals by noise in an area could also produce the same effect). Detection of cries of the young by the

mother could be hindered, leading to increased rates of infant mortality or decreased survival rates.

A noise study from Yellowstone involving four-stroke machines, which are much quieter than two-stroke snowmobiles, found that under a “best case scenario” (upwind, no temperature inversion, soft snow) snowmobiles were audible at distances of up to a half mile (NPS, 2000). When there was a temperature inversion or firm snow, or for those downwind of a snowmobile, the machines could be heard more than two miles away (NPS, 2000). At Yellowstone’s Shoshone Geyser Basin, four-stroke snowmobiles were audible from 8 miles away (Burson, 2008). Other reports document snowmobile audibility up to 20 miles away (NPCA, 2000). The typical practice of snowmobilers to ride in groups (Snook, 1997) further amplifies noise levels.

Aftermarket modifications to snowmobiles continue to defeat reductions in noise. This practice is popular and is in part driven by market forces. As explained in an article in “Snowmobile Online” by Jerry Mathews, of Starting Line Products, “in the past, aftermarket systems have typically increased the noise level somewhat (in some cases immensely), as well as boosted the power (Mathews, 2002). This practice has been widely accepted and wasn’t a large problem until just recently because these sleds were mostly used for racing, not pleasure riding. With more and more snowmobilers modifying their sleds and using them strictly for pleasure riding, it makes noise level enforcement difficult (Rivers and Menlove, 2006).

Wildlife Disturbance

Over Snow Vehicles can cause mortality, habitat loss, and harassment of wildlife (Boyle and Samson, 1985; Oliff *et. al.*, 1999). While most animals are well adapted to survival in winter conditions, the season creates added stress to wildlife due to harsher climate and limited foraging opportunities (Reinhart, 1999). Deep snow can increase the metabolic cost of winter movements in ungulates up to five times normal levels (Parker *et. al.*, 1984) at a time when ungulates are particularly stressed by forage scarcity and high metabolic demands. Disturbance and stress to wildlife from snowmobile activities during this highly vulnerable time is dire. Studies of observable wildlife responses to snowmobiles have documented elevated heart rates, elevated glucocorticoid stress levels, increased flight distance, habitat fragmentation as well as community and population disturbance (Baker and Bithmann, 2005).

Snowmobiles have been implicated in the direct and indirect mortality of wildlife, including coyotes and gray wolves, by chasing them until they succumb to exhaustion, by intentionally striking the animals (Baldwin 1970, Malaher 1967, Wettersten 1971, Kopischke 1973, Heath 1974), by adversely impacting an animal’s critical energy balance potentially resulting in increased mortality and/or decreased productivity, or by making the animal more vulnerable to predation as a result of displacement to unknown/marginal habitat or due to exhaustion.¹³

¹³Huff et al. (1972) in a survey of land and wildlife agency officials found that 62 % of game and fish enforcement personnel, 43 % of general game and fish personnel, 28 % of parks and recreation

In addition to the direct physiological stress of snowmobiles, evidence suggests that popular winter trails can fragment habitat and wildlife populations. Winter trails through surrounding wilderness areas or other core areas create more “edge effect” (the negative influence of the periphery of a habitat on the interior conditions of a habitat) and thereby marginalize the vitality of some species (Baker and Bithmann, 2005). In addition to the edge effect of groomed winter trails, off-trail riding or cutting trails through forested areas can further increase edge effects and fragmentation of habitat (Biodiversity Conservation Alliance, 2002).

In Yellowstone, Aune (1981) reported that heavy snowmobile traffic inhibits free movement of animals across roads to preferred grazing areas and temporarily displaces wildlife from areas immediately adjacent to the roads. Cole and Knight (1991) have also noted the displacement of elk along the roads during periods of fairly continuous travel by snowmobiles in the Madison and Firehole River Valleys of Yellowstone.

While winter climate, particularly snow, has an enormous impact on animal energy expenditures and stress, that impact is exacerbated by human-caused disturbance, including snowmobiling or other OSV use (See, Bury 1978 for a general description of the impacts of snowmobiles on wildlife). Indeed, researchers have suggested that additional human caused stress on wildlife in the winter is undesirable (Dorrance *et. al.*, 1975, Greer 1979, Moen 1976), since it may increase energy use and stress resulting in increased mortality, decreased productivity, and changes to behavioral adaptations (Moen 1976, Freddy 1977).

In many instances, snowmobiles induce animal flight, causing increased energy expenditures.¹⁴ In Yellowstone National Park, for example, evasive maneuvers in response to snowmobiles have been documented in a number of species, including elk and mule deer. These maneuvers result in increased energy expenditures for the affected wildlife.¹⁵ For example, Aune (1981) reported flight distances of 33.8 meters for elk and 28.6 meters for mule deer in response to snowmobiles in Yellowstone. The energy cost estimates calculated for these impacts were 4.9 to 36.0 kcal in elk and 2.0 to 14.7 kcal in mule deer per disturbance (Parker *et. al.*, 1984).¹⁶ These energy expenditures are

personnel, and 22 % of the forestry personnel felt that snowmobiles were either very harmful or moderately harmful through such activities as disruption of daily activity patterns, increased stress and energy expenditures, and chasing deer either intentionally or inadvertently by curious snowmobilers.

¹⁴It is important to note that snowmobile impacts on wildlife are not limited to a limited number of species, but rather affect a number of species, including avian species. Examples of snowmobile impacts which are associated with Yellowstone National Park are not limited to the Park but are indicative of broader impacts on public and private lands where snowmobiles are used.

¹⁵Indeed, of all recreational activities studied by Aune (1981), the most significant expenditures of energy created by recreationists occurred “during interaction along the groomed snowmobile trail and when photographers moved up for a closer shot.”

¹⁶Similarly, Freddy *et. al.*, (1986) documented that mule deer moved 158 meters when fleeing from a single encounter with a snowmobile resulting in energy costs per encounter of 10-22 kcal or 0.4-0.8

roughly equivalent to the necessary additional consumption of 4.3 - 31.7 grams of dry forage matter by elk and 1.8 - 12.9 grams by mule deer each time a disturbance occurs. Severinghaus and Tullar (1978) theorize that for white-tailed deer, during a 20-week winter with snowmobile harassment each weekend, "food enough for 40 days of normal living would be wasted just escaping from snowmobiles."

While traveling on continuous packed surface greatly reduces the energy expenditure of wildlife it also increases their risk of getting hit (Richens and Lavigne, 1978). Furthermore the energy savings associated with the use of groomed trails may unnaturally increase animal survival and productivity causing a disruption to population dynamics and movement, distribution patterns, and habitat use patterns. While ungulates are known to use groomed trails (Aune 1981, Richens and Lavigne 1978, Meagher 1993, 1997) predators, such as red fox (Neumann and Merriam 1972) and wolves (International Wolf 1992, Paquet *et. al.*, 1997) have also been documented to use snowmobile trails¹⁷ providing them access to area with potential prey which may have otherwise been unavailable due to snow depth. This allows coyotes to compete directly with lynx resulting in potential adverse impacts to the viability of this threatened species (Biodiversity Conservation Alliance, 2002). Consequently, snowmobiles trails may seriously disrupt the natural dynamics and ecology of ungulates, predator population dynamics and ecology, and predator-prey interactions.

While some animals may become accustomed to snowmobiles (Meagher 1993, Aune 1981), this does not mean that snowmobile impacts to the species are benign. The decrease in animal response to a particular stimulus over time may be in response to a progressive weakening of an animal's physical condition throughout the winter (Richens and Lavigne 1978, Severinghaus, 1947) and/or to preserve critical winter energy stores. Thus, although an animal's physical response to a particular stimulus may decrease in intensity with time, internal or physiological responses (e.g. stress levels, heart rate) may consistently rise as a result of such stimuli (Moen *et. al.*, 1982, MacArthur *et. al.*, 1979, Moen *et. al.*, 1978a, Thompson *et. al.*, 1968, Rongstad 1980). Such an increase may impair the survival and productivity of an animal.

As another consequence of disturbance, stress can, particularly if prolonged, cause substantial adverse impacts on individual animals. Stress may be caused by both physical and psychological factors, but, in either case stress results in physiological changes to the animal. OSV use, for example, may cause both physical and psychological stress to a wide range of animals as a result of noise impacts, pollution impacts, activity patterns, and direct and indirect harassment or disturbance. The effects of recreation-induced stress, including lower reproductive output (Geist, 1978), however, may not be evident immediately, but rather may appear days, weeks, months, or years after disturbances

percent of the daily metabolizable energy. If disturbed by snowmobiles while grazing, the cost per encounter was 0.6-1 percent of their daily metabolizable energy. If disturbed while lying down, the energy expenditure per encounter increased from 2 to 10-25 kcal due to the flight response exhibited by the deer.

¹⁷Huff *et al.* (1972) found that mammals used snowmobiles trails more during times of deep snow or drifting and when traffic on the snowmobile trail was lowest.

(Gutzwiller, 1991). Moreover, recreation-induced stress may exacerbate the effects of disease and competition, and lead to higher mortality well after disturbances occur (Gutzwiller, 1991).

Ungulates

It has been widely documented that snowmobile activity disturbs wintering ungulates through physiological stress (Canfield *et. al.*, 1999) resulting in increased movements (Dorrance *et. al.*, 1975; Eckstein *et. al.*, 1979; Aune 1981, Freddy *et. al.*, 1986; Colescott and Gillingham 1998) and higher energy expenditures (Canfield *et. al.*, 1999). The physiological stress from snowmobile noise produces changes similar to those brought about by exposure to extreme heat, cold, or pain (EPA, 1971). During winter, when efficient energy expenditure is extremely important to an animal's survival, an additional stressor such as noise can throw off an animal's energy balance and is a serious threat to predator-prey relationships, mating, and reproduction, raising young, and staking out territories (EPA, 1971).

The flight response of ungulates to snowmobiles has been documented in a number of species (Aun, 1981; Hardy, 2001; Sevinhouse and Tullar, 1978; and Freddy *et. al.*, 1986). A study of mule deer in north-central Colorado displayed responses to snowmobiles that ranged from benign to panic. Some of the less overt responses include increased metabolism, lowered body weight, reduced fetus size, and a withdrawal from suitable habitat (Freddy *et. al.*, 1986). A study conducted in Minnesota found that home range size, movement, and distance from radio-collared deer to the nearest trail increased with snowmobile activity (Dorrance *et. al.*, 1975).

Snowmobiles have been observed to displace elk from preferred habitat (Hardy, 2001; Freddy *et. al.*, 1986). Researchers also found that stress hormones in elk living in Yellowstone National Park fluctuated weekly, rising and falling in direct correlation with snowmobile activity (Creel, 2002). In one study, researchers found that large ungulates are disturbed by snowmobiles at distances over 1,250 feet (Blue Water Network, 2002). A recent study in Oregon found mechanized forms of recreation caused significantly larger reductions in feeding time and increases in travel time for elk than non-mechanized forms of recreation (Naylor, *et. al.*, 2008)

Moose generally winter in willow and deciduous habitats adjacent to conifer stands at elevations where the snowpack is shallower and mobility is greater. Conflicts with winter recreation continue to increase moose habitat fragmentation and decrease moose habitat effectiveness (Colescott and Gillingham, 1998, WG&FD, 2003).

In regard to deer, Dorrance *et. al.*, (1975) suggest even low intensity snowmobile activity can result in displacement, increased movement, and an increase in home range sizes. Huff and Savage (1972) also reported that snowmobile activity resulted in altered home range sizes of deer and deer displacement into suboptimal habitat. In studies involving captive white-tailed deer Moen *et. al.*, (1982) demonstrated an increase in the heart rate of the deer at least 250 percent over baseline levels as a result of snowmobile activity even

when the animals did not stand up or move away (See also, Freddy 1977). In response to these findings, Moen *et. al.*, (1982) concluded that: “Increases in heart rate and additional movements caused by encounters with snowmobiles must increase rather than decrease energy expenditures by deer. Such increases have the potential to affect the productivity of individuals and, ultimately, of the population.”

Compaction of snow by snowmobiles may cause significant increases in energy costs by ungulates digging to access vegetation (Fancy and White 1985). Fancy and White (1985) reported that the amount of energy expended by caribou digging in snow to access forages was, on average, 118 J, 219 J, and 481 J per hoof stroke in uncrusted, hard crusted, and snowmobile compacted snow, respectively.

Indigenous Fish

The most diverse trout species in North America, native cutthroat trout are found along the Pacific Northwest coast, in the Cascade Range, the Great Basin, and throughout the Rocky Mountains. The cutthroat species has evolved through geographic isolation into at least ten subspecies, each native to a different major drainage basin (Duff, 1996). Two of the sub-species (the Yellowfin cutthroat trout and the Alvord cutthroat trout) are extinct. Three other subspecies (Lahontan cutthroat trout, Paiute cutthroat trout, and Greenback cutthroat) are listed on the U.S. Endangered Species List as threatened. Due to population declines several other subspecies, including Colorado River cutthroat trout, Westslope cutthroat trout, Bonneville cutthroat trout, and Yellowstone cutthroat trout have been considered for protection under the Endangered Species Act (Duff, 1996).

Similarly, bull trout, a threatened species protected under the Endangered Species Act, is in decline. Historically found in 60 percent of the Columbia River Basin, bull trout now occur in less than half of their historic range (USF&WS, 2010a). Bull trout depend on cold, clear water and are excellent indicators of water quality. In January 2010, U.S. Fish and Wildlife Service issued a proposed rule (50 CFR Part 17) to designate approximately 22,679 miles of streams and 533,426 acres of lakes and reservoirs in Idaho, Oregon, Washington, Montana and Nevada as critical habitat for the wide-ranging fish (USF&WS, 2010b).

According to the USF&WS news release accompanying the proposed rule “[c]ritical habitat for bull trout applies only to waterways. However, the proposal recognizes that associated flood plains, shorelines, riparian zones and upland habitat are important to critical habitat areas and that activities in these areas may affect bull trout critical habitat (USF&WS, 2010b).” Many of the high-elevation streams and lakes in the proposed critical habitat designation correspond closely with areas of high snowmobile use. These same waterways provide important habitat for salmon and other native fish species.

Trout can be directly impacted by snowmobile traffic across ice. Snowmobiles riding on top of ice can disturb trout concentrations in over-wintering areas. These disturbances place high energy demands on trout, and could be quite serious in oxygen depleted water (NPS, 2003). In addition to the direct mechanical impacts of snowmobiles on fisheries, the pollution associated with snowmobile emissions has been shown to degrade water

quality and adversely impact fish (NPS, 2003; Ruzycki and Lutch, 1999).

A study on the impact of two-stroke emissions on trout, *Balk et al.*, (1994) determined that hydrocarbons disrupt normal biological functions (e.g. DNA adduct levels, enzyme activity), including cellular and sub-cellular processes, and physiological functions (e.g. carbohydrate metabolism, immune system).¹⁸ Serious disruption of trout reproduction and fry survival also seems likely.¹⁹ (See also, Tjarnlund *et al.*, 1995, 1996). Adams (1975) also found that the influence of lead and hydrocarbon on stamina, measured by ability to swim against a current, was significantly less in trout exposed to snowmobile exhaust than in control trout; the exposed trout made fewer tries to swim against the current, and swam for shorter lengths of time before resting.²⁰

A study by Ruzycki and Lutch (1999) used captive brook trout to determine effects of snowmobile emissions on fish. The exhaust components taken up by the trout correlated with the levels present in the environment due to snowmobile use. The uptake of hydrocarbons occurs through the gills during respiration. Hydrocarbons initially rest on the surface of the water, but eventually sink, potentially impacting invertebrate and fish species, also accumulating in sediments. Hydrocarbons are incorporated into fatty tissues in a similar way to chlorinated hydrocarbon pesticides (Ruzycki and Lutch, 1999). Even at extremely low levels of hydrocarbon pollution trout may experience chromosome damage, retarded growth, disruption of normal biological functions, and death (Ruzycki and Lutch, 1999).

OSV use adds to other contributing factors including habitat modification, overfishing, whirling disease, zebra mussels, didymo algae, climate change, and the introduction of non-native fishes (Duff, 1996) in leading to declining native trout populations.

Subnivian Mammals

¹⁸Additional evidence of such impacts comes from toxicologist James Oris and his colleagues at Miami University who conducted a study on the effects of hydrocarbon pollution from two-stroke marine engines, the exact same engine used by snowmobiles, on fish growth. The study, funded by the National Marine Manufacturers Association, found fish growth to be decreased by as much as 46% as a result of exposure to two-stroke water pollution. Although the study addressed concern about marine engines, snowmobiles are capable of creating similar levels of water pollution in streams, lakes and rivers due to frozen or trapped hydrocarbon pollution in snowpack and polycyclic aromatic hydrocarbon contamination described above.

¹⁹Juttner, et al. (1995) determined that the toxicity of water contaminated by a two-stroke engine was far higher than contamination caused by four-stroke engine or a catalyst equipped two-stroke engine. Two-stroke engines also emitted significantly more hydrocarbons and volatile organic compounds into the water than a four-stroke engine (Juttner, et al. 1995a). Experiments which replaced gasoline with 96 percent ethanol reduced the persistent toxicity but the toxicity of freshly contaminated water was still high. Modifying the lubricating oils used in the fuel blend, on the other hand, had little effect on toxicity.

²⁰It is not clear in Adams (1975) whether the lead or hydrocarbons, or both, reduced the stamina measured in laboratory fish. Lead contamination is not as great a concern currently because of the existence and use of unleaded fuels. Unleaded fuel, however, contains trace amounts of lead which may accumulate in the environment causing adverse environmental impacts.

Winter temperatures, even with snow cover, are stressful to small mammals (Mezhzherin 1964, Schwartz *et. al.*, 1964, Fuller 1969, Fuller *et al.* 1969, Brown 1970, Beer 1961).²¹ Many small mammal species depend on the space between the frozen ground and the snow to live. When snow compaction from snowmobiles occurs, the subnivean (below snow) space temperatures decrease, which can lead to increased metabolic rates in these small mammal species. If the subnivean air space is cooled by as little as 3 degrees Celsius, the metabolic demands of small mammals living in the space would increase by about 25 calories per hour (Neumann and Merriam, 1972).

Compaction can also create barriers that restrict movement of these small species that travel through tunnels in the subnivean space. As the subnivean trails are cut off these small mammals are forced up to the surface where they are vulnerable to predation (Canadian Wildlife Federation, 1998). Compaction can also restrict subnivean mammal movement to the point of causing asphyxiation, as oxygen flow is restricted and carbon dioxide builds up to deadly levels (Canadian Wildlife Federation, 1998).

Jarvinen and Schmid (1971) determined through controlled experiments that compaction due to snowmobile use reduced rodent and shrew use of subnivean habitats to near zero, and attributed this decline to direct mortality, not outmigration. In a study in Minnesota, Rongstad (1980) found that intensive snowmobiling on an old field eliminated the small mammal population in the layer between the ground and snow. Killing of subnivean species could well reduce the population of species preying upon them -- hawks, owls, foxes (Brander 1974). Population declines of small mammals undoubtedly impacts the species that prey open them creating ecosystem level disturbance.

White-Tailed Ptarmigan

White-tailed Ptarmigan (*Lagopus leucura*) is the smallest bird in the grouse family. White-tailed Ptarmigan are found in alpine habitats from south-central Alaska and northwest Canada south through the Cascade Mountains in Washington and the northern Rocky Mountains. Their distribution continues farther south on a more irregular and local basis through the southern Rocky Mountain ranges of Colorado and northern New Mexico (Braun *et. al.* 1993). The Rocky Mountain Region (R2) of the U.S. Forest Service Rocky lists white-tailed Ptarmigan as a sensitive species (USDA 2001).

White-tailed Ptarmigan reside in alpine areas at or above timberline. They do not migrate and remain in the alpine tundra above treeline during the winter (Braun *et. al.* 1993). Human disturbance including snowmobile activity can reduce the availability of winter forage for white-tailed ptarmigan (Anrews and Righter 1992). In order to protect White-tailed Ptarmigan Braun (1980) recommends the total exclusion of off-road vehicles from their habitat.

²¹Snow cover is important to the survival of subnivean wildlife in north temperate and arctic latitudes because of the protection it affords from stresses of direct exposure to the severe winter climate and predation (Geiger 1965, Mail 1930, Formozov 1946, Pruitt 1957).

Threatened, Endangered, and Rare Species

In addition to adverse impacts to ungulates, OSVs have also been documented to directly, indirectly, and cumulatively impact federally protected species. For imperiled species like the grizzly bear, gray wolf, lynx, and wolverine OSV use can cause disturbance, adversely impact animal energetics, negatively impact prey/carrion availability, cause habitat abandonment, and can otherwise impact predator/prey interactions to the detriment of the species.²²

Canada Lynx

In 2000 the Canada lynx (*Lynx canadensis*) was listed as a Threatened Species under the endangered Species Act for the lower 48 states. OSV trails that are created by winter recreation and forest management activities enable coyotes to access lynx habitat not normally accessible to them (Koehler and Aubry 1994, Buskirk, 2000, Brunnel, *et.al.*, 2006). This was evident in a study in Utah by Brunnel *et.al.*, (2006) that found the presence of snowmobile trails a good indicator of coyote activity in deep snow areas. Over 90 percent of coyote tracks observed in the Brunnel *et.al.*, (2006) study were less than 350 meters from a snowmobile trail. On Wyoming's Togwotee pass Burghardt (2009) also found snowmobiles are facilitating coyote access to lynx habitat. Burghardt (2009) reports 100 percent of all observed coyote tracks utilized snow compaction and on average coyotes used snow compacted trails for 34 percent of the track.

Coyotes aggressively compete with, or prey upon, a number of different vertebrate species, including Canada lynx, that are adapted and limited to deep snow (Buskirk *et. al.*, 2000). Koehler and Aubry (1994) determined that inter-specific competition during late winter, a time when lynx are already nutritionally stressed, may be especially detrimental to lynx.²³ Consequently, the presence of OSVs and compacted snow roads on public lands occupied by lynx are likely to adversely impact the survival and viability of such populations. In an effort to mediate competition with coyotes, Brunnel *et.al.* (2006) recommends restrictions are placed on snowmobiles in lynx conservation areas.

²²This is not to suggest that OSV impacts to threatened and endangered species are limited to grizzly bears, wolves, and lynx. Indeed, OSVs may have considerable adverse impacts on other imperiled species, including fish and amphibians as a result of pollution, birds due to harassment resulting in nest abandonment, and small mammals because of disturbance, displacement, direct mortality, and snow compaction resulting from snowmobile use and/or trail grooming.

²³Canada lynx may be displaced or eliminated when competitors (*e.g.*, bobcat, coyote) expand into its range (deVos and Matel 1952, Parker *et. al.*, 1983, Quinn and Parker 1987). The Canada lynx is at a competitive disadvantage against those other species because it is a specialized predator, whereas bobcat and coyotes are generalists that are able to feed on a wide variety of prey. Historically, bobcat and coyotes have not been able to compete with lynx in areas that receive deep snow, where lynx are much more highly adapted (McCord and Cardoza 1982, Parker *et. al.*, 1983, Quinn and Parker 1987). When snowmobile trails are available, coyotes and bobcats, can exert a greater impact on snowshoe hare populations -- the predominant prey of the lynx -- than if snowmobile trails were not available (Murray and Boutin 1991).

Gray Wolf

By the 1930's, the Rocky Mountain gray wolf (*Canis lupis*) was completely exterminated from the continuous 48 States. Listed as an endangered species in 1973, gray wolves have naturally reestablished themselves in Northern Montana and were re-introduced to Yellowstone National Park and Central Idaho in 1995. Gray wolf populations have expanded and the northern Rockies gray wolf has been removed from the Endangered Species list though a number of protections remain in place.

Since wolf survival and production is affected by winter food intake, the availability and accessibility of prey in winter affects wolf numbers (Nelson and Mech 1986). OSV trails, whether created by snowmobiles or grooming equipment, may adversely alter predator-prey dynamics, habitat use, predator and ungulate movement and distribution patterns, thereby affecting the availability and accessibility²⁴ of prey to predators, and also affecting community structure and composition (Paquet *et. al.*, 1997). These trails can also facilitate predator expansion into areas where they are more likely to have negative interactions with humans, livestock and pets.

For example, Paquet *et. al.*, (1997) compared wolf use of modified trails (i.e. plowed roads, snowmobile trails, and ski trails) to natural trails (i.e. trails made by wildlife) in several national and provincial parks in Canada. Their data reveals that “wolves ... clearly preferred established travel routes (modified trails) composed of compacted snow, snow free roads, and open areas of shallow snow.” Wolves also used human-modified trails in the winter to cross or traverse upper elevation areas where normally such movements would be precluded due to excessive snow depth.

Similarly, wolves have difficulty moving in snow deeper than 50 cm (Pullianen, 1982). Consequently, in Parks like Yellowstone where wolves are present and snow depth in some areas may exceed 50 cm, wolf movements and use of these areas may be precluded by snow depth. If modified or groomed trails traverse these areas, however, they provide energy and movement efficient travel corridors for wolves to access habitats that otherwise would not have been available. Such an effect, as Paquet *et. al.*, (1997) reports, could have unanticipated consequences, including: the modification of wolf predation by facilitating movements between patches of prey; changing the relationship between habitat use, prey distribution, and topography; altering dispersal patterns; and facilitating access to winter ungulate ranges or agricultural areas which would normally be unavailable.

Snowmobiling has been shown to cause stress in wolves. In Minnesota a relatively new research technique, fecal analysis, was used to compare the hormone levels of wolves in Isle Royale, where there are no snowmobiles, to those of wolves in Voyageurs, where

²⁴Since prey are more easily killed by predators in deeper snow, ungulate use of snowmobile trails to access and use alternative wintering sites at lower elevation and with less snow, may adversely impact the ability and efficiency of wolves to kill wild prey to meet their nutritional requirements. In turn, wolves may alter their movements to correspond to changes in ungulate movements, and/or may pursue alternative prey, including domestic livestock.

snowmobiling is pervasive. The Voyageurs wolves consistently exhibited higher levels of stress hormones (Creel, 2002). In addition, the scientists noted another direct relationship between snowmobiles and stress. When snowmobile use declined 37 percent in Voyageurs between the winters of 1999 and 2000, fecal stress hormone levels also dropped in the park's wolf population by 37 percent (Creel, 2002).

Grizzly Bear

Loss of habitat and high mortality rates resulting from conflicts with humans led to the grizzly bear (*Ursus arctos*) being listed as a threatened species in 1975. In Yellowstone the population of grizzly bears *has* increased from a low of approximately 200 bears in the late 1960s to over 600 today. In 2007, grizzly bears were determined to have recovered and therefore removed from the endangered species list. In 2009 this decision was reversed and grizzly bears were re-listed as a threatened species.

Though only a few National Forests are occupied by grizzly bears, the adverse impacts of OSV use, namely snowmobile use and trail grooming, on grizzly bears in Yellowstone demonstrates how OSV can cause indirect impacts that may normally be overlooked. These impacts may, however, be applicable to other National Forests including the Targhee, Bridger-Teton, Gallatin, Flathead, Kootenai, Idaho Panhandle, Custer, Lewis and Clark, Bighorn and the Shoshone since grizzly bears are present, snowmobile use is permitted, and the grooming of hundreds of miles of snowmobile trails is allowed. In May 2008 U.S. District Judge Donald Malloy ruled that late-season snowmobiling on the Flathead National Forest negatively impacts grizzly bear habitat when bears are emerging from their dens and instructed the Forest to curtail spring OSV use (Woody, 2009). This may also be relevant to other National Forests that provide potential habitat for the future reintroduction of grizzlies.

While most direct snowmobile impacts on grizzlies are limited due to grizzly denning during the peak period of snowmobile use,²⁵ scientific studies have made it clear that indirect impacts are adversely affecting grizzlies. Indirect impacts result from the altered distribution and movement patterns of large ungulates, particularly bison and elk, caused by snowmobile trail use (Knight *et. al.*, 1984; Mattson, 1997). This leads to a subsequent decrease in the availability and accessibility of critical grizzly food sources, namely carrion.²⁶

²⁵Knight (1976) documented at least one incident where snowmobiles may have disrupted a denning grizzly bear causing the bear to relocate to a second den site. Impacts to denning bears have likely increased in recent years due to improvements in snowmobile technology which has created machines which can travel further, faster, and which are more powerful than snowmobiles in the past. As a result, areas which previously were inaccessible to snowmobiles, including areas used by grizzly bears for denning, have now become accessible.

²⁶Air pollution impacts to Park vegetation may be another indirect effect of snowmobile use on grizzlies. These impacts may affect all components of the food chain, including grizzly bears and other threatened and endangered species, as a result of bioaccumulation of toxins in Park herbivores (See Shaver *et al.* 1988).

For grizzlies, winter-killed carrion is "an important source of protein" during the crucial bear feeding time in the late winter and early spring after den emergence (NPS 1983; Knight *et. al.*, 1984). As stated by Mattson (1997):

Spring grizzly bear habitat productivity in Yellowstone is a function primarily of ungulate availability (Knight *et al.* 1984). Spring productivity in turn apparently plays a major role in determining productivity, condition, and ultimately survivorship of adult female grizzlies in the Yellowstone areas. Knight and Eberhardt (1985) have identified female survivorship as key to the future viability of the Yellowstone grizzly bear population. Thus, over-winter ungulate mortality and condition are identified as an important regulatory factor, and an area where management might potentially benefit the Yellowstone grizzly bear population.

The availability and use of carrion by grizzly bears is of critical importance for species survival and viability. Considering the decline or variability in other important grizzly food items, including the army cutworm moth, cutthroat trout, and whitebark pine nuts, the relative importance of carrion as a spring food source for grizzly bears has increased (Gunther and Haroldson, 1997). The availability and accessibility of such carrion, however, is adversely affected by snowmobiling activities.

Whitebark pine is an important food source for grizzlies. As discussed above, snowmobiles can harm trees, including whitebark (which often grow in high elevation areas at or above tree line frequented by snowmobilers). Given the recent petition to list the Whitebark Pine as an endangered species (NRDC, 2008) protection of this grizzly bear habitat component from damage such as that caused by OSV's is imperative.

Grizzlies avoid roads and developments even when carrion is available in those corridors (NPS, 1990). This is of critical importance to bear survival and viability given that most spring carrion occurs on ungulate winter ranges that are located at lower elevations, near roads and developments (Houston, 1982). The prevalence of carrion near roads is also undeniably influenced by ungulate use of groomed snowmobile roads as travel corridors. The groomed roads, therefore, not only alter the natural distribution and movement patterns of bison and other ungulates, but also affect grizzly bear access to carrion, potentially resulting in reduced bear productivity and survival.²⁷

Wolverine

While several petitions to protect wolverines (*Gulo gulo*) under the federal Endangered Species Act have been filed in recent years, the U.S. Fish and Wildlife Service has so far decided against all listing attempts. However, wolverines are designated as sensitive on many forests and a species of special concern in several States.

²⁷Grizzly avoidance of ungulate carcasses near roads may also cause artificial alterations to grizzly movements, distribution, and predator/prey interactions in conflict with NPS grizzly bear management policies, possibly leading to greater human grizzly conflict.

Wolverines occur naturally in low densities and are believed to be territorial (WCS, 2007). Wolverine parturition primarily occurs mid-winter during the month of February (WCS, 2007). Six of the seven natal dens located in the Greater Yellowstone Ecosystem by the Wildlife Conservation Society (2007) were in areas without motorized use, i.e., designated wilderness, areas inaccessible by vehicle, or national park. Other wolverine biologists have suggested refuge from human activity is important for wolverine reproduction (Banci, 1994; Magoun and Copland, 1996). Female wolverines appear to be quite sensitive to human disturbance in the vicinity of natal and maternal dens, and may abandon dens and move their kits a considerable distance if they detect human presence in the area (Copeland 1996, Magoun and Copeland 1998).

In a study of wolverines in Idaho, Copeland (1996) concluded that “technological advances in over-snow vehicles and increased interest in winter recreation has likely displaced wolverines from potential denning habitat and will continue to threaten what may be a limited resource.”

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Comment Letter #5: Elizabeth Norton

From: Elizabeth Norton [bobliz@frontiernet.net]
Sent: Saturday, October 23, 2010 4:55pm
To: OSVProgramEIR@parks.ca.gov

I would like to receive a hard copy and CD of all the above documents (EIR, App. A and Maps). It is much bigger than my printer is able to handle.

Please send to:

Elizabeth Norton
PO Box 1651
Susanville, CA 96130

Thank you.

Comment Letter #6: Byron Baker

From: Byron Baker [sierrasledder@gmail.com]
Sent: Tuesday, October 26, 2010 10:26 pm
To: OSVProgramEIR@parks.ca.gov

To: Connie Latham, Project Manager:

Hi Connie:

I am a member of the Sierra Buttes SnowBusters, snowmobiling club. We are located in the Bassetts/Gold Lake area.

Many volunteers groom the trails in the Sierra County area.

Page 40 of the attached document indicates that we are to receive a new snow cat in 2011.

Table 2-5. OHMVR Division Snowcat Vehicle Fleet Replacement Plan
2011 Vehicle Replacement Tahoe NF, Bassetts PB300

Our current snowcat is in poor state of repair and we cannot get the State or the Forest Service to approve funding to have it serviced.

Could you find out an approximate date when we can expect to receive the new equipment?

Also, we will require a snow cat with a blade that has a smaller (in width) blade to allow us to navigate the narrower trails in the area.

Thank you so much for your assistance,

Byron E. Baker
916-365-6180
Byron

Comment Letter #7: Michael Evans

From: Michael E. Evans (Guarantee Electrical) [Michael.Evans3@valero.com]
Sent: Thursday, October 28, 2010 11:18am
To: OSVProgramEIR@parks.ca.gov

It would be a great achievement to get a trail cut and groomed to the LTS trail system from the Cisco Grove campground. It would make access easier for Sacramento based riders and open areas that are otherwise a challenge to reach. Just my thought! Thank you, Mike Evans (CNSA, West Coast Sledders and Sacramento Sno-busters member).

Mike Evans

Comment Letter #8: Paul Juhnke

From: Paul Juhnke [pwjuhnke@gmail.com]
Sent: Thursday, October 28, 2010 7:57pm
To: OSVProgramEIR@parks.ca.gov

Connie Latham, Project Manager;

I urge you to support Cisco Grove snowmobile trail grooming. It's a fun family sport that encourages healthy living and responsible wilderness use. Un-groomed trails are dangerous.

Thanks,
Paul Juhnke

Comment Letter #9: Bill Harbaugh

From: Bill Harbaugh adrenalineps.com [redlinebill@yahoo.com]
Sent: Thursday, October 28, 2010 9:05pm
To: OSVProgramEIR@parks.ca.gov

Connie; in reviewing the over the snow program I see the lack of Cisco Grove in the grooming program, this is a surprise since it is probably the heaviest used trail system for anyone coming from Sacramento and points west. China Wall is much less used, mainly because they do not receive as much snow as Cisco Grove, yet has full support. Couldn't some of the funding be taken from China Wall and diverted to Cisco Grove?

Thanks,
Bill

Comment Letter #10: Steve Moulis

From: Steve Moulis [steveandkelly@comcast.net]
Sent: Sunday, October 31, 2010 9:12am
To: OSVProgramEIR@parks.ca.gov

Mrs. Latham,

I am taking time to write you in hopes that your office will use some of the OHV fees collected to groom and support the owner of the Cisco Grove Resort.

The owner, Rick, has been grooming the trail for years at great personal expense.

Any support your office can provide is appreciated.

Thanks you,
Steve Moulis
Moderator: www.WestCoastSledders.com

Comment Letter #11: Steve Rounds

From: Steve Rounds [srounds@socal.rr.com]
Sent: Monday, November 1, 2010 9:37pm
To: OSVProgramEIR@parks.ca.gov

Hello
Me and my family are in favor of this Program. Each year we drive to many of the California sno parks to ride our snowmobiles. It is a 6-8 hour drive that we do 7-8 times

each year. Each trip can easily cost us \$400.00 to \$600.00 dollars which goes directly into the local economy. Lodging, food, and gas are our major expenses.

Without these Snow parks we would be forced to travel out of state to enjoy the sport of snowmobiling.

Thank You for your time

Steve and Susan Rounds
Tustin California 92705

Comment Letter #12: Jeff Erdoes

From: Jeff Erdoes [jefferdoes@att.net]
Sent: Monday, November 22, 2010 1:06 PM
To: OSVProgramEIR@parks.ca.gov
Subject: Re: OSV project DEIR comment

November 21, 2010

California Department of Parks and Recreation
Connie Latham
Project Manager
Over Snow Vehicle Program

Dear Program Manager:

Thank you for the extensive analysis of your Over Snow Vehicle Program grooming proposal for years 2010-2020.

After reviewing your Draft Environmental Impact Report, I decided, at this late hour, to express two of various concerns I have with the draft and with implications of the proposed program. So thank you in advance for accepting my personal observations and comment via email.

The DEIR improperly dismisses aesthetic concerns

from DEIR 10.5.1 Aesthetics (pg 226):

#12-1

" OSV tracks, even in areas of more concentrated off-trail open area use, are also a negligible and temporary change in visual character as compared to undisturbed snow."

Though scarce and ephemeral, expanses of undisturbed snow constitute a singularly valuable resource in the Sierra Nevada. The visual and physical quality of snow scapes and snow surfaces is a major determinant of the quality of the snow-season recreation

#12-1

available to forest visitors, whether motorized or self propelled. For many, attainment of undisturbed snow and untrammelled winter scene is the central motivation behind their forest visit.

Up to 30% of surveyed snow motorists would continue to use trailheads in the absence of grooming services. This suggests that for many recreational snow motorists, groomed snow trails are not so much a goal in themselves as they are a convenience and aid in the pursuit of undisturbed snow.

Undisturbed fallen snow is so beguiling that motorists will drive farther afield, and sometimes willingly out of bounds, to access and impress it. Motorized competition for undisturbed snow undoubtedly explains some of the demand for more and more powerful snowmobiles. The fact that some snowmobiles are now optimized for off-trail use - made to cut tracks afresh rather than share existing lanes - demonstrates the allure of undisturbed snow to specialty motorists and the paradox that leads snow motorists to complain of snowmobile 'crowding'.

Visual and physical availability of undisturbed snow is also of central importance to snow-season visitors traveling by their own power, whether snowshoeing near trailheads or skiing along the Pacific Crest National Scenic Trail. Slopes of undisturbed snow are esteemed for their inspiring beauty and for their suitability for measured and reliable ascent and descent.

Once an open off-trail expanse of natural snow has been impressed with troughs and marks of omnidirectional vehicular play, the visual and physical impacts may endure until a later snow fall restores natural contours to the surface, or until spring. In the meantime, the sharp-edged snow ruts of a snowmobile may persist, frozen in place, sometimes for weeks at a time. The visual impacts, near or far, of rutted snow certainly extend to snow motorists, and in the context of a 14-week snow season, persistent visual impacts and physical impediments posed by fall-line snow ruts are significant in their potential to degrade the rewards of ordinary, self-propelled (self-limited) recreational pursuits.

Without mitigation or restraint, the off-trail snowmobile activity engendered by OSV trail grooming services can be expected to diminish both the attractiveness and the utility of Sierra snowscapes widely in vicinity of groomed trails. Unable to overreach snowmobiles in pursuit of undisturbed snow, the proposed grooming project promises to put the rewards of undisturbed snow out of reach to ordinary forest visitors without specialty vehicles.

#12-2

The DEIR underestimates future snowmobile emissions

From DEIR, page 84:

"As emissions controls take effect, the OSV user fleet at trail sites in the Project Area will show increased use of four-stroke engines or advanced two-stroke engines; it is likely that

emissions will be reduced by roughly half of current rates by 2020."

#12-2

I believe that this expectation is unfounded and overly sanguine.

The US EPA allows significantly looser (more permissive than mfg 'fleet avg') HC and CO emissions standards for specialty - high powered two-stroke - snowmobiles. High-output two-strokes are precisely the OSV most likely to leave the trail system and release outsized and indeed unregulated exhaust in off-trail locations. Even after three years of EPA standards by the 2009 survey, more than 96% of California OSV were still two-stroke - an inconsequential improvement.

Moreover, EPA exhaust limits for snowmobile HC and CO emissions are specified in grams of pollutant per kilowatt-hour, aka grams per hourly throttle level. As more and more powerful snowmobiles arrive on the public commons, average horsepower expended per visit has been rapidly increasing. One prominent measure of this is expanded hillside loop-driving.

Applying more horsepower (more throttle), converts fuel into exhaust more rapidly, increasing emissions per unit of time. In this way, a brand new 'updated' high-power EPA 2012-compliant OSV operated for one hour at 48 average horsepower actually releases MORE hydrocarbon (11.9 lbs vs 11.2 lbs) and MORE carbon monoxide (31.7 lbs vs 30.7 lbs) in remote locations per visit than an typical 1998 two-stroke snowmobile* operated one hour at 36 average horsepower.

#12-3

Exhaust emissions from the 'average privately owned snowmobile' which will be used in California mountains into the foreseeable future may be even greater than those quantified for this comparison for several reasons:

- Once a snowmobile is in service, mechanical wear accrues to its engine and drive train; its operating efficiency drops off and its average exhaust emissions increase to some extent
- Once a snowmobile is sold into private ownership, no federal or state limits apply to its exhaust emissions; there is, at this time, no dependable curb on emissions from degraded or maladjusted snowmobiles in private hands
- Existing snowmobiles which were manufactured without respect to pollution restraints will continue in service indefinitely, at any owner's discretion
- Snowmobiles which run cleaner than the final (2012) EPA standards are likely to continue to be more expensive (for equivalent horsepower) than snowmobiles which merely meet the standard
- Snowmobiles spread a greater variety of noxious waste than just the HC and CO pollutants examined in this comparison

With, in fact, no emissions controls on private OSV activity, and with a 10 year activity growth forecast to 148% of baseline, off-trail and even on-trail snowmobile emissions could actually increase over the project lifetime. This increase is partly reflected in table 4-13 (pg 104) which indicates prospective growth in project-related snowmobile emissions.

Unrelenting and unregulated large-scale snowmobile emissions magnify concerns of contamination accumulating in sensitive environments and are also likely to stimulate use conflicts between snowmobile motorists (who are increasing their average expenditure of horsepower every season), and between lung-reliant visitors pursuing wholesome atmosphere and motorists.

Respectfully submitted,

Jeff Erdoes
Carson City, Nevada

*using NPS-determined two-stroke snowmobile emissions factors - averaged from two 1998 and a one 1999 snowmobile - presented in February, 2000, "Air Quality Concerns Related to Snowmobile Usage in National Parks" report, Appendix pg A-3, baseline snowmobile emissions determined by SwRI:
HC = 141 g/hp-hr CO = 386 g/hp-hr

US EPA 2012 max allowable emissions from new-made snowmobiles:
HC = 150 g/kW-hr CO = 400 g/kW-hr
<http://www.epa.gov/EPA-AIR/2008/June/Day-25/a14411.pdf>
also
<http://www.epa.gov/fedrgstr/EPA-AIR/2008/June/Day-25/a14411.htm>

Exhaust per hour at 48 horsepower at EPA 2012 snowmobile max allowance, grams converted to pounds:

$150 \text{ g/kW-hr} \times .75 \text{ hp/kW} \times 48 \text{ hp} = 5400 \text{ g/hr}$ $5400 \text{ g/hr} \times 1 \text{ lb}/453 \text{ g} = 11.9 \text{ lb/hr}$
That is 11.9 lbs of hydrocarbon per hour at 48 horsepower

$400 \text{ g/kW-hr} \times .75 \text{ hp/kW} \times 48 \text{ hp} = 14,400 \text{ g/hr}$ $14,400 \text{ g/hr} \times 1 \text{ lb}/453 \text{ g} = 31.7 \text{ lb/hr}$
That is 31.7 lbs of carbon monoxide per hour at 48 horsepower

Exhaust per hour at 36 horsepower from average 1998 two-stroke snowmobile, grams converted to pounds:

$141 \text{ g/hp-hr} \times 36 \text{ hp} = 5076 \text{ g/hr}$ $5076 \text{ g/hr} \times 1 \text{ lb}/453 \text{ g} = 11.2 \text{ lb/hr}$
That is 11.2 lbs of hydrocarbon per hour at 36 horsepower

$386 \text{ g/hp-hr} \times 36 \text{ hp} = 13,896 \text{ g/hr}$ $13,896 \text{ g/hr} \times 1 \text{ lb}/453 \text{ g} = 30.7 \text{ lb/hr}$
That is 30.7 lbs of carbon monoxide per hour at 36 horsepower

ORAL COMMENTS

(Received at OHMVR Division Public Meeting on October 27, 2010)

Commenter #13: Patrick Lieske, Lassen National Forest, Wildlife Biologist

Comment #13-1: Effectiveness of USFS monitoring efforts for goshawk PAC may not be fully addressing impacts related to OSV use. USFS monitoring of PACS is related to timber sales not OSV use near trails.

Comment #13-2: OSV use still occurs on the forest even when low snow conditions exist and winter trails are closed for the season by forest order.

Comment #13-3: EIR mitigation measures may require additional funding for USFS to implement.

Commenter #14: Byron Baker

Comment #14-1: Snowcat operated at Bassetts needs to be replaced. Bassetts would have more volunteer groomers if snowcat equipment was reliable.

Comment #14-2: Limited parking is available at Bassetts trailhead. When parking at Yuba Pass fills up, overflow parking spills over to Bassetts. When Bassetts trailhead parking is full, it spills over to the parking area used by residents of Green Acres subdivision. There is room to expand Yuba Pass parking area and this could alleviate OSV parking shortage affecting Green Acres residents.

2.0 RESPONSE TO COMMENTS

Written Comments Received on OSV Program Draft EIR, Program Years 2010 – 2020

Comment Letter #1. Lassen National Forest

Comment #1-1: Increased indirect costs to U.S. Forest Service from increased OSV use.

Response to Comment #1-1: As noted, the OSV Program Draft EIR (Section 2.7.2.1) does assume OSV growth could occur during the 10-year project period. An annual average growth level of 4% is used in the environmental analysis to project potential OSV use levels in 2020. This growth level is based on historical increases in snowmobile registrations that have occurred over the previous decade. The number of registrations peaked in 2008 and has declined in 2009 and 2010, which could mark the beginning of a downward trend (see Attachment B). Thus, the 4% growth analysis used in the Draft EIR is conservative and serves to define a maximum use level for purposes of environmental analysis.

The Draft EIR does not assume expansion of the OSV Program to provide new recreation opportunities (new trail systems) is necessary but rather acknowledges the possibility it could occur and addresses potential environmental effects of operating (but not developing) an expansion. More specific effects would have to be analyzed at the time new trail systems are actually proposed and specific project details are known.

If growth in OSV recreation occurs or if OSV Program operations expand to new locations, it could result in increased need for law enforcement and resource monitoring efforts by the USFS. It is recognized there is a cost associated with providing new or expanded services. It is not known whether growth in OSV recreation or the operation of the OSV Program, as projected in the Draft EIR (Sections 2.7.1 and 2.7.2.1) for the purposes of environmental analysis, will actually occur. Measures LU-1 and REC-1, presented in the Draft EIR, require increased law enforcement where the need is made evident from monitoring efforts. Both measures specifically state both the OHMVR Division and USFS shall work to address the issues that arise through monitoring efforts. Provision of adequate law enforcement is the responsibility of the USFS. However, the OHMVR Division recognizes there may be instances where supplemental state funding may be possible; this would be evaluated by the OHMVR Division on a case-by-case basis.

Implementation of all EIR mitigation measures requires a collaborative effort between the OHMVR Division and the USFS regional office and national forests. Regardless of how the mitigation measures are funded, it is the responsibility of the USFS to implement the measures required as a condition of the contract agreement between the OHMVR Division and each national forest. Failure to implement the EIR mitigation measures would be a violation of the terms of the agreement and would result in state withholding of contract funds until it is demonstrated that the mitigation is implemented. As stated in Draft EIR Section 2.9.2:

“If during the course of its review, OHMVR Division determines that a recipient is not in compliance with the OSV Program requirements, the OHMVR Division would make an administrative finding of non-compliance and would not renew the contract with that agency until compliance can be demonstrated.”

Comment #1-2: Regional focused studies on northern spotted owl and northern goshawk

Response to Comment #1-2: There is no information to date that indicates OSV recreation is adversely affecting northern goshawk or northern spotted owl. OSV use has been occurring in the Project Area over a long period of time (at least 14 years at all locations and longer in many). Both northern goshawks and spotted owls are long-lived birds with very high site fidelity. Pairs and individuals return to the same territory every year. Once adults establish a territory, they use that territory for the remainder of their life unless the habitat becomes unsuitable through destruction or high levels of disturbance. Given that birds have co-existed with OSV use for a long time and continue to nest in their established territories, no evidence has been provided indicating these birds are significantly impacted by OSV activity given implementation of USFS Management Actions. Therefore no mitigation is necessary because the level of impact is less than significant.

The USFS has Management Actions concerning these species as listed in the Draft EIR, Table 5-5. Regional focused studies on the northern goshawk and northern spotted owl are being completed, and the collected data once published will allow the USFS to adjust implementation of Management Actions as needed to address significant disturbance to northern goshawk or northern spotted owl reproductive behavior. For example, the USFS may determine that a Limited Operating Period (LOP) needs to be initiated earlier in the season or that additional monitoring is warranted.

The environmental analysis in the Draft EIR does not presume the biological studies will conclude there is no effect of OSV recreation on these species. Rather, the Draft EIR concludes the USFS has the ability to implement Management Actions as needed, such as trail closures or LOPs, to protect these species from significant impacts. The USFS employs adaptive management and consistent with that approach, USFS biologists will review the results of the focused studies and site-specific information related to a specific individual or pair such as observations of individuals being disturbed (e.g., owl or goshawk flying off of nest or roost) as OSV use occurs; evidence of nest failure that appears to be linked to OSV use; proximity of the OSV use to known nests, overlap of timing of OSV use with reproductive season, and local topography. If in their professional judgment, USFS biologists determine that OSV recreation is adversely affecting northern goshawk or northern spotted owl, Management Actions of trail closures or LOPs will be implemented in the area of concern to avoid or reduce the impact to a less than significant level.

In response to these focused studies, Measure BIO-1 requires the USFS to adjust implementation of Management Actions as needed to ensure any significant adverse effects caused by the OSV Program continue to be adequately mitigated.

Comment #1-3: Supplemental monitoring and GIS analysis may be needed at increased cost to USFS.

Response to Comment #1-3: Measure BIO-1 requires that the USFS update the implementation of its Management Actions governing the northern goshawk and northern spotted owl to reflect the most current information as contained in the regional focused studies. The subsequent need for and level of species monitoring the USFS implements may be revised based upon the results of the focused studies. The monitoring measure associated with Measure BIO-1 in the Draft EIR does not require the USFS to perform new monitoring but does require the USFS to adjust implementation of Management Actions based upon focused study results to ensure any significant adverse effects caused by the OSV Program continue to be adequately mitigated. The

USFS must document monitoring efforts undertaken as well as any Management Actions implemented and provide that documentation to the OHMVR Division. Also see response to Comment #1-1.

Comment #1-4: California wolverine impact.

Response to Comment #1-4: California wolverine is not known to occur near project sites (Draft EIR, Page 5-39) and therefore no impact to the wolverine from OSV use is known to be occurring. Although systematic monitoring for the wolverine is not occurring throughout all national forests, the USFS does include wolverine in its annual carnivore monitoring (Draft EIR, Page 5-39). If wolverine is determined to be present by verified sightings, there is a potential for significant impact if OSV use occurs near a natal den. Measure BIO-2 avoids this potential impact by requiring implementation of a LOP.

Comment #1-5: Measure BIO-3.

Response to Comment #1-5: First sentence of Measure BIO-3 is modified as suggested. See Text Amendments (Section 3.0).

Comment #1-6: Measure BIO-3

Response to Comment #1-6: The referenced document, Sierra Nevada Red Fox A Conservation Assessment, was reviewed in preparation of the Draft EIR and cited in the References consistent with CEQA Guidelines § 15148 (see Draft EIR Section 11.1). It is not incorporated by reference pursuant to CEQA Guidelines § 15150, which is generally reserved for long, technical analyses or other documents directly applicable to the project but too long to include fully in the EIR. The USFS is actively working with wildlife biologists from California Department of Fish and Game (CDFG) and University of California Davis to develop a monitoring program for Sierra Nevada red fox. Based on the monitoring results, the USFS will develop Management Actions as needed to address potential effects from OSV activity as reflected in BIO-3. Management Actions will be implemented when, in their professional judgment, USFS biologists determine that OSV activity is disturbing the red fox based on individuals being disturbed, proximity of OSV use to known den sites, overlap of timing of OSV activity with reproductive season, and local topography.

Comment #1-7: Special Status Plant Species Impact

Response to Comment #1-7: Lassen National Forest, along with most of the other national forests participating in the OSV Program, does not have minimum snow depth requirements for OSV use. While OSV Program-sponsored grooming stops by the end of March, OSV use throughout the forest can continue as long as there is snow on the ground unless prohibited by a minimum snow depth requirement enforced by a Forest Order. As noted, OSV recreation may continue into April and possibly May dependent upon snow conditions. Because off-trail riding can occur in low snow conditions, special-status plant species could be adversely affected. Measure BIO-4 addresses this potential impact by requiring national forests to implement any of the following: 1) restrict OSV use in low snow conditions, 2) locate by survey and protect plant species at risk of being impacted by OSV use, or 3) conduct annual monitoring where plants have potential for occurring and implement protective measures as needed. With the implementation of this measure, impacts to special-status plants would be reduced to a less than significant level.

Comment #1-8: Soil compaction

Response to Comment #1-8: Soil compaction and erosion impacts from OSV use are addressed in the Hydrology and Water Quality chapter of the Draft EIR (Sections 6.2.3.1 and 6.3.3.1). Snowmobiles exert very little pressure on bare ground even in low snow conditions compared to other forms of recreation (Draft EIR Table 6-2). Soil erosion from OSV use was not observed by the USFS during its end of season monitoring according to the 2009 OSV Program Monitoring Checklists submitted to the OHMVR Division and therefore is not considered a significant impact. All national forests were contacted during the preparation of the Draft EIR. Soil disturbance or erosion from OSV use was not identified as a significant issue of concern.

Comment #1-9: Table S-1, all Mitigation Measures

Response to Comment #1-9: The comment does not address the sufficiency of analysis of a significant project impact or the identified EIR measures to mitigate or avoid those impacts. Implementation of the EIR mitigation measures requires a collaborative effort between the OHMVR Division and the USFS regional office and national forests. The OHMVR Division will work with the USFS to determine whether work plans must be modified or expanded and identify opportunities for additional funding. Regardless of whether existing USFS work plans need to be modified, the EIR mitigation measures must be implemented to reduce the significant impacts of the OSV Program to a less-than-significant level. If mitigation measures are not implemented, the OSV Program contract funding would be withheld. See response to Comment #1-1.

Comment #1-10: Table S-1, all Mitigation Measures

Response to Comment #1-10: As noted, Measures BIO-3, BIO-4 and BIO-5 require resource monitoring due to potential impacts from OSV activity and possible implementation of protective measures dependent upon monitoring results. As stated previously, implementation of the EIR mitigation measures requires a collaborative effort between the OHMVR Division and the USFS regional office and national forests. See response to Comments #1-1 and #1-9.

Comment #1-11: One-time funds of \$227,445

Response to Comment #1-11: The funds issued through the Grants Program shown in Draft EIR Table 2-11 were for equipment or vehicle purchases and repairs, facility maintenance (e.g., restrooms, signage, and kiosks), and additional staff to assist with facility maintenance, public contacts, and resource monitoring. Of the total one-time funds, \$31,000 on the Tahoe National Forest was specifically targeted for resource monitoring purposes. This included funding to provide for a wildlife biologist, botanist, archaeologist, soil scientist, and other specialists to monitor OHV/OSV use in sensitive and/or heavily used areas (e.g., meadows, areas with high concentrated OSV use) and related areas of concern that are off trail.

The OHMVR Division has provided substantial funding to the USFS to conduct the northern goshawk and northern spotted owl regional focused studies. The USFS also expends internal funds on annual monitoring efforts throughout the national forests. The Division acknowledges there are costs associated with implementing the mitigation measures identified in the EIR. Please see response to Comments #1-1 and #1-9 above.

Comment #1-12: OHMVR Division compliance review

Response to Comment #1-12: Based on the environmental analysis contained in the OSV Program EIR, new monitoring and resource protection measures have been specified where

needed in addition to ongoing efforts already underway in the forests. These measures outline the monitoring requirements for each national forest to be in compliance with the OSV Program. These requirements, as identified in the EIR, will be incorporated into the contract agreement between the OHMVR Division and each national forest. Existing agency protocols (e.g., monitoring methods, frequency, location, etc.) will be used to implement the monitoring component of these mitigation measures. Protocols typically change as new information becomes available. New protocols may be developed based on results of pending studies (i.e. focus studies on northern goshawk and northern spotted owl; and monitoring of the Sierra Nevada red fox).

Comment #1-13: Grants Funding on Table 2-11

Response to Comment #1-13: Of the funds from the Grants Program awarded to national forests for OSV Program related activities, only funds to Tahoe National Forest were allocated for resource monitoring (see response to Comment #1-11). As noted, the resource monitoring required to implement the mitigation measures specified in the OSV Program EIR may involve work which is outside the scope of existing forest-level biological programs. The OHMVR Division is aware of the additional costs associated with implementation of the EIR mitigation measures and will work collaboratively with the USFS to ensure adequate funds are available (see response to Comments #1-1 and 1-9). As stated in response to Comment #1-12 above, specific monitoring protocols used to implement these mitigation measures will be determined by discussions between OHMVR Division and USFS staff prior to implementation.

Comment #1-14: Growth in OSV Recreation reference to Measure BIO-3

Response to Comment #1-14: The reference to Measure BIO-3 on page 3-17 of the Draft EIR is in error. The mitigation measure addressing impact to sensitive plant species potentially impacted by OSV is Measure BIO-4. This reference is corrected in Text Amendments. As noted, off-trail riding is permissible on Lassen National Forest and since Lassen National Forest does not have a minimum snow depth requirement, the forest would be responsible for implementing paragraph 2 or 3 of Measure BIO-4 to be found in compliance.

Comment #1-15: Wildlife Movement Corridors

Response to Comment #1-15: Section 5.2.6 of the Draft EIR presents an environmental setting discussion of wildlife movement corridors. The discussion of project impacts to wildlife corridors is presented in Section 5.3.2.4 and 5.3.3.3. The discussion concludes that funding the existing OSV Program would not change the groomed trail system, which occurs on an existing road network and has been in existence for many years, and therefore would not impact wildlife corridors. If the OSV Program is expanded to include new trail systems, the new trails would be subject to environmental review at the time they are proposed. The potential for impact to wildlife corridors would be evaluated at that time.

Comment #1-16: Table 5-5, Northern Goshawk and California Spotted Owl

Response to Comment #1-16: Current USFS Management Actions include both monitoring *and* LOPs and route closures/reroutes to address potential disturbance to northern goshawks and spotted owls (northern and California). The Draft EIR (Pages 5-36 – 5-38) found the combination of these protocols adequate to ensure the impacts of the OSV Program on these species are less than significant. National forests have implemented LOPs in the past for these species. According to the USFS Regional Office, a number of national forests have established LOPs for OHV use, including the Lassen, Eldorado, Sierra, Plumas, and Mendocino National Forests. These LOPs address special events (enduro events), all OHV use in general, or specific

routes added to the National Forest Transportation System in the recent Travel Management Decisions (e.g., Lassen and Plumas National Forests). Forests may use other Management Actions besides LOPs. At least one forest (Stanislaus National Forest) dropped routes near spotted owl nests in the Travel Management decisions because of concerns regarding proximity to a nest. LOPs for OSV activity specific to northern goshawk and spotted owls are available to the forests but mostly unnecessary because of other closures on the forests during the beginning of the nesting season (e.g., deer winter areas, bald eagle closures, or the area is just not accessible to over snow use during the nesting season).

Presence/absence monitoring conducted over time is beneficial for establishing a history of bird presence. The northern goshawk and spotted owls are territorial species nesting in the same area year after year. The nesting sites for these species are known and presence/absence monitoring indicates if a disruption has occurred and the nest is no longer active. Given an absence, assumptions can be made about the reason for the disappearance and whether it can be attributed to a specific activity that needs to be removed from the nesting area. A different monitoring method is behavior monitoring which evaluates an individual's response to a disturbance activity. The Regional Northern Goshawk and Regional Northern (not California) Spotted Owl Focused Studies being conducted by the USFS are based on behavior monitoring and would indicate if these species are susceptible to disturbance from OSV/OHV related activity. The results of these studies would provide the USFS with data it needs to determine whether LOPs or other Management Actions need to be implemented on the national forests to protect these species.

In consideration of ongoing research and the potential development of new data over the 10-year life of the project, the EIR takes an adaptive management approach. EIR Measure BIO-1 thus requires that the USFS report and incorporate any changes in northern goshawk or spotted owl Management Actions, including changes resulting from the focused studies, into the OSV Program requirements.

Comment #1-17: Redirection of Grooming Funds Alternative

Response to Comment #1-17: The commenter notes that this alternative could provide a source of funds for resource monitoring. No specific comments were made on the adequacy of the alternative analysis. No further response is required.

Comment #1-18: Redirection of Grooming Funds, last paragraph

Response to Comment #18: The extent to which grooming is reduced by this alternative would depend upon the amount of funds redirected on each forest. The effect of reduced grooming on trail conditions would again depend upon what level of decrease in grooming activity occurs. This has not been determined. The sentence has been revised. See Text Amendments.

Comment #1-19: Environmentally Superior Alternative

Response to Comment #1-19: Comment acknowledged. The Draft EIR concludes the Funding of Restricted Riding Areas Only alternative is the Environmentally Superior Alternative. As noted in the comment and discussed in the Draft EIR, OSV use would likely be reduced by this alternative and the redirection of OSV riders would likely create a need for increased law enforcement patrols and public outreach to enforce trail riding restrictions. This alternative would limit funding to only those forests which have off-trail riding restrictions. As noted, under this alternative individual national forests would have to amend their forest plans in order to receive OSV Program funds.

Comment #1-20: OSV Program Monitoring Report Per EIR Data Request

Response to Comment #1-20: Lassen National Forest provided supplemental monitoring report information for consideration in the OSV Program EIR. The monitoring report does not directly comment on the sufficiency of the environmental analysis presented in the Draft EIR. The information presented in the monitoring report does not identify new environmental impacts or change the analysis and conclusions contained in the Draft EIR. As such, no further response to this document is required.

The monitoring report concludes with a recommendation that the grooming program not extend beyond March 31. While this is not a direct comment on the Draft EIR, it should be noted the grooming operation generally occurs between mid-December through the end of March (Draft EIR Section 2.4.1). It should also be noted that cessation of grooming does not stop OSV activity on the forest. OSV recreation may continue into April or even May dependent the availability of snow. Thus, the potential for OSV activity to overlap with the breeding season of special-status raptors being monitored on the Lassen National Forest remains regardless of the end of the grooming activity.

Comment Letter #2. Center for Biological Diversity

Comment #2-1: Incorrect baseline shields impacts from review

Response to Comment #2-1: As noted by the comment, an EIR “must include a description of the physical environmental conditions in the vicinity of the project, as they exist at the time the notice of preparation is published... This environmental setting will normally constitute the baseline physical conditions by which a lead agency determines whether an impact is significant.” (CEQA Guidelines § 15125(a).) Baseline is often commonly referred to as existing conditions.

The Draft EIR is using the term baseline in a slightly different context. Because changes in the OSV Program, such as the number of recreationists, are foreseeable over the 10-year Program life, the Draft EIR analyzes program impacts at both the Program start (winter 2010/11) and Program end (winter 2020/2021). Project conditions and impacts at the start of the OSV Program are referred to as “Project Baseline, Year 2010.” Both impact analyses for years 2010 and 2020 utilize existing pre-project environmental conditions as the CEQA baseline for assessing environmental impacts of the project and thus for the selection of alternatives. This approach provides a more complete analysis for reviewers: what would the initial impacts be from implementing the project under the conditions as they exist today (Project Baseline, Year 2010), and what might the impacts of the project be in 10 years (Project Growth Year 2020)? It is important to note the environmental baseline conditions used to assess project impacts include existing features utilized by the OSV Program. For example, the roads groomed and parking areas plowed as part of the proposed OSV Program are existing infrastructure used by motorized vehicles and recreationists throughout the year. Their prior development is not the subject of the EIR (the EIR also does not evaluate site-specific impacts from developing new trail systems or parking areas). In sum, the EIR is considering the effects of the activities directly funded by the OSV Program and OSV recreation facilitated by those activities.

As described in the No Project Alternative discussion, OSV recreation itself is an ongoing and allowable use of the Project Area that would continue even without state funding, albeit at lower levels. As noted in Draft EIR Section 2.6.1.2, one-third of existing OSV activity would occur without the OSV Program. Thus, the correct existing conditions to be used as a baseline for

evaluating environmental effects of the project is not zero OSV activity in the Project Area but rather ongoing OSV use occurring at a reduced level (one-third of existing visitor use levels). Therefore, the OSV activity occurring in the Project Area regardless of the grooming and plowing activity of the OSV Program should be considered when evaluating OSV Program impacts. Furthermore, the description of the OSV Program, and the description of impacts, would be incomplete if it did not acknowledge these seasonal but ongoing activities that have been occurring at all locations for at least 14 years (see Draft EIR section 2.4) and in many cases much longer, but these effects are not dismissed going forward. Rather, the EIR assesses the significance of impacts of the OSV Program and the OSV use facilitated by the OSV Program at these current levels. In places, the EIR text noted no new impacts would occur under the Program as proposed. Because this language may cause confusion, the text has been revised to clarify that the significance evaluation under “Project Baseline, Year 2010” conditions *is* assessing the existing OSV Program (see Section 3.0). The EIR also takes into account existing USFS forest-wide standards and guidelines and other management prescriptions already in effect to mitigate impacts. Thus, although the EIR is not evaluating the impacts of establishing OSV recreation where it has never occurred, it does evaluate the impacts of implementing the OSV Program and of the recreational uses that are expected to occur because of the Program.

Specific to biological resources, the Draft EIR specifically discusses the potential for a myriad of impacts under both “Project Baseline, Year 2010,” and “10-Year Program Growth, Year 2020” conditions. In reaching significance conclusions, both analyses properly consider existing USFS Management Actions when determining impact significance. The analyses do not rely on a “no change from current OSV Program” approach, but they do for accuracy reference the activities as ongoing and note whether a change in the activities is anticipated. Please see, for example, the discussion of “Breeding Disruption” on page 5-34, which states “For special-status species, breeding disruption could be a significant adverse impact to a species with an already low population.” It is only because of implementation of the USFS Management Actions already in use (Table 5-5) and the adaptive management approach to mitigation (described in Mitigation Measures BIO-1 and 2) that the Draft EIR found breeding disruption to be less than significant. The text further notes no new impacts would occur as a result of the continuation of the OSV Program and therefore, the Project’s effect on breeding special-status birds is less than significant. This is a separate significance determination. The text has been amended for clarity (see Section 3.0). Please note also that ongoing uses are relevant to certain species impacts, for example, when discussing habituation, e.g., American marten (see Draft EIR p. 5-38).

The comment also mentions in a footnote CDFG is a trustee agency and questions whether CDFG has provided any input on the EIR to date. CDFG did receive a copy of the 2008 Initial Study/Negative Declaration, 2009 Initial Study/Negative Declaration, Notice of Preparation (NOP; see Draft EIR Appendix H), and Draft EIR for the OSV Program but did not submit any responses to any of these documents. The letter received from the State Clearinghouse stating that no state agencies submitted comments on the Draft EIR is attached with the comment letters in Section 1.0 of the Final EIR. As noted in Draft EIR section 1.3, no permits or other discretionary approvals from regulatory agencies are required for project activities.

Comment #2-2: Range of feasible alternatives

Response to Comment #2-2: The comment provides CEQA statute and case law regarding selection and consideration of alternatives. The comment does not specify a deficiency in the Draft EIR’s identification and analysis of significant environmental impacts, on measures to avoid or mitigate those impacts, or in the alternatives considered. Consistent with Public

Resources Code sections 21002, 21002.1(b), and 21081, the OHMVR Division has not proposed a project that would cause unavoidable, significant effects that could otherwise be mitigated by feasible alternatives. All potentially significant impacts have been mitigated to a less-than-significant level as summarized in Table S-1.

Comment #2-3: Project has potential to significantly affect special-status species and wildlife movement corridors

Response to Comment #2-3: Indeed, as discussed in the Draft EIR, the project does have the potential to significantly affect certain special-status species. The potential impacts of the OSV Program on special-status wildlife are discussed in Draft EIR Sections 5.3.2.1 and 5.3.3.1. Mitigation measures are identified in Draft EIR Section 5.4 to reduce those impacts to a less than significant level. The potential impacts of the OSV Program on wildlife movement corridors are discussed in Draft EIR Sections 5.3.2.4 and 5.3.3.3 and are not considered significant. The potential impacts of the OSV Program on special-status plants and aquatic habitat are discussed in Draft EIR Sections 5.3.2.2, 5.3.2.3, 5.3.3.1, and 5.3.3.2, and mitigation is identified in Draft EIR Section 5.4 to reduce impacts to plants and riparian and wetland habitats to a less than significant level. As described in the Draft EIR hydrology/water quality discussion (Sections 6.3.2.1 and 6.3.3.1), OSV use in the Project Area has not resulted in significant soil compaction or soil erosion impacts. It is unclear whether the commenter considers the impact discussion of a particular species or other biological effect to be inadequate as OSV Program impacts to all species listed in the comment are discussed in the Draft EIR. The EIR has been modified to further clarify the potential for impacts to golden eagle (see Section 3.0). Further, the comment does not present any evidence to substantiate its claims that impacts to special-status species, wildlife movement corridors, aquatic habitats, and soils are significant or otherwise contradict the conclusions of the EIR.

Comment #2-4: Draft EIR does not “count” many significant impacts considered part of baseline

Response to Comment #2-4: Existing baseline conditions include the effects of ongoing non-project OSV recreation occurring in the Project Area. Therefore some level of environmental impacts associated with OSV activity is included in the baseline conditions, which cannot be attributed to the OSV Program. As clarified in response to Comment #2-1, the EIR does not discount OSV Program impacts as existing baseline conditions. The Draft EIR acknowledges the potential for impacts to species under both “Project Baseline, Year 2010” and 10-Year Program Growth, Year 2020 conditions. The Draft EIR concluded all potentially significant impacts would be mitigated to a less-than-significant level.

Comment #2-5: Species declining under USFS management

Response to Comment #2-5: Lacking the identification of specific species, it is difficult to address this comment. The current population status of each of the various special-status species is related to specific and often multiple reasons that are not necessarily linked to past or current USFS management of the OSV Program. Contrary to the commenter’s statement, not all of the special-status species on the national forests are “declining.” The comment does not provide any description of the substantial evidence or citations of the studies showing the evidence linking the OSV Program and USFS management of OSV recreation to significant impacts on special-status species. Please also see the responses to Comments #2-1 and #2-4 regarding OSV Program impacts to species. The Draft EIR has specified and evaluated those USFS Management Actions relevant to mitigating impacts to specific special-status species (see Tables 5-3 and 5-5), and

where those measures were not found adequate to mitigate significant impacts, additional mitigation is required. Please see response to Comment #2-6 regarding the EIR's reliance on USFS management plan policies. Also see response to Comment #1-16 regarding USFS use of LOPs to manage OHV/OSV recreation impacts to special-status species.

Comment #2-6: Not sufficient to rely on USFS management plans to protect plants, wetlands, and other resources; adaptive management is insufficient

Response to Comment #2-6: Impacts to plants, wetlands, and other resources due to compaction, degradation, or in areas where snow is thin and soils are directly affected are directly evaluated in Draft EIR Sections 5.3.2.1, 5.3.2.2, and 5.3.2.3. Mitigation has been included to reduce potential impacts to a less-than-significant level where warranted. It is unclear whether the commenter considers the impact discussion in these sections to be inadequate.

Every national forest or grassland managed by the USFS has a land resource management plan (LRMP) prepared consistent with the National Forest Management Act (NFMA) of 1976 (16 U.S.C. 1604) and other laws, including the federal ESA, and must, among other requirements, provide for the diversity of plant and animal communities. All of the current plans for the national forests in California were established under the 1982 Planning Rule (36 CFR 219.19; see <http://www.fs.fed.us/emc/nfma/includes/nfmareg.html>), which established an additional requirement to provide for adequate fish and wildlife habitat to maintain viable populations of existing native vertebrate species. In addition, these plans include provisions to address the recovery of federally-listed threatened and endangered species and their habitats and the conservation of USFS Sensitive species and their habitats on National Forest System lands. USFS Sensitive species are species that need special management to maintain and/or improve their status on national forests and grasslands, and prevent a need to list them under the federal ESA. All Management Actions conducted on a national forest must be consistent with the applicable forest plan. The efficacy of the Management Actions in each forest plan was reviewed under the National Environmental Policy Act when each plan was adopted. Specific to CEQA, as noted in the response to Comment #2-6, the Draft EIR has specified and evaluated those USFS Management Actions relevant to mitigating impacts to affected resources, and where those measures were not found adequate to mitigate significant impacts, additional mitigation is required.

Adaptive management, referenced in the Draft EIR only for northern goshawks and spotted owls, is a recognized by trustee and responsible agencies managing biological resources (e.g., CDFG and USFWS) as an accepted approach to biological management. It is reasonable to anticipate biological information from both USFS and other studies will be generated over the 10-year Program life that would affect how best to manage the resources affected by the OSV Program. For example, as discussed in the Draft EIR, data from studies regarding OHV effects on northern goshawks and spotted owls are currently under review. Under adaptive management, as new information is made available, or more effective monitoring strategies are developed, USFS management practices of OSV recreation will change or "adapt" as warranted by the new information. Based upon the data available for the EIR, the monitoring and management approaches described in the EIR, including those measures included as mitigation, ensure adverse impacts are reduced to a less-than-significant level. All mitigation measures are fully enforceable through contract provisions. Measure BIO-1 has been revised to clarify that it is the implementation of existing Management Actions (e.g., LOPs and trail reroutes/closures) that may be adjusted in response to the new focused studies. These Management Actions are

sufficient to reduce significant disturbance impacts. See response to Comment #1-2 and Text Amendments (Section 3.0).

Comment #2-7: Available alternatives would avoid and significantly reduce impacts to species

Response to Comment #2-7: Please see response to Comment #2-1 regarding “under-estimated” project impacts. Please see response to Comment #2-2 regarding the selection of alternatives. As noted by the comment, the Draft EIR does identify the Funding of Restricted Riding Areas Only alternative as the environmentally superior alternative (in addition to the No Project alternative). Given that all project impacts are mitigated to a less-than-significant level and that the Funding of Restricted Riding Areas Only alternative does not fully meet the project objectives, it was not chosen in place of the proposed OSV Program.

Comment #2-8: Draft EIR erroneously rejects the Closure of Off-Trail Riding Areas and Prohibition of Two-Stroke Engine alternatives

Response to Comment #2-8: The commenter is correct that the Division could propose not funding grooming and clearing activities in areas where off-trail riding is allowed. That alternative is included in the EIR as the Funding of Restricted Riding Areas Only alternative. Please see response to Comment #2-7 regarding rejection of that alternative. As discussed in Draft EIR Section 9.1.4, banning legal two-stroke engines on OSV Program trails and the broader Project Area is both infeasible and impractical and more properly the subject of state legislation and vehicle codes. As noted, similar to the Funding of Restricted Riding Areas Only alternative, the OHMVR Division could fund only those areas that ban two-stroke engines. However, two-stroke engines are a legal use in the state of California, and national forests are ungated, open lands with multiple points of entry along access roads, trailheads, and private properties. USFS enforcement of a two-stroke engine ban in portions of individual forests when two-strokes are otherwise legal in the remaining (non-OSV Program) areas of the forests and throughout California is problematic. For this reason, a project alternative in which the OHMVR Division funds only of those trails where two-stroke engines are banned is not considered. Furthermore, as there are no unmitigated significant impacts that would be addressed by banning two-strokes, there is no need under CEQA to consider the alternative.

Comment #2-9: Draft EIR cumulative analysis fails to adequately consider impacts of past OSV activities

Response to Comment #2-9: Please see the response to Comment #2-1 regarding the baseline used for assessing project impacts. As acknowledged by the EIR, OSV activities have potential and documented impacts on biological resources. These effects, along with the other activities described in Draft EIR Section 5.3.4, Cumulative Impacts, are considered when determining impacts of the OSV Program. The comment does not state which past OSV Program impacts are cumulatively considerable and does not identify other projects adding to cumulative effects that should be assessed in the EIR analysis.

The comment provides no evidence of past OSV Program activities having contributed to a declining status of species in the Project Area. See also response to Comment #2-5.

Comment #2-10: Draft EIR identification and analysis of impacts to biological resources is inadequate

Response to Comment #2-10: Please see responses to comments #2-1 through #2-9. The comment does not describe the “other” reasons the Draft EIR’s identification and analysis of impacts is deemed inadequate.

Comment #2-11: The Draft EIR makes an unfounded assumption that current baseline conditions are not a significant impact because they are not a net increase in greenhouse gas (GHG) emissions.

Response to Comment #2-11: Changes have been made to the Draft EIR. The Draft EIR text has been amended to find that the Project Baseline condition does increase GHG emissions. The text amendments consider the 2010 Project Baseline GHG emissions in terms of the amount of GHG emissions produced per visitor, as the Draft EIR does for the Program Growth Condition. The revised text describes that the 2010 Project Baseline condition results in 0.14 metric tons of carbon dioxide equivalents (MTCO_{2e}) per visitor. This level of GHG emissions is considered a less than significant impact. Please refer to Text Amendments (Section 3.0) for revised text. The Draft EIR’s assumptions used to estimate Project Baseline GHG emissions are correct and are based on OSV Program activity levels described in the Draft EIR Project Description.

Comment #2-12: The Draft EIR states baseline levels of direct GHG emissions are not significant yet admits on Page 4-32 that indirect GHG emissions are cumulatively considerable.

Response to Comment #2-12: As a point of clarification, the Draft EIR does not state on Page 4-32 that indirect GHG emissions are cumulatively considerable. The use of “cumulatively” at the beginning of the second sentence under the indirect emissions analysis of OSV use and passenger vehicle travel on page 4-32 refers to the sum of all indirect GHG emissions and is not intended to refer to a cumulative impact analysis, which occurs in Section 4.3.4.3 of the Draft EIR. As identified in Section 4.3.4.3 the project’s cumulative GHG emissions levels would be less than significant.

Comment #2-13: The Draft EIR inadequately analyzes “baseline” conditions.

Response to Comment #2-13: See response to Comment #2-1 for discussion of Draft EIR baseline conditions. The correct baseline is the conditions that occur in the Project Area prior to the start of the 10-year program. GHG emissions associated with the OSV Program have been calculated and assessed as impacts of the OSV Program and are not dismissed as baseline conditions. Text Amendments (Section 3.0) are provided to clarify the separation of project emissions from baseline conditions. The Draft EIR concludes that GHG emissions are not significant. The comment does not present any evidence to substantiate the claim that these emissions are significant.

Comment #2-14: Substantial guidance on determining the significance of greenhouse gas emissions is available, including the California Air Pollution Control Officer’s Association (CAPCOA) January 2008 white paper entitled *CEQA and Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Project Subject to CEQA*.

Response to Comment #2-14: The CAPCOA white paper is intended as a resource, not a guidance document, for lead agencies to use when addressing GHG emissions under CEQA. As described in Draft EIR Section 4.3.1.3, the OHMVR Division assessed the significance of the project’s GHG emissions using the criteria contained in Appendix G to the CEQA Guidelines. Draft EIR Section 4.1.4.4 provides background on the development of these GHG criteria, which were required by Senate Bill 97.

The reference to *Communities for a Better Env't v. City of Richmond*, 184 Cal.App.4th 70 (2010), appears misplaced. In that case, the lead agency and project proponent unsuccessfully contended the existence of valid permits to operate industrial equipment used in the project at particular levels established an exception to the general rule that existing physical conditions serve as the baseline for measuring a project's environmental effects. Instead, they maintained the analytical baseline for a project employing existing equipment should be the maximum permitted operating capacity of the equipment, even if the equipment is operating below those levels at the time the environmental analysis is begun. The OSV Program does not attempt to take that position. No permits are at issue, and as discussed in the response to comment #2-13, GHG emissions associated with the OSV Program have been calculated and assessed as impacts of the OSV Program and are not dismissed as baseline conditions.

Comment #2-15: The use of a per capita efficiency-based threshold makes little sense for the project's 10-Year Program Growth analysis and the Draft EIR fails to address the cumulatively considerable GHG emissions that result from the project.

Response to Comment #2-15: The DEIR's 10-Year Program Growth GHG emissions analysis is consistent with Section 15064.4 of the CEQA Guidelines. The Draft EIR discloses (Table 4-17) the increase in direct and indirect GHG emissions that would occur with OSV Program Growth by 2020 and considers (Section 4.3.4.2) the extent of this increase on the existing environmental setting, as well as whether the estimated emissions exceed an applicable threshold of significance (Sections 4.3.1.3 and 4.3.4.2). The Draft EIR also considers (Sections 4.1.4.1 to 4.1.4.4) the extent to which the project complies with regulations adopted to reduce GHG emissions.

Table 4-17 provides an estimate of the increase in direct and indirect GHG emissions that would occur with OSV Program Growth by 2020 (4,951 MTCO_{2e} per year). The Draft EIR considers these emissions in the context of the estimated seasonal number of visitors (300,000) that would occur under the program growth scenario, producing an estimate of 0.11 MTCO_{2e} per visitor per year under the program growth condition.

As described in Section 4.3.1.3 and 4.3.4.2 of the Draft EIR, the OHMVR Division has not adopted quantitative standards of significance for GHG emissions or potential global climate change impacts, and there are no local or state adopted quantitative thresholds that apply to the proposed project. While several air districts have set quantitative thresholds, including the South Coast Air Quality Management District (3,000 metric tons of carbon dioxide equivalents [MTCO_{2e}] per year for commercial and residential projects and 10,000 MTCO_{2e} per year for stationary source projects) and the Bay Area Air Quality Management District (1,100 MTCO_{2e} per year for residential, commercial, and public land use projects, 10,000 MTCO_{2e} per year for stationary source projects, and 4.6 MTCO_{2e} per service population per year), the second and third paragraphs on Page 4-35 of the Draft EIR are clear that none of these regional thresholds apply to the proposed statewide project.

The commenter notes that the use of the BAAQMD's service population threshold of significance threshold "makes little sense" in the context of the Draft EIR analysis, the proposed project is not an "efficient" project in the context in which the BAAQMD developed its threshold, and the use of an efficiency based threshold cannot be applied to the proposed project in conformance with BAAQMD standards. As described in the fourth paragraph on Page 4-35 of the Draft EIR, the proposed project is not a typical, regional land use, commercial or stationary source project. The use of an efficiency based metric is appropriate since the project's GHG

emissions are produced by a large number of visitors spread throughout the state. The Draft EIR notes in the last sentence of the Indirect Emissions analysis on Page 4-34 that improvements in technology and fuel efficiency would reduce GHG emissions per OSV use-day from 0.163 MTCO₂e per use-day under the baseline scenario to 0.130 MTCO₂e per use-day under the program growth scenario. The commenter also notes the Draft EIR fails to address cumulatively considerable GHG emissions that result from the project, however, Section 4.3.4.3 of the Draft EIR addresses cumulative GHG impacts.

Comment #2-16: The OHMVR Division must consider ways to avoid, minimize, or mitigate GHG impacts including an accelerated schedule for shifting from diesel to other cleaner fuels, adopting the “Funding Restricted Riding Areas Only” alternative, and/or limiting funding to those areas which allow only OSVs that emit lower emissions.

Response to Comment #2-16: The proposed project does not result in potentially significant air quality impacts that require mitigation. Draft Section 4.4 acknowledges that alternate fuels for grooming and plowing equipment are not likely to be available in the ten year timeframe of the project, there is no commercially available substitute for diesel fuel in heavy-duty, mobile applications, and biodiesel is not a viable substitute since it can gel at low temperatures. Draft EIR Section 9.5 acknowledges the “Funding Restricted Riding Areas Only” alternative would limit OSV use and associated environmental effects; however, this alternative would not meet all project objectives. Draft EIR Section 9.1.4 found the project alternative that would prohibit two-stroke engines both infeasible and impractical. See response to Comment #2-8 and #4-15.

Comment #2-17: Preparation of a Supplemental EIR

The comments received on the Draft EIR have been reviewed. Responses have been prepared to clarify or amplify the analysis and make corrections where needed. The Draft EIR concludes all impacts associated with the OSV Program are less than significant or can be mitigated to a less than significant level through implementation of specified measures. The information presented in the comments and responses do not change the Draft EIR conclusions.

The comments and response to comments do not meet the criteria specified by CEQA Guidelines (Sections 15162 and 15163) requiring preparation of a Supplemental EIR, as a Supplemental EIR is only prepared once an EIR has been certified. Likewise, comments and response to comments do not meet the criteria specified in the CEQA Guidelines (Section 15088.5) requiring recirculation of an EIR. No significant new information has been added to the EIR. Specifically, no new significant environmental impact would result from the project or from a new mitigation measure proposed to be implemented. There is no substantial increase in the severity of an environmental impact that would result unless mitigation measures are adopted. There is no feasible project alternative or mitigation measure considerably different from others previously analyzed that would clearly lessen the environmental impacts of the project. All information provided in this Final EIR merely clarifies, amplifies, or makes insignificant modifications to an otherwise adequate EIR. Therefore, recirculation of the EIR is not required.

Comment Letter #3. Recreation Outdoors Coalition

Comment #3-1: Benefits of OSV Program

Response to Comment #3-1: Comment acknowledged. The comment notes the benefits of the OSV Program to non-motorized users. No specific comments were made on the environmental analysis and therefore no further response is necessary.

Comment #3-2: 10-year program period

Response to Comment #3-2: Comment acknowledged. The comment concurs with proposed 10-year planning horizon of the OSV Program. No specific comments were made on the environmental analysis and therefore no further response is necessary.

Comment #3-3: Future OSV Program opportunities

Response to Comment #3-3: Comment acknowledged. The comment notes that future OSV growth needs increased opportunities, and well-planned trailheads keep riders in appropriate locations and not in areas such as wilderness areas and private lands. Potential areas for OSV Program growth are identified in the Draft EIR Project Description (Section 2.7.1). Although these are identified as potential areas, they are not specifically proposed. Any proposal to expand the OSV Program to new locations would be subject to further environmental review. While the Draft EIR uses an historical average annual growth rate of 4% to project possible growth in OSV use over the 10-year planning period, it should be noted annual growth rates are declining and the need for increased opportunities to meet growth may not be realized. See Attachment B and response to Comment #3-9.

Comment #3-4: OSV growth

Response to Comment #3-4: The ratio of groomed miles to the number of OSVs may not be a particularly useful indicator of the special area needed to adequately provide for OSV recreation. OSV recreation is not limited to the groomed trail system and substantial amount of off-trail riding occurs at the trail sites (Draft EIR, Table 2-9). If projected growth is realized and the OSV Program does not expand existing trail systems or develop new trail systems at new locations, it could lead to more crowded conditions at existing sites which could lead to safety issues. This is discussed in the Draft EIR Recreation chapter (Section 8.3.3.4). Mitigation Measures REC-1 and REC-2 are identified to address potential public safety concerns associated with OSV growth. With these measures in place, potential safety impacts would be reduced to less than significant levels.

Comment #3-5: Project alternatives

Response to Comment #3-5: Comment acknowledged. The comment concurs with rejection of alternatives described in Draft EIR. No further response is necessary.

Comment #3-6: Potential new OSV sites

Response to Comment #3-6: Comment acknowledged. As stated in response to Comment #3-3, no specific plans for expansion are proposed at this time. Safety and management of any proposed new site would be considered during the public planning process and environmental review if and when an expansion site is actually proposed.

Comment #3-7: New trailheads

Response to Comment #3-7: Comment acknowledged. The comment notes the benefits of advanced planning for expansion of the OSV Program. No specific comments were made on the environmental analysis and therefore no further response is necessary.

Comment #3-8: Corrections

Response to Comment #3-8: Comment acknowledged. Specific responses to request for information and noted corrections are presented in response to Comments #3-9 through #3-15.

Comment #3-9: OSV annual growth rate data

Response to Comment #3-9: A chart of annual OSV registrations is presented in Attachment B. The chart shows OSV registrations peaked in 2008 and have since declined. The chart also shows the annual rate of increase has slowed over the last decade. Given this trend, the 4% average annual growth rate used in the Draft EIR is considered conservative.

Comment #3-10: Table 2-6, plow service at Morgan Summit

Response to Comment #3-10: The Lassen National Forest has an inter-agency agreement with Lassen Volcanic National Park in plowing the snowmobile trailhead at Morgan Summit. Caltrans occasionally plows but the official agreement is with the National Park Service. Table 2-6 is corrected accordingly. Please see Text Amendments (Section 3.0).

Comment #3-11: Table 3-2, Lassen Volcanic National Park as Special Interest Area for Morgan Summit

Response to Comment #3-11: Lassen National Forest confirms wilderness areas and the Lassen Volcanic National Park are not accessed from Morgan Summit. Table 3-2 is corrected accordingly. See Text Amendments (Section 3.0).

Comment #3-12: OSV intrusion into Lassen Volcanic National Park

Response to Comment #3-12: Lassen National Forest confirms wilderness areas and the Lassen Volcanic National Park are not accessed from Morgan Summit. Most of the Lassen Volcanic National Park trespasses occur through the Swain Mountain or Bogard trailheads. Trespasses on the Caribou Wilderness occur through the Chester-Almanor, Swain Mountain, or Bogard trailheads. Draft EIR text in Section 3.3.2.2 is corrected accordingly. See Text Amendments (Section 3.0).

The comment states that the public accesses Lassen Volcanic National Park on the south side across Mill Creek. According to Lassen National Forest, this area is private property. The USFS does not have any record of the public accessing the park from this direction. Most of the reported cases of trespass occur into the Caribou Wilderness and into Lassen Volcanic National Park through the Bogard, Swain, and Chester Trailheads.

In the past, some intrusions into Lassen Volcanic National Park have occurred on the west side through Brokeoff Meadows. Sometimes USFS law enforcement officers are asked to assist the National Park Service. Most of the time, the park handles its own intrusions.

Comment #3-13: Table 3-3, OSV intrusion into Lassen Volcanic National Park

Response to Comment #3-13: Comment acknowledged. Text in Table 3-3 is corrected accordingly. See Text Amendments (Section 3.0). Also see response to Comment #3-12.

Comment #3-14: Access to Caribou Wilderness

Response to Comment #3-14: Comment acknowledged. Text in Table 3-3 is corrected accordingly. See Text Amendments (Section 3.0). Also see response to Comment #3-12.

Comment #3-15: Table 8-3, Morgan Summit parking overflow

Response to Comment #3-15: Table 8-3 is corrected to reflect parking overflow conditions occasionally occur at Morgan Summit. Please see Text Amendments (Section 3.0). Expansion of

the Morgan Summit trailhead parking capacity would be a capital improvement project undertaken by the Lassen National Forest apart from the OSV Program. As discussed in the Draft EIR Recreation chapter, many of the OSV Program trailheads lack capacity to accommodate full demand for parking. National forests may consider numerous factors when evaluating whether to expand trailhead parking such as physical constraints, capacity of the recreation area, and funding allocation. The USFS and OHMVR Division have the ability to work collaboratively on development of trailhead parking in the future. In regards to the Draft EIR conclusions of trailhead parking shortages, it was determined parking shortages in themselves are not creating an environmental impact or a public safety impact.

Comment #3-16: New OSV use at Lake Davis

Response to Comment #3-16: Comment acknowledged. The comment notes community efforts to provide trailhead and grooming services for OSV recreation at Lake Davis. No specific comments were made on the environmental analysis and therefore no further response is necessary.

Comment Letter #4. Snowlands Network

Comment #4-1: Project impact on shaping winter recreation opportunity in California

Response to Comment #4-1: The OSV Program creates winter recreational opportunities in California that have resulted in increased visitor use to national forests in the Project Area. The OSV Program trailheads and groomed trail systems are predominately used for motorized recreation, although non-motorized recreation uses such as snowshoeing and cross-country skiing also occur at the project locations. As discussed in the responses to this comment letter below, the OSV Program is not the only source of winter recreation opportunities in California. It is not the purpose of the EIR or OSV Program to assess or meet the demand for all winter recreation opportunities throughout California national forests.

The Draft EIR addresses impacts on the natural environment, including wildlife, water quality, air quality, and vegetation and concludes that all impacts can be reduced to a less-than-significant level. The comment does not provide any information to support its claim that these impacts have not been adequately addressed or identify additional mitigation measures to further reduce these environmental effects.

Comment #4-2: USFS not adequately addressing user conflicts and reduced non-motorized recreation caused by OSV Program

Response to Comment #4-2: The comment is a general accusation against the USFS without specific references, citations to studies, or other verifiable information. The USFS is responsive to use conflicts between motorized and non-motorized groups. As discussed in the Draft EIR Land Use and Recreation chapters, the USFS law enforcement officers and forest protection officers provide routine patrols along the OSV trail routes. The USFS and the OHMVR Division have worked together in the past to resolve site specific conflict issues that have arisen such as the need for increased monitoring and signage at wilderness boundaries or segregation of motorized and non-motorized uses to address safety issues such as the newly created Round Valley non-motorized snowplay area on Stanislaus National Forest, which will open in 2011.

The USFS encourages reporting of specific incidents or conditions occurring on the national forests which need to be addressed. The USFS has law enforcement and forest protection officers that can be dispatched to any location where individual problems are observed. Additionally,

complaints can be filed with the ranger district office to alert them of incidents or conditions on the forest that need to be addressed. In preparation of the Draft EIR, each national forest was contacted through a data request and follow-up phone calls to determine the frequency and severity of conflicts occurring between user groups in the OSV Program recreation area. Based on these discussions, it was determined known conflicts are minimal. No new conflict areas or concerns have been brought to the attention of the USFS and in expressing concern about conflict, Comment #4-2 does not present evidence the USFS is unresponsive or provide detail of specific conflicts occurring on the forests that need to be further addressed by the USFS.

The groomed trails and trailhead access provided by the OSV Program is primarily for OSV use although non-motorized users benefit from recreation opportunity and access provided by the program. The OSV Program does not reduce recreation opportunities for clean and quiet non-motorized recreation experiences on national forests. OSV use is established as a permissible winter recreation activity throughout the each forest by its adopted Land Resource Management Plans (LRMP). The OSV Program funds activities to support OSV recreation, which is already consistent with LRMP goals and objectives. If grooming and trailhead plowing were not provided, recreation opportunities for both OSV and non-motorized groups would be reduced. The OSV Program described in the Draft EIR Project Description has occurred for many years and the proposed project represents a continuation of funding of this existing program. The project does not propose an expansion of operations that would displace or reduce non-motorized recreation. Future growth of the program through expansion to new locations would be subject to subsequent environmental review.

Comment #4-3: Use of OSV Program funds for dedicated non-motorized trailheads requested

Response to Comment #4-3: As stated in Draft EIR Section 2.9.1, the OSV Program is funded by the OHV Trust Fund through the 2002 BCP which appropriates funds for grooming, plowing, and maintenance activities in support of motorized winter recreation. OSV Program funds cannot be appropriated exclusively for non-motorized recreation. The issue of increasing recreation opportunities reserved for human-powered winter recreation is a land management issue for the individual national forests which govern activities on the forest and is outside the scope of the OSV Program and this EIR. The contribution of winter recreation (both motorized and non-motorized) to the economies of local communities is acknowledged, however, the economic effects of the OSV Program is not a required discussion under CEQA and therefore not considered in the EIR.

Comment #4-4: Growth in non-motorized recreation contributes to economies

Response to Comment #4-4: Comment acknowledged. Both motorized and non-motorized winter recreation contribute to local economies. CEQA does not require an assessment of the economic merits of a project unless the economic impact directly contributes toward a significant environmental effect. It should be noted the reference study is specific to the Gallatin National Forest, which is located in the northern Rocky Mountains of Montana. While the study documents the popularity of skiing in the Gallatin National Forest, the commenter does not explain how the Gallatin study applies to the 11 California national forests participating in the OSV Program. As shown in the NVUM data presented in Draft EIR Table 8-1, each national forest has a different ratio of motorized and non-motorized use, and therefore the economic contribution of each use varies with the location.

Comment #4-5: Adjustment of OSV Program to balance motorized and non-motorized recreation requested

Response to Comment #4-5: Opportunities for non-motorized winter recreation in California occur in state parks, national forests, national parks, national monuments, and on privately operated facilities. CDPR facilitates non-motorized winter recreation on national forests through both the Sno-Park Program and OSV Program. Roughly half of the 19 sno-parks in the state are reserved for non-motorized uses (Attachment A). See also response to Comment #4-12, #4-14, #4-39, and #4-40.

The USFS is the land manager of national forests and is the agency with jurisdictional authority over how uses on the forest are allocated. Both of motorized and non-motorized winter recreation uses are established as consistent with individual forest plans. The USFS partners with the OHMVR Division through the OSV Program for the purpose of providing winter trailheads and groomed trail access on the national forests. While the OSV Program is primarily provided to serve the OHV community, the increased trailhead access and groomed trails on the national forest also benefits the non-motorized community which is consistent with the goals and objectives of the USFS to accommodate multiple uses on national uses. It is not the role of the OHMVR Division to direct USFS management of its forests or to rectify a perceived imbalance of motorized and non-motorized recreation uses.

Comment #4-6: Snowmobiles are a high impact recreational use

Response to Comment #4-6: Dividing recreation into low and high impacts is one way to describe the characteristics of recreation. However it is a subjective generalization. The OHMVR Division has prepared an EIR to evaluate the potential environmental impacts and recreational conflicts associated with the OSV Program. Potential impacts to wildlife, air quality, water quality, and vegetation are evaluated in the EIR. The advancement of snowmobile capabilities from 20 years ago is acknowledged. It is the current capabilities of snowmobiles that are assumed in the analysis of the EIR. The EIR has concluded all impacts associated with the OSV Program are less than significant or can be reduced to a less than significant level through implementation of specified mitigation measures. The comment does not provide detail of how the EIR understates the impacts of snowmobile use associated with the OSV Program so a more specific response to this comment cannot be provided.

Comment #4-7: Multiple use calls for balancing motorized and human powered recreation opportunities.

Response to Comment #4-7: As discussed in response to Comment #4-2 above, recreational uses on each national forest are established by the forest LRMP. The OSV Program does not establish the use but does fund current OSV activity which is already consistent with LRMP goals and objectives. Whether individual forests need to close areas to OSV use, as suggested in the comment, in order to address a non-motorized recreational need is a land management decision under the discretion of each forest. A forest decision to permanently close an area to OSV use would require environmental review under the National Environmental Policy Act (NEPA) and public involvement. This is a national forest land management issue which is outside the scope of this EIR.

Comment #4-8: Trailheads monopolized by snowmobiles

Response to Comment #4-8: The OSV Program trailheads are not the only point of access on national forests. Other winter trailheads on national forests are provided directly by the

individual national forests (e.g., Mammoth and June Lakes areas on Inyo National Forest), by the C DPR through the Sno-Park Program, and by individual counties plowing pullout parking areas on county roads.

The comment notes OSV Program trailheads are dominated by snowmobiles. This comment is certainly consistent with results of the 2009 OSV Winter Trailhead Survey (Draft EIR Appendix A, Table 19). At all the trailheads surveyed, snowmobile use was the primary visitor activity (85% to 100% participating) except at the Iron Mountain trailhead on Eldorado National Forest (57% participating). The high presence of OSV use at these trailheads is to be expected given that the trailheads and groomed trails are funded by the OHV community (through the OHV Trust Fund).

The commenter is correct that the number of groomed trails for motorized recreation outnumber the number of groomed trails dedicated for non-motorized recreation. Motorized recreation requires a larger trail system to provide an adequate range of travel. Human powered recreation has a smaller range and therefore a lower requirement for groomed trail mileage. Non-motorized recreationists can use the groomed trail system funded by the OSV Program. Areas reserved for non-motorized recreation are also provided on some national forests (see response to Comment # 4-14). There are also opportunities for non-motorized recreation throughout California in state parks, national parks, and national monuments where motorized recreation is prohibited.

The USFS does not have funding specifically appropriated for funding winter recreation whether for non-motorized or motorized uses. Likewise, the State of California does not have funding available to create new winter recreation opportunities exclusively for non-motorized recreation. The OHV community has established a funding source (OHV Trust Fund) administered by the State to provide for OSV recreation. The non-motorized recreation community does not have a similar funding program which facilitates recreation areas reserved for non-motorized use. Also see response to Comment #4-12.

Comment #4-9: Undesirability of motorized recreation near non-motorized users; artificial repression of non-motorized recreation

Response to Comment #4-9: The Draft EIR recognizes and analyzes the impact of OSV use on non-motorized recreationists (Draft EIR, Section 8.3.2.3).

As noted in the comment, the predominant use at the OSV Program trailheads is motorized recreation. This can account for the minimal number of conflicts between non-motorized and motorized user groups at these locations. Contrary to the comment's assertions, the non-motorized users choosing to recreate at OSV Program trailheads are not there because of lack of opportunity elsewhere. There are other options. See response to Comments #4-12 and #4-14.

The perceived lack of areas protected for quiet recreation on national forests is an issue of forest land management which is outside the scope of the OSV Program EIR. It is the mandate of the OHMVR Division to facilitate and manage motorized vehicle recreation in the State of California. The OSV Program administered by the State is consistent with this objective and assists the USFS by facilitating winter recreation access to the national forests.

There is no evidence that the provision for OSV recreation through the OSV Program does not result in the artificial repression of skiing and snowshoeing. As noted in response to Comments #4-12 and #4-14, there are opportunities for quiet recreation apart from OSV Program locations.

Comment #4-10: Growth in OSV Program exacerbates imbalance of motorized and non-motorized recreation.

Response to Comment #4-10: The OHMVR Division acknowledges the possibility of growth in OSV recreation and has identified potential locations where OSV Program operations could be expanded. However, no plans for expansion have been proposed or are being planned at this time. The potential for new OSV Program trailheads and groomed trail systems to impact non-motorized recreation would be evaluated at the time a new location is actually proposed. Such development proposals would be subject to a public planning process and environmental review under both CEQA (for state action) and NEPA (for federal action).

Comment #4-11: Human-powered sports serve government policies, have benefits

Response to Comment #4-11: The comment makes a statement on the benefits of non-motorized recreation. No comment is presented on the EIR and therefore no further response is required.

Comment #4-12: Growth in human-powered recreation would occur with provision of a fair share of recreational opportunities. Trailheads are monopolized by snowmobiles.

Response to Comment #4-12: The USFS does not have specific appropriated funding for groomed trails or winter trailhead access on the national forest. The State of California partners with the USFS to fund motorized and non-motorized winter recreation access on national forests through the OSV Program and through the Sno-Park Program.

The OSV Program exists for the primary purpose of supporting motorized winter recreation; it is funded by OHV fees and taxes paid into the OHV Trust Fund (Draft EIR, Section 2.9.1). The trailheads and groomed trails “monopolized by snowmobiles” are both paid for and predominately used by OSV riders; however, they are available to non-motorized use as well. Without OSV Program funding, these trailheads would not be plowed and would not be available for easy access for winter recreation.

The Sno-Park Program provides access to national forests for general winter recreation at 19 locations. Information on the individual sno-parks is presented in Attachment A to this Final EIR document. Sno-parks primarily provide non-motorized recreation opportunities although snowmobile use occurs at 9 sno-parks trailheads, 7 of which are combined with the OSV Program. The two sno-parks which allow snowmobile use which are not part of the OSV Program include Hope Valley on the Humboldt-Toiyabe National Forest and Blackwood Canyon on the Lake Tahoe Basin Management Unit. It should be noted that unlike the OSV Program, the Sno-Park Program is not self-funded; sno-park permit fees collected at the trailheads do not cover the cost of the Sno-Park Program. The sno-parks are subsidized by funds from the OSV Program by combining trailheads with sno-parks at 7 locations as referenced in the Draft EIR.

Forest land is open to both types of uses and through the OSV Program, the OSV community pays for access and trails which can be used by both groups. The State of California provides additional opportunity on the forests exclusively for non-motorized recreation through the Sno-Park Program.

Comment #4-13: NVUM data shows popularity of skiers and snowshoers over snowmobilers

Response to Comment #4-13: The NVUM data presented in the Draft EIR (Table 8-1) is presented for the purpose of characterizing winter recreation use levels occurring in the national

forests as background setting information. The visitor data is not site specific to OSV Program trailheads and therefore was not used to identify visitor use levels or recreational use type at the OSV Program sites. Therefore, if the NVUM data underestimates skiing and snowshoeing, it would not affect the analysis contained in the Draft EIR or the conclusions of the Draft EIR.

Comment #4-14: Wilderness areas inaccessible to non-motorized use

Response to Comment #4-14: The comment does not address a significant Project impact. Regardless, the OHMVR Division acknowledges that wilderness areas can be difficult to access in winter due to their remote location with trailheads that are often not plowed during winter. However, the OSV Program trailheads do provide immediate access to some wilderness areas such as Bucks Lake Wilderness (Plumas National Forest) and Kaiser Wilderness (Sierra National Forest), which are closed to OSV use (see Draft EIR Figures 2A through 12D for proximity of wilderness areas to OSV Program trailheads). Wilderness areas are not the only places closed to motorized use. As noted in response to Comment #4-12, the State of California maintains 19 sno-parks on national forests, 10 of which do not allow snowmobiles. Separate from these sno-parks, many forests have designated cross-country ski areas which are closed to motor vehicle use such as McGowen Lake (Lassen NF), Steephollow and Kyburz (Tahoe NF), Coyote (Sierra NF), Obsidian Dome (Inyo NF). Additionally, state parks, national parks, national monuments, and privately operated facilities in California are also closed to winter motorized use and are available for non-motorized winter recreation.

Comment #4-15: Project Alternatives

Response to Comment #4-15: The Draft EIR considered a wide range of project alternatives. After consideration, many of these alternatives were rejected (see Draft EIR, Section 9.1.4) for being infeasible, not meeting project objectives, or not reducing significant environmental impacts.

Requiring the use of newer four-stroke engines was considered and rejected as an alternative (Draft EIR, Section 9.1.4). The environmental benefits of four-stroke engines are acknowledged in this alternative; however, because national forest lands are open and ungated, there is no way for the USFS to practically enforce a prohibition of two-stroke engines on the project trail systems. While the USFS is responsible for enforcing rules set by CARB and California EPA and would take action to enforce vehicle codes if two-stroke engines were banned in the state in the future, this action is very different than enforcing a ban limited to OSV Program trailheads on the forest on vehicles that are otherwise legal in California and in other locations on these same forests.

The Funding of Restricted Riding Areas Only was evaluated as a project alternative and identified as the environmentally superior alternative (Draft EIR, Section 9.5). This alternative would eliminate grooming on 24 of the 26 trail systems in the OSV Program. OSV use could still continue in the 24 locations no longer groomed due to forest LRMP directive which allows OSV use on open forest land; however, the OSV use levels at these locations would be reduced. Groomed trails would only be provided on the Giant Sequoia National Monument (Quaking Aspen/Sugarloaf and Big Meadow/Quail Flat trail systems) where OSV use occurs only on National Forest Transportation System Roads and no-off trail riding is allowed. This alternative does not meet the project objective which is to facilitate and manage OSV recreation throughout the California. The proposed project best facilitates the project objective by providing trailhead access and groomed trails, which offer a stable snow surface for riders of all skill levels, plus non-motorized recreationists such as skiers and dogsledders. Grooming in the various forest

locations also facilitates management of OSV recreation occurring within the forests by creating easier access for law enforcement patrols and search and rescue efforts.

The OHMVR Division conferred with the USFS Regional Office when evaluating project alternatives. The USFS cannot close the project areas to off-trail riding in exchange for continued receipt of grooming funds. As described in Draft EIR Section 9.1.3, OSV use is established as a permitted use on forest lands by the governing LRMP. Closure of off-trail riding areas would require a change in each forest LRMP; each national forest would have to amend its LRMP through a public planning process in order to close areas of the forest to OSV use. Without a demonstrated substantial impairment to natural resources or serious recreation use conflicts caused by OSV use, there is no purpose or need to prohibit off-trail riding; as such, individual national forests would not consider changing their forest LRMP to restrict OSV use.

Comment #4-16: Project Alternatives

Response to Comment #4-16: The OHMVR Division and USFS disagree with the premise of the comment that the OSV Program creates a de facto winter recreation plan on national forests. Winter recreation on the forests, both motorized and non-motorized, are established by the LRMPs. These plans were adopted on each forest through a public planning process involving an environmental impact statement (EIS) and a Record of Decision. The OSV Program facilitates motorized recreation on forest lands where the use is already permitted.

As noted, the USFS has a duty to manage OSV recreation in a manner that minimizes impacts to water, wildlife, vegetation, and other resources as well as to other recreational uses. The environmental analysis presented in the Draft EIR concludes impacts to natural resources from OSV use can be managed to less than significant levels. The Draft EIR also concludes recreational use conflicts are adequately managed and are not substantial. Expansion of the OSV Program has not been proposed; any expansion to new locations would be subject to subsequent public planning process and environmental review.

Comment #4-17: Area of controversy

Response to Comment #4-17: At the time the Draft EIR was published, the primary concern raised in public comment, which came during public review of the 2008 Initial Study/Negative Declaration and 2009 Initial Study/Negative Declaration, was the impact of snowmobile use on plants and wildlife throughout the forest, trespass into restricted areas such as protected wilderness, adequacy of law enforcement, detrimental effects on non-motorized recreationists, and general effects on noise, air quality, and water quality. No environmental concerns or areas of controversy were identified during the public review of the NOP for the OSV Program EIR or during the public scoping meetings prior to preparation of the Draft EIR.

As noted, the primary issue of concern raised in the Snowlands Network comment letter on the Draft EIR is the effect of the OSV Program on non-motorized recreation in California. The commenter asserts, “The grooming program actively promotes the growth of snow by facilitating growth of snowmobiling, and unfairly restrains the growth of quiet winter recreation such as skiing and snowshoeing.” This issue is addressed in response to Comments #4-7, #4-8, #4-10, and #4-12.

Comment #4-18: Baseline conditions

Response to Comment #4-18: See response to Comments #2-1 and #2-11. The commenter has offered no information about why the baseline is wrong but simply states a conclusion.

Comment #4-19: Growth in winter recreation

Response to Comment #4-19: It was not the intent or within the scope of the EIR to assess non-motorized winter recreation use levels and the adequacy of existing opportunities to meet that demand. The purpose of the EIR is to assess the environmental effects of maintaining OSV Program trailheads and groomed trail systems that primarily serve motorized use. Seven of the OSV Program trailheads share parking lots with sno-parks. Thus, for the purposes of addressing the demand on OSV Program parking facilities over the 10-year program period, the number of sno-park permits issued at these locations were used to assess demand by non-motorized use. As stated in the Draft EIR Project Description, Section 2.7, there has been little growth in the issuance of sno-park permits indicating increases in the demand for parking at the combined OSV Program/Sno-Park Program trailheads would primarily come from growth in OSV recreation.

The EIR does not make assumptions about the popularity of skiing and snowshoing or the level of these uses occurring throughout the forests or throughout the State. As stated above, it is not the purpose of the EIR to evaluate demand for non-motorized recreation opportunities.

The comment makes an erroneous statement that snowmobiling on national forests is free. As stated in response to Comments #4-4, #4-8, #4-12, #4-30, #4-39, and #4-40, the OSV Program is paid for by the OHV Trust Fund which receives its funds from the OHV community through OHV registration fees, State Vehicle Recreation Area fees, and gas tax (see Draft EIR, Section 2.9.1). Hence, the winter access and groomed trails created by the OSV Program are largely paid for by OSV users. The only fees paid by non-motorized visitors to the national forests are the \$5 sno-park permits if they choose to recreate at a sno-park trailhead.

As stated in response to Comment #4-13, the NVUM data identified in the Draft EIR (Table 8-1) is presented for background purposes only. The data is not used to assess environmental impacts of the OSV Program and therefore whether it accurately reflects growth in non-motorized sports does not affect the EIR analysis or its conclusions.

The number of snowmobile registrations in California declined in 2009 and 2010 (see Attachment B). The Draft EIR assumed a 4% average annual growth rate as a conservative estimate in order to evaluate the maximum likely environmental effects from OSV use which could likely occur during the 10-year program period. If snowmobile use continues to decline, then the potential for environmental effects of the OSV Program would be less than those described in the Draft EIR.

The decline in sno-park permit purchases is an indication that demand for non-motorized recreation at these locations has declined. It does not mean non-motorized sports are in decline at all locations throughout the State. As stated previously, the Draft EIR does not make an assessment of the demand for non-motorized winter recreation areas; whether sno-parks are meeting the demand for non-motorized recreation is outside the scope and purpose of this EIR.

Comment #4-20: Intrusion into closed areas and enforcement

Response to Comment #4-20: The OHMVR Division disagrees with several assertions in this comment. After consulting the USFS staff on each national forest, the OHMVR Division concluded the incidents of OSV trespass into closed areas were effectively managed by the national forests to prevent chronic incursions (Draft EIR, Section 3.3.2.2). The OHMVR Division has no documented evidence suggesting the severity of the trespass incidents is

underestimated by the USFS. Although the comment states that Snowlands Network and Winter Wildlands Alliance receive many complaints about illegal snowmobile use, the comment does not provide any specific detail about the incidents not being actively addressed by the USFS, such as when and where they are occurring, the frequency of occurrence, and the extent of the trespass. Without providing further information, the claims of frequent OSV trespass cannot be substantiated or corrected.

The Draft EIR concludes existing trespass levels associated with the OSV Program are not significant based on the frequency, nature, magnitude, and severity but acknowledges growth in OSV use could result in increased incidents of trespass (Draft EIR, Section 3.3.2.2). As the land use management agency with enforcement jurisdiction, it is appropriate to rely on the USFS to provide the law enforcement action necessary to mitigate OSV trespass. Measure LU-1 requires increased enforcement action in response to specific concerns to be jointly provided by the USFS and OHMVR Division. As noted in response to comment #1-1 from Lassen National Forest, the OHMVR Division recognizes there may be instances where supplemental state funding of USFS law enforcement efforts may be warranted; this would be evaluated by the OHMVR Division on a case-by-case basis.

The Draft EIR recognizes the potential for OSV use to diminish the quality of recreation experienced by non-motorized users (Draft EIR, Section 8.3.2.3). That illegal OSV use in wilderness areas impairs enjoyment of the wilderness by non-motorized users is acknowledged. As stated in the Draft EIR, addressing OSV trespass is a high priority for the OHMVR Division and therefore Measure LU-1 is identified to ensure trespass continues to be properly addressed.

As stated above, it is entirely appropriate to rely on the USFS to provide law enforcement on the forest land it manages. CEQA assumes Lead Agencies can rely on another public agency to use their regulatory powers to mitigate project effects (CEQA Guidelines Section 15091). Measure LU-1 requires that the USFS continue monitoring and demonstrate to the OHMVR Division that monitoring is occurring by submitting patrol logs of the Project Area. The OHMVR Division would review the patrol logs to ensure monitoring is occurring and work with the USFS to determine when additional law enforcement actions are necessary. This level of administrative oversight by the OHMVR Division would ensure trespass incidents are being monitored and addressed when they occur. With the implementation of monitoring and Management Actions prescribed in Measure LU-1, the impact of trespass would remain less than significant.

It is recognized OSV trespass can occur despite constant monitoring. All wilderness boundaries are not under constant surveillance. Therefore, it is possible for trespass to occur without the individuals being caught. Those who are caught are cited. The criteria used to evaluate the significance of the trespass impact is not whether an incident occurs, but whether it is frequent, purposeful, severe, and damaging (Draft EIR, Section 3.3.1). After careful evaluation of the information provided by the national forests, the Draft EIR concludes the trespass impact related to the OSV Program is less than significant.

Comment #4-21: OSV emissions emit more pollution than passenger vehicles

Response to Comment #4-21: Comment noted. Tables 4-11, 4-13, and 4-14 of the Draft EIR provide estimates of the emissions generated by the OSV use and visitor vehicle travel and the Draft EIR concludes these emissions would result in less than significant impacts.

Comment #4-22: Comparison of restrictions on snowmobile emissions to restrictions on passenger vehicle car emissions

Response to Comment #4-22: In general, section 4.1.3 of the Draft EIR discusses the regulations that govern mobile sources of emissions, including off-road diesel vehicles, on-road diesel vehicles, and over-snow vehicles, and on-highway motor vehicles. The Draft EIR evaluates the OSV emissions as part of the project's indirect emissions analysis and concludes this impact is less than significant.

Comment #4-23: Disclosure of assumptions regarding the composition of future snowmobile fleets used in the air quality analysis and future pollution estimates

Response to Comment #4-23: Table 2-9 of the Draft EIR estimates existing users at OSV Program trail sites are approximately four percent four-stroke engines and 96 percent two-stroke engines OSV. Per Appendix E, Table AQ-10, the Draft EIR assumes future snowmobile fleets would be composed of 20% four-stroke vehicles and 80 % two-stroke vehicles. The increase in fleet-wide four-stroke engines is due to fleet turnover and attrition, and regulations adopted by the EPA in 2002 are also expected to increase use of four-stroke engines.

The commenter notes the EIR must provide estimates of future pollution assuming no changes in fleet composition; however, this is not a likely or realistic scenario that should be analyzed by the EIR. As equipment ages its wears down or becomes obsolete and is replaced with newer equipment, resulting in changes to fleet composition. Fleet evolution is a standard part of all vehicular emissions inventory forecasts.

Comment #4-24: Consideration of OSV air pollution on other users and at trailheads

Response to Comment #4-24: The comment is not clear to whom "other users" refers to; however, the Draft EIR adequately considers the impacts of OSV emissions, as well as direct plowing and grooming and indirect passenger vehicle emissions, on ambient air quality standards and sensitive receptors, including non-motorized recreational users. The Draft EIR analyzes the impacts of baseline conditions on air quality standards and sensitive receptors on Pages 4-22 through 4-24 and concludes baseline conditions would not result in potentially significant air quality impacts. Similarly, the Draft EIR analyzes the impacts of program growth conditions on air quality standards and sensitive receptors on Pages 4-27 and 4-28 and concludes program growth conditions would not result in significant air quality impacts.

OSHA and other workplace standards are occupational exposure standards designed to protect workers from occupational hazards. Employers must comply with all applicable OSHA standards; however, the use of OSHA or other workplace standards is not an appropriate threshold for assessing the significance of potential adverse changes to the environment under CEQA.

Comment #4-25: Consideration of policies to mitigate OSV impacts, including prohibiting older technology

Response to Comment #4-25: The proposed project does not result in potentially significant air quality impacts that require mitigation. Section 9.1.4 of the Draft EIR found the project alternative that would prohibit two-stroke engines both infeasible and impractical because two-stroke engines are legal in California, and banning their use would put the OSV Program and the national forests at odds with state law. Restricting two-stroke engines would have to occur

through state legislative mandate which is outside the scope of the project and the authority of the OHMVR Division. Also see response to Comment #2-8 and #4-15

Comment #4-26: USFS environmental analysis of OSV use

Response to Comment #4-26: Winter recreation on forest land is established by the individual forest plans (LRMPs) which were all adopted through a public planning process involving an EIS and a Record of Decision. OSV use on the forest land is permissible in all areas unless specifically designated as closed to that use. Winter trail grooming occurs over an existing road and trail network within the forest which are designated as open to OSV use by the forest plans. Winter trail grooming facilitates OSV use but does not establish the use as a new activity on the forest. Categorical exclusions have been approved for trail grooming activity as an extension of the forest's operation and maintenance activities. Preparation of an environmental assessment for winter trail maintenance is not necessary.

Comment #4-27: Outdated scientific studies

Response to Comment #4-27: The commenter states the DEIR "makes several statements and determinations that are not rooted in sound science or evidence." However, the commenter does not provide examples of these statements and determinations, but does refer to a sentence in the DEIR acknowledging the lack of recent studies documenting OSV impacts on wildlife populations. Most, but not all, studies looking specifically looking at OSV impacts on wildlife populations were performed in the 1970s and early 1980s. Several studies were performed more recently for the National Park Service and the Yellowstone National Park winter management plan. The DEIR reviewed all these relevant studies and many are similarly referenced in the commenter's attached appendix. When discussing wildlife disturbance, all of the arguments presented by the commenter's appendix are the same as addressed and resolved in DEIR 5.3.2 and Mitigation Measures BIO-1 through 5. Several arguments presented in the commenter's appendix are irrelevant to the geographic scope of the DEIR. The commenter presents a lengthy discussion of snowmobile impacts to moose, grizzlies, grey wolves, Canadian lynx, white-tailed ptarmigan, and bull trout. None of these species are present in California. The commenter's discussion for wolverine does not present anything different than that addressed and resolved in DEIR 5.2.7.2 and 5.3.2.1 and Mitigation Measure BIO-2.

Comment #4-28: Soil compaction impact

Response to Comment #4-28: Comment acknowledged. As noted, riding styles of snowmobilers can vary greatly. Jumping and carving done by skilled riders can cause compaction to a greater depth than would occur from flat riding over a groomed surface. Riders engaging in these activities are doing so in low snow or exposed soil conditions where the soil surface would be impacted. Monitoring by USFS has not shown evidence of soil disturbance such as rutting or compaction caused by OSV use (see Draft EIR reference USFS 2009c).

Comment #4-29: Verifiable reporting of mitigation success and automatic suspension of grooming

Response to Comment #4-29: Comment acknowledged. CEQA Guidelines require that a mitigation monitoring and reporting program be adopted to ensure measures needed to reduce significant environmental effects of the project are implemented. Many of the mitigation measures require implementation of protective measures dependent upon the results of monitoring efforts by the USFS. The OHMVR Division is responsible for reviewing the monitoring results and ensuring the USFS is taking appropriate actions based on the results of

the monitoring. The OHMVR Division has administrative oversight of the OSV Program and the funding contracts it issues to the USFS. If the national forests do not comply with the mitigation measures attached as conditions to its funding contract with the OHMVR Division, individual contracts can be canceled and state funding of the plowing and grooming activities associated with the OSV Program would be suspended.

Comment #4-30: Impact of OSV noise

Response to Comment #4-30: Snowmobiles do generate noise. As described in the Draft EIR (see page 7-5, OSV Use), noise from snowmobiles are regulated by California Vehicle Code (DVC) to an 82 dBA limit. As shown in Draft EIR Table 7-1, noise from aircraft flyover at 1,000 feet generates is 105 dBA which is much greater than a snowmobile.

Ambient noise levels in open space recreation areas such as national forests are generally quiet with typical noise levels ranging from 35 to 45 dBA Draft EIR, Section 7.2.3). As a result, noise generated by any motorized equipment in the forest is readily audible in the surrounding vicinity. The impact of noise on non-motorized recreationists seeking a quiet experience is acknowledged (see Draft EIR, Section 8.3.2.3).

The fact that a noise source exists does not make the noise generated a significant impact. Noise levels on forest lands are not regulated to an ambient noise standard and OSV use is a permissible use throughout national forests lands unless otherwise restricted. The Draft EIR conclusion that the noise impact of OSV use is less than significant, as clarified by Text Amendments (see Section 3.0), is partially based on the absence of noise standards and the authorization of the use established by the forest LRMPs. However, the conclusion that the noise impact on non-motorized users in the vicinity is less than significant impact is largely based on the quick dispersal of OSV riders away from non-motorized users and the voluntary nature of the non-motorist to recreate in a motorized vehicle area established primarily for motorized vehicle use. As described in response to Comment #4-14, non-motorized recreationists seeking a quiet experience have other options to using a groomed trail system provided by OHV Trust Funds.

Comment #4-31: Actual OSV noise levels

Response to Comment #4-31: As noted in Draft EIR Section 7.1, the CVC standard for OSV noise is 82 dBA. As acknowledged in the recreation conflict discussion (Draft EIR, Section 8.3.2.3), a small percentage of those surveyed modified their equipment which can result in louder engine noise than the 82 dBA standard. Noise levels associated with OSV use varies with the equipment, how it is operated, and environmental conditions such as snow surface compaction, terrain, vegetation, and weather. As such, the noise emitted from an OSV is not constant but will fluctuate with speed, riding style, snow conditions, and distance from the affected noise receptor. These factors influence actual OSV noise levels more than manufacturer specifications. This variability also renders periodic noise sampling from yielding meaningful conclusions that can apply to all OSV Program trail systems or even to those areas sampled with any regularity. It is sufficient to acknowledge that OSV use is distinctly audible on the forest in the immediate vicinity of its use.

Comment #4-32: Winter landscape particularly susceptible to noise

Response to Comment #4-32: As noted in the previous response to Comment #4-31, weather and snow conditions can influence how far sound travels. The Draft EIR does not make specific assumptions on the distance sound travels when assessing the impact of OSV noise. As stated in response to Comment #4-30, the conclusion of a less than significant noise impact is largely

based on the quick dispersal of OSV riders away from non-motorized users and the voluntary exposure to OSV noise when choosing to recreate in an area primarily maintained for motorized vehicles. The commenter does not offer any sources as the basis for their opinions and conclusory statements.

Comment #4-33: USFS zoning powers and restriction of OSV use in national forests

Response to Comment #4-33: The Draft EIR does not make an assumption the USFS addresses OSV noise through zoning powers. As stated in Draft EIR Section 7.1, OSV use on national forest lands are subject to state standards implemented through California Vehicle Code and manufacturer restrictions. Individual forest LRMPs do not identify Standards and Guidelines (S&Gs) regulating noise emissions of activities on the forest.

The incorrect statement regarding OSV use restricted to trails has been deleted. Please see Text Amendments (Section 3.0). See response to Comment #4-14 regarding other recreation areas outside of wilderness areas closed to snowmobiles.

Comment #4-34: Significance of noise impact

Response to Comment #4-34: As concluded in the last paragraph of Draft EIR Section 7.3.2.1, and as clarified by the text amendments presented for page 7-6 (see Text Amendments, Section 3.0), the noise impact of the OSV Program at the 2010 operating level is considered less than significant based upon the fact that the motorized and non-motorized uses are dispersed, the non-motorized users are willingly recreating in a motorized vehicle area, and other options are available for those users wanting to recreate where no motorized use is allowed.

Comment #4-35: Recreation conflicts; motorized travel plans

Response to Comment #4-35: Draft EIR Section 8.1.4 identifies the plans of the USFS which govern motor vehicle recreation as regulatory setting for discussing the OSV Program. As discussed under Travel Management, individual national forests throughout California are completing Subpart B of the Travel Management Rule which designates routes for cross-country motor vehicle travel on forest lands. Subpart B addresses summer travel or wheeled vehicle use. It does not address over snow vehicles. Subpart C of the Travel Management Rule, designation of routes for over snow vehicles, is not mandatory. Under 36 C.F.R. 212.81, closure of routes or restriction of OSV use is a discretionary action which may be taken by individual forests if there is impact to natural resources or land use conflicts. At no point does the Draft EIR analysis rely on an assumption that winter recreation conflicts between motorized and non-motorized users are being addressed by USFS travel management plans. The Draft EIR fully addresses the potential conflicts between motorized and non-motorized recreation in Section 8.3.2.3.

Comment #4-36: NVUM data

Response to Comment #4-36: The Draft EIR relies on sno-park permit data to assess the contribution of non-motorized recreationists to OSV Program trailhead parking areas particularly at the seven trailheads where OSV trailhead parking is combined with sno-parks. Based on the decline in purchase of sno-park permits over the last eight years (Draft EIR, Table 2-10), the Draft EIR assumes the number of non-motorized users at the OSV Program trailheads will remain similar to current use levels with no substantial increase (Draft EIR Section 2.7.2.2). This is not a statement on the popularity of non-motorized sports in California or the demand for non-motorized recreation areas.

The comment notes NVUM data presented in Table 8-1 of the Draft EIR understates skiing and snowshoeing. Please see response to Comment #4-13.

Comment #4-37: Limit in areas available to OSV use

Response to Comment #4-37: The Draft EIR acknowledges advancement in technology has allowed snowmobile use to extend its speed, range, and capabilities. However, as noted in the referenced Draft EIR statement, there are physical geographic constraints which restrict OSV use in some areas such as river canyons, excessively steep terrain, thick vegetation (Draft EIR, Section 5.2.2), lack of snow, and poor access. These constraints remain regardless of past technological improvements of the snowmobile.

Comment #4-38: Reliance on 73db noise standard

Response to Comment #4-38: The referenced section of the Draft EIR acknowledges noise affects non-motorized recreationists. The conclusion of a less than significant impact is not based on the 73db noise standard but rather on limited and voluntary exposure to the noise source. See response to Comments #4-30 through #4-34.

Comment #4-39: Bootstrap argument that conflict is irrelevant; false assumption that USFS provides a proportionate amount of areas reserved for and accessible to nonmotorized users.

Response to Comment #4-39: The Draft EIR (Section 8.3.2.3) acknowledges there is a degree of incompatibility between OSVs and non-motorized recreationists seeking a quiet, pristine natural experience. The Draft EIR identifies several OSV use characteristics that can impact the quality of non-motorized recreation including noise, exhaust, safety concern, and tracks. The scope of the Draft EIR is to address the effects of the OSV Program and the subsequent recreation use it facilitates, not OSV use forest-wide and not whether the forest plans make proportionate lands available for non-motorized recreation use. The forest land utilized by the OSV Program has established both motorized and non-motorized winter recreation as permissible uses in the OSV Program Project Area through forest plans (LRMPs). Consistent with the LRMPs, the OSV Program facilitates both winter uses. The OSV Program doesn't create a new mix of uses or recreation use conflicts which would not otherwise occur.

The USFS does not provide (i.e. fund) groomed winter trails on forest land whether for motorized or non-motorized recreation. As stated in response to comment #4-12, the plowed trailhead access and groomed trails provided on the national forests by the OSV Program is paid for by the OHV Trust Fund for the primary purpose of facilitating winter motorized recreation. Non-motorized recreationists benefit from this provision. Non-motorized users of the trail system should be aware of the potential to encounter the sight or sound of an OSV during their experience on an OSV Program trail. Non-motorized users do not have OSV Program trails as their only option for recreation. Non-motorized recreationists seeking a pristine experience can utilize areas where OSV use is less popular or OSV use is prohibited such as several of the snowparks (see Attachment A), state and national parks, national monuments, and wildernesses. See also response to Comment #4-14.

Comment #4-40: Increase in trailheads reserved for non-motorized use

Response to Comment #4-40: The Draft EIR concludes use conflicts between non-motorized and motorized winter recreation uses associated with the OSV Program are low and less than significant (Draft EIR, Section 8.3.2.3). As a result, no mitigation is required; the OHMVR

Division does not need to contribute funding to create trailheads reserved for non-motorized recreation to mitigate OSV Program effects.

The OHMVR Division does provide supplemental funding to the Sno-Park Program by sharing 7 trailheads as described in response to Comment #4-12. Ten of the 19 sno-parks do not accommodate snowmobiles and are reserved for non-motorized use (see Attachment A). As stated previously, the OSV Program trailheads and groomed trail systems are paid for by the State through OHV Trust Funds collected from the OHV community. The State does not have similar funds collected from the non-motorized recreation community to support dedicated non-motorized areas. The Sno-Park Program collects sno-park permit parking fees (\$5 permits) which are insufficient revenue to fully fund the cost of the Sno-Park Program. The State does not have funds to expand the Sno-Park Program to provide additional areas dedicated to non-motorized use.

It should be noted a new sno-park is being planned on the Stanislaus National Forest using federal grant money (Recreational Trails Program funds from the Federal Highway Administration). The Round Valley Sno-Park will be opened in 2011 and reserved for non-motorized winter recreation use.

Comment #4-41: Restrictions on older technology

Response to Comment #4-41: The Draft EIR recognizes OSV exhaust and noise detract from the clean quiet experience desired by non-motorized recreationists (Draft EIR, Section 8.3.2.3). As discussed in Project Alternatives (Draft EIR, Section 9.1.4) and response to Comment #4-15, restricting the use of 2-stroke engines in the Project Area is impractical and rejected from further consideration. Also see response to Comments #4-23 and #4-25.

Comment #4-42: Additional funds for enforcement

Response to Comment #4-42: The Draft EIR concludes trespass associated with existing OSV use levels that would continue under the OSV Program is being effectively managed by current USFS law enforcement efforts. Growth in OSV use over the 10-year program period could warrant the need for additional law enforcement. Mitigation Measure LU-1 requires additional law enforcement actions be implemented where monitoring shows increased enforcement is needed to address an identified problem. Provision of adequate law enforcement is the responsibility of the USFS. However, as noted in response to Comment #1-1, the OHMVR Division recognizes there may be instances where supplemental state funding may be possible; this would be evaluated by the OHMVR Division on a case-by-case basis.

Comment #4-43: USFS recreation plan needed

Response to Comment #4-43: See response to Comments #4-7 and #4-15.

Comment Letter #5. Elizabeth Norton

Comment #5-1: Request for copy of Draft EIR

Response to Comment #5-1: Comment acknowledged. OHMVR Division sent Ms. Norton a CD of all requested documents. No comment was made on the Draft EIR and no further response is necessary.

Comment Letter #6. Byron Baker

Comment #6-1: Snowcat repair and replacement

Response to Comment #6-1: Comment acknowledged. OHMVR Division contacted Mr. Baker regarding snowcat equipment information. No comment was made on the Draft EIR and no further response is necessary.

Comment Letter #7. Michael E. Evans

Comment #7-1: Addition of Cisco Grove to OSV Program

Response to Comment #7-1: Cisco Grove, located in Tahoe National Forest off Interstate 80 near Soda Springs, offers access to approximately 16 miles of winter trails along Rattlesnake Creek groomed by a private vendor (See Draft EIR Table 8-2). The trail systems groomed by the state-funded OSV Program have been established by the individual national forests. The addition of Cisco Grove to the OSV Program or cutting a new trail to connect the Cisco Grove trail system to the Little Truckee trail system on the Tahoe National Forest is not considered in the OSV Program Draft EIR. Such a change could be proposed at the discretion of the national forest and this decision would be subject to environmental review under both the NEPA and CEQA.

Comment Letter #8. Paul Juhnke

Comment #8-1: Addition of Cisco Grove to OSV Program

Response to Comment #8-1: Comment expresses general support for OSV recreation and grooming at Cisco Grove. See responses to comment from Michael Evans and Bill Harbaugh. No comment was made on the Draft EIR and no further response is necessary.

Comment Letter #9: Bill Harbaugh

Comment #9-1: Addition of Cisco Grove to OSV Program

Response to Comment #9-1: Winter trail grooming at Cisco Grove is provided by a private vendor on the Tahoe National Forest and is not included in the state-funded OSV Program. The OHMVR Division works cooperatively with each national forest to fund selected winter trail systems. Any changes to the OSV Program, such as the redirection of funds from China Wall to Cisco Grove, would have to be requested by the individual national forest. Such a change would be subject to environmental review under both NEPA and CEQA.

Comment Letter #10. Steve Moulis

Comment #10-1: Addition of Cisco Grove to OSV Program

Response to Comment #10-1: Comment expresses general support for OSV recreation and Cisco Grove. See responses to comment from Michael Evans and Bill Harbaugh. No comment was made on the Draft EIR and no further response is necessary.

Comment Letter #11. Steve Rounds

Comment #11-1: General support for OSV recreation

Response to Comment #11-1: Comment expresses general support for OSV recreation. No comment was made on the Draft EIR and no further response is necessary.

Comment Letter #12. Jeff Erdoes

Comment #12-1: Aesthetics improperly dismissed

Response to Comment #12-1: It is recognized there is visual beauty associated with undisturbed snowscape. Non-motorized recreationists as well as OSV riders seek out areas where snow is untrammelled. Tracks frozen in the snow can be made by both motorized and non-motorized recreation and can persist for days or weeks until covered by a fresh blanket of snow. The disturbance of the snowscape is not considered significant given that it occurs in an active recreation area and is temporary in nature. It does not permanently alter the underlying landform.

OSV use is allowed throughout national forests unless otherwise specified. While the OSV Program has the effect of increasing OSV use in the Project Area, the use already exists by forest plan and would continue at some level without the OSV Program. Winter recreationists with the goal of seeking undisturbed snow can visit locations on the forest where OSV use is less likely to occur or where it is prohibited such as at many sno-park locations throughout the State, reserved cross-country ski areas, and wilderness areas. Additionally, motorized use is prohibited in state parks, national parks, and national monuments and recreationists can seek out undisturbed snowscapes in these locations.

Comment #12-2: The DEIR underestimates future snowmobile emissions.

Response to Comment #12-2: The DEIR reasonably estimates future snowmobile emissions assuming a fleet composition comprised of 20 percent four-stroke engines and 80 percent two-stroke engines. The commenter's remark that new EPA 2012-compliant OSVs produce more hydrocarbon and carbon monoxide emissions than a typical 1998 two-stroke snowmobile is misleading for two reasons. First, the EPA's 2012 maximum family emission limits for hydrocarbons (150 grams per kilowatt-hour (112 grams/horsepower-hour)) and carbon monoxide (400 grams per kilowatt-hour (298 grams/horsepower-hour)) is approximately 20 percent less than the average hydrocarbon (141 grams per horsepower-hour) and 25 percent less than the average carbon monoxide (386 grams per horsepower-hour) emission factors referenced by the commenter. Second, the commenter compares hourly emissions for two different engine sizes, a 1998 model, 36-horsepower snowmobile and a 2010 model, 48-horsepower snowmobile. This is an improper comparison since larger engines will inherently produce more emissions than smaller engines over a specified time period due to their capacity to combust larger amounts of fuel. The EPA's regulations will, on average, reduce emissions for similarly sized engines.

Comment #12-3: Exhaust emissions may be greater than quantified in the DEIR.

Response to Comment #12-3: Comment noted. Actual emissions will vary depending on a number of factors that cannot be definitively predicted at this time, including weather, fleet composition, fleet maintenance, and visitation rates. The DEIR, however, uses past experience with recreational use levels and equipment to make reasonable assumptions regarding these factors; Table 4-13 of the DEIR provides a reasonable estimate of the snowmobile emissions that are likely to occur under baseline and program growth conditions.

Oral Comments Received at the OHMVR Division Meeting, October 27, 2010

Comment #13: Patrick Lieske, Lassen National Forest, Wildlife Biologist

Comment #13-1: Effectiveness of USFS monitoring efforts for goshawk PAC may not be fully addressing impacts related to OSV use. USFS monitoring of PACS is related to timber sales not OSV use near trails.

Response to Comment #13-1: A regional study on the effects of OHV/OSV use on northern goshawks is being conducted by the USFS Pacific Southwest Region (see Draft EIR, Section 5.3.2.1). See the response to Comment # 1-2.

Comment #13-2: OSV use still occurs on the forest even when low snow conditions exist and winter trails are closed for the season by forest order.

Response to Comment #13-2: As noted, roads within the forest are closed to wheeled vehicles during the winter by forest order which opens the roads to OSV use as snow cover permits. Lassen National Forest does not have a minimum snow depth requirement for OSV use, which means OSV travel can occur in low snow conditions. In general, OSV riders avoid substantial contact with bare soil out of concern for damage to their sleds. The EIR concludes the environmental damage to soils and water quality associated with OSV use in low snow conditions is less than significant (see Draft EIR, Section 6.3.2). Biological impacts associated with OSV use in low snow conditions are of concern and are addressed in Draft EIR Section 5.3.2.2 (Special-Status Plants) and Section 5.3.2.3 (Riparian, Wetland, and Other Sensitive Aquatic Communities). Incidental OSV use in low snow conditions is unlikely to create significant biological impacts. However, if OSV use occurs repeatedly in the same area under low snow conditions, then significant adverse biological impacts are likely. Measures BIO-4 and BIO-5 require additional USFS monitoring to address this issue and ensure biological resources are being adequately protected (see Draft EIR, Section 5.4).

Comment #14: Byron Baker

Comment #14-1: Snowcat operated at Bassetts needs to be replaced. Bassetts would have more volunteer groomers if snowcat equipment was reliable.

Response to Comment #14-1: See Response to Comment #6-1.

Comment #14-2: Limited parking is available at Bassetts trailhead. When parking at Yuba Pass fills up, overflow parking spills over to Bassetts. When Bassetts trailhead parking is full, it spills over to the parking area used by residents of Green Acres subdivision. There is room to expand Yuba Pass parking area and this could alleviate OSV parking shortage affecting Green Acres residents.

Response to Comment #14-2: The Bassetts trailhead provides parking for approximately 30 vehicles. Yuba Pass is operated as a sno-park and is not funded as part of the OSV Program. Residents of Green Acres, located off Gold Lake Road/Green Road at State Route 49, do not have plowed winter access to their homes and therefore compete for parking space along Gold Lake Road/State Route 49 with OSV users. As noted, expanding parking in this area such as the Yuba Pass parking area would increase winter recreation parking which could lessen the demand and make it easier for residents of Green Acres to find parking. However, it is not the role of the OSV Program to secure parking for subdivision residents.

3.0 TEXT AMENDMENTS

Page S-3, Table S-1

| Table 3-1. Summary of Project Impacts and Mitigation Measures | |
|---|---|
| <p>IMPACT: Total project direct and indirect GHG baseline (Year 2010) emissions are estimated at 27,118 MTCO_{2e}. These are existing emissions that already occur and represent no new emissions to the statewide GHG emission inventory.</p> <p>Less than Significant Impact</p> | <p>No mitigation required.</p> |
| <p>IMPACT: Total project direct and indirect GHG emissions for 2010 Project Baseline are estimated at 27,118 MTCO_{2e}. Program growth by Year 2020 would increase in GHG emissions to 32,069 MTCO_{2e} which is an increase of 4,951 MTCO_{2e} above 2010 Project Baseline conditions. No standards for GHG emissions apply to statewide mobile emissions, particularly from off-highway recreation vehicles. Therefore the Project does not conflict with applicable plans. The increases in GHG emissions under 2010 Project Baseline conditions and 2020 Program Growth conditions are less than several significance thresholds used by several air quality management districts governing stationary sources and land use developments.</p> <p>Less than Significant Impact</p> | <p>No mitigation required.</p> |
| BIOLOGICAL RESOURCES | |
| <p>IMPACT: Northern spotted owls and northern goshawks occur within or near the Project Area. USFS actively monitors nesting habits and fledgling success. Management actions are currently in place that reduce the potential effects of OSV recreation on northern goshawks and northern spotted owls to a less than significant level. The USFS employs adaptive management. Thus, based upon the results of the Regional Northern Goshawk Focused Study and the Northern Spotted Owl Focused Study, biologists may revise the USFS Management Actions.</p> <p>Less than Significant Impact</p> | <p>Measure BIO-1: USFS shall incorporate review the results of the northern goshawk and northern spotted owl focused studies into and adjust implementation of Management Actions as needed to address significant disturbance. If any such modification to Management Actions is necessary, the USFS shall and report these actions changes to the OHMVR Division for incorporation into the OSV Program as soon as revised USFS management actions are formulated. The need for implementing a Management Action, such as an LOP or route closure, for a particular nest site would be determined based upon the results of the focused studies and site-specific information related to the specific individual or pair such as observations of individuals being disturbed (e.g., owl or goshawk flying off of nest or roost) as OSV use occurs, evidence of nest failure that appears to be linked to OSV use, proximity of the OSV use to known nests, overlap of timing of OSV use with reproductive season, and local topography.</p> <p>Less than Significant Impact After Mitigation.</p> |

Table 3-1. Summary of Project Impacts and Mitigation Measures

IMPACT: California wolverine is not known to be present near OSV sites. If present, disturbance caused by OSV activities may adversely affect California wolverine natal denning behaviors.

Potentially Significant Impact

Measure BIO-2: USFS shall continue to work with the Pacific Southwest Research Station and other partners to monitor for presence of California wolverine. If there are any verified wolverine sightings, a USFS or other qualified biologist shall conduct an analysis to determine if OSV use within 5 miles of the detection have a potential to affect wolverine a natal denning site and, if necessary, a LOP from January 1 to June 30, route closure, or reroute will be implemented to avoid adverse impacts to potential breeding. The determination of the need for an LOP or other action shall take into account topography, other barriers between the OSV use and the known or likely den site, proximity of known or likely OSV use, and any other factors that may affect the level of disturbance.

Less than Significant Impact After Mitigation.

Page S-4, Table S-1**Table 3-2. Summary of Project Impacts and Mitigation Measures**

IMPACT: Disturbance caused by OSV activities may adversely affect Sierra Nevada red fox breeding behaviors, home range use, and/or establish trailhead scavenging and begging behaviors.

Potentially Significant Impact

Measure BIO-3: Educational materials shall be provided at each trailhead concerning the ~~on~~ red fox and the importance of minimizing direct contact with red foxes at each trailhead this species. USFS shall provide the results of Sierra Nevada red fox inventory and monitoring currently being performed by wildlife biologists from the ~~Forest Service~~ USFS, CDFG, and the University of California, Davis, to the OHMVR Division....

Page S-5, Table S-1

Table 3-3. Summary of Project Impacts and Mitigation Measures

| | |
|--|---|
| | <p>Measure BIO-4:</p> <p>....(3) Annually monitor the groomed trail system and adjacent concentrated-use riding areas where plants listed in Table 5-6 have a potential for occurrence. Monitoring shall focus on locations that are chronically exposed to OSV use and where plants listed in Table 5-6 have a potential for occurrence and exposure to OSV impacts. If this monitoring reveals <u>significant impacts, such as plants that have been crushed or seedbanks damaged by OSV tracks</u>, USFS shall implement protective measures (e.g., temporary fencing, barriers, seasonal closures, signage, trail re-routes, public education, etc.) to restrict access and prevent further damage to these plants and engage in public education. Follow-up monitoring shall be conducted to ensure that protective measures are implemented and effective.</p> |
| <p>IMPACT: Chronic disturbance caused by OSVs riding during low-snow conditions over wetlands, riparian areas, streams, and lake ice can adversely affect aquatic communities.</p> <p>Potentially Significant Impact</p> | <p>Measure BIO-5: USFS shall annually monitor aquatic resources in the Project Area near the groomed trail system for damage by OSV use during low-snow conditions. If these assessments reveal <u>significant impacts, such as multiple OSV tracks through sensitive aquatic environments or crushed/damaged riparian vegetation</u>, USFS shall implement protective measures (e.g., fencing, signage, trail reroutes, etc.) to restrict access and prevent further resource damage and engage in public education.</p> |

Page S-6, Table S-1

| Table 3-4. Summary of Project Impacts and Mitigation Measures | |
|--|---------------------------------------|
| NOISE | |
| <p>IMPACT: Equipment noise from snow grooming and plowing and noise from OSV recreation use would occur. Noise from plowing would occur on roads consistent with vehicle noise. Trail grooming noise occurs in late night hours when outdoor recreation is generally not occurring. OSV engine noise is audible to other motorized and non-motorized recreationists using the national forest. Noise levels fall within acceptable range for outdoor recreation.</p> <p><u>A stationary person on the trail could be exposed to OSV noise ranging from 45 dB to 80 dB at the moment of passage, and lasting roughly one to three minutes depending on environmental conditions, OSV speed and number of users. Anyone within 500 to 1200 feet of a busy trail would hear consistent OSV noise, well above the normally quiet background noise levels of 35 to 45 dBA Leg, depending on wind.</u></p> <p><u>OSV noise levels can conflict with non-motorized recreationists using the OSV Program Project Area who prefer a quiet experience. However, forest plans (LRMPs) do not have quantified ambient noise standards for forest activities and OSV recreation is a permissible use established by forest plans. Exposure of non-motorized recreationists to OSV noise in the Project Area is voluntary. Exclusive non-motorized winter recreation areas are available at other areas on forest lands, wilderness areas, state parks, national parks, and national monuments.</u></p> <p>Less than Significant Impact</p> | <p>No mitigation required.</p> |

Page 2-15, Table 2-6, Contract Agency/Service Provider at Morgan Summit trailhead

| Table 2-6. OSV Program, Plowed Access Roads and Trailheads | |
|--|--|
| National Forest/Trailhead | Contract Agency/Service Provider |
| Lassen/Ashpan | Lassen NF/Caltrans |
| Lassen/Bogard | Lassen NF/Caltrans |
| Lassen/Swain Mountain | Plumas County Lassen NF |
| Lassen/Morgan Summit | Lassen NF/Caltrans Lassen Volcanic National Park |

Page 3-8, Table 3-2, Special Interest Area at Morgan Summit

| Table 3-2. Special Interest Areas in Project Area Vicinity | | |
|---|--------------------------|--|
| National Forest | OSV Trail System | Wilderness, Geographic, and Cultural Special Interest Areas |
| Lassen | Morgan Summit | Lassen Volcanic National Park |

Page 3-12, last paragraph

Lassen National Forest. Two trespass issues originate in the Lassen National Forest: Lassen Volcanic National Park near Eskimo Hill and Caribou Wilderness near Echo Lake and Cone Lake. Trespass into Lassen Volcanic National Park likely originates from ~~Ashpan or Morgan Summit~~ Bogard or Swain Mountain trailhead, while trespass into Caribou Wilderness likely begins at the Chester-Almanor, Swain Mountain, or Bogard trailheads trailhead. Intrusion into Lassen Volcanic National Park is not known to be a chronic problem by USFS or National Park staff. Intrusion into Caribou Wilderness area is believed to occur due to poor signage and no distinct geographic feature that delineates the wilderness area boundary. However, this problem is not considered to be chronic by USFS staff.

Page 3-14, Table 3-3, Origin of OSV Intrusion at Lassen Volcanic National Park

| Table 3-3. OSV Intrusion Areas, 2009 | | | |
|---|---|--|-------------------------------|
| National Forest | OSV Intrusion Area | Origin of OSV | Patrol Type/ Frequency |
| Lassen | Lassen Volcanic National Park near Eskimo Hill | Ashpan or Morgan Summit <u>Bogard or Swain Mountain</u> | LEO weekends FPO weekdays |
| Lassen | Caribou Wilderness near Echo Lake and Cone Lake | <u>Swain Mountain, Bogard, Chester-Almanor</u> | |

Page 3-17, Biology; Growth in OSV Recreation, last sentence

As described in Section 3.3.2.1 above, implementation of ~~Measure BIO-3~~ Measure BIO-4 would bring the OSV Program into to conformance with LRMP S&Gs and management prescriptions governing biological resources.

Page 3-23, Measure BIO-4

Measure BIO-4: (see Biology, Section 5.4)

Implementation: by OHMVR Division and USFS

Effectiveness: Completion of inventories and implementation of protective measures would minimize significant impacts on special-status plant species from OSV operations.

Feasibility: Feasible

Monitoring: USFS shall submit completed inventories to OHMVR Division for review. USFS shall maintain a log of monitoring efforts and protective measures taken any management actions implemented to protect sensitive status plants. This log shall be submitted to OHMVR Division for agency review each summer mid and end of season, and no later than June 30 for review prior to contract approval for OSV Program operations for the following winter season.

Page 3-24, Measure LU-1, Monitoring

Implementation: by USFS and OHMVR Division

Effectiveness: Existing management actions have been effective at preventing wilderness trespass from becoming an escalating chronic condition. With continued management and implementation of focused enforcement actions, wilderness incursions would not be eliminated but would be minimized to a less than significant level.

Feasibility: Feasible; the USFS and OHMVR Division have implemented focused enforcement actions previously to resolve trespass issues.

Monitoring: National forests shall submit patrol logs and statement of needed management actions to OHMVR Division at end of each snow season and prior to OHMVR Division release of OSV Program funds to the national forests for the following winter season. National forests shall submit to the OHMVR Division monthly patrol logs, covering the entire OSV recreation season, showing monitoring and implementation of any site-specific measures, including enforcement actions. The first set of patrol logs shall be mid season and the second set shall be submitted no later than June 30. The OHMVR Division shall review the logs prior to invoice payment and contract approval for OSV Program operations for the following winter season.

Page 4-33, Indirect Emissions: OSV Use and Passenger Vehicle Travel.

Table 4-16 indicates 2010 Project Baseline GHG emissions from OSV use and visitor travel to and from the Project Area are not new emissions but rather a continuation of current conditions. Although these current conditions are contributing toward the statewide exceedance of the GHG emissions levels in excess of the 1990 rollback goal specified for the state, the impact is not considered significant as it is not a net increase above the current baseline and is not a net increase in GHG. would be 26,492 MTCO₂e, and overall 2010 Project Baseline GHG emissions would be 27,118 MTCO₂e. The OHMVR Division has not adopted quantitative standards of significance for GHG emissions or potential global climate change impacts. As identified in Section 4.3.1.3 above, several air districts have developed numerical GHG emissions thresholds of significance, however, these thresholds do not apply to the proposed statewide scope of the OSV Program activities. The OSV Program is a statewide recreational project that produces GHG from mobile sources that are not under the permitting control of any one agency and therefore an efficiency based threshold, which normalizes GHG emissions for project size, provides the most appropriate benchmark for considering the significance of the 2010 Project Baseline. Under the 2010 Project Baseline condition the project would accommodate approximately 200,000 visitors and produce approximately 27,118 MTCO₂e, or approximately 0.14 MTCO₂e per visitor, a value considerably less than the BAAQMD's 4.6 MTCO₂e per

capita threshold, which was derived from CARB's AB32 GHG inventory and is an estimate of the amount of land-use related GHG emissions that each state resident and employee could emit in Year 2020 without impeding GHG reduction goals of AB32.

There are currently no plans which specifically address recreation fuel use. Several statewide plans address transportation fuel use and GHG emissions generally. The OSV Program is not specifically in conflict with these plans as it does not impede their implementation. The Project Baseline condition would result in direct and indirect GHG emissions that would not impede the GHG reduction goals of AB32 nor exceed the efficiency metric threshold established by the BAAQMD. The individual on- and off-road equipment that produces these emissions would be subject to voluntary and regulatory actions developed under AB32 and would not conflict with any GHG reduction plan. The 2010 Project Baseline condition GHG emissions are considered less than significant.

Page 4-34, Greenhouse Gases Impact

The Year 2020 Program Growth condition results in a total GHG emission of 32,069 MTCO_{2e} which is an increase of 4,951 MTCO_{2e} above 2010 Project Baseline conditions (Table 4-16 and 4-17). This section analyzes ~~the difference of~~ this GHG emissions increase.

Page 4-35, Growth in OSV Recreation, first paragraph

Growth in OSV Recreation. Growth in OSV use levels over the 10-year program period would increase the GHG emissions generated by OSV use and passenger vehicle travel. As described in Project Description Section 2.7.2.1 an average annual growth rate of 4% is assumed in this analysis. OSV recreation in the Project Area has occurred historically and roughly one-third of OSV use would continue to occur without the OSV Program based on visitor survey (Project Description Section 2.6.1.2). The analysis presented below quantifies GHG emissions from all OSV use occurring in the Project Area and attributes it to the OSV Program resulting in a highly conservative estimate of project impacts. Actual GHG emissions associated with the OSV use and user transportation are likely to be two-thirds of the totals shown in Table 4-17.

The increase of 31,283 MTCO_{2e} above existing conditions without the OSV Program and the increase of 4,791 MTCO_{2e} above 2010 Project Baseline conditions from indirect project emissions from OSV use and passenger vehicle travel (Error! Reference source not found. and Error! Reference source not found.) could conflict with the state goal to roll back GHG emissions to 1990 GHG levels of 427 MMTCO_{2e}. With a "business-as-usual" approach, CARB forecasts the statewide GHG emissions will rise to 596.4 MMT. Although the OHMVR Division has not adopted its own quantitative standards of significance for GHG emissions and potential global climate change impacts, the state goal of a roll-back to 1990 GHG emissions levels is a quantitative target.

Page 4-35, Growth in OSV Recreation, third paragraph

Overall projected growth of the OSV Program by 2020 would increase total GHG emissions from all sources (indirect and direct) -27,118 MTCO_{2e} (2010) to 32,069 MTCO_{2e} (2020) above existing conditions without the OSV Program resulting in a net increase of 4,951 MTCO_{2e} above 2010 Project Baseline conditions. This increase is more than the BAAQMD land use project threshold of 1,100 MTCO_{2e} and the SCAQMD residential/commercial project threshold of 3,000 MTCO_{2e}, ~~but less and more than the~~ 10,000 MTCO_{2e} stationary source level that both the

SCAQMD and BAAQMD have established for stationary source projects. These thresholds, however, are not applicable to a state-wide recreational project such as the OSV Program.

Page 5-17, Table 5-5, addition of golden eagle text

| Special-Status Species¹ | Location and Habitat | USFS Management Action |
|---|---|---|
| golden eagle (SFP) | <u>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.</u> | <u>Inyo and Modoc National Forests:</u> <u>Limit human disturbance, including OHV use, within 1/4 mile of nest sites from Feb. 1-June 30.</u> |

Page 5-34, first full paragraph, Breeding Disruption

...With the implementation of the Management Actions already in use (Table 3-5) by the national forests and Mitigation Measures BIO-1 and 2 identified below in Section 5.4, the project impacts during early courtship and nesting/denning periods would remain at existing less-than-significant levels. No new impacts would occur as a result of the continuation of the OSV Program and therefore, the Project's effect on special-status birds remains ~~is~~ less than significant.

Page 5-34, last paragraph, Coyote Incursion

...Competition and predation, if occurring, would be predictably restricted to areas in the immediate vicinity of trails and is considered less than significant. The use of OSV trails and regular grooming is an existing condition that has been in operation for numerous years; and no new trail expansion is proposed at this time. Therefore, coyote incursion, if occurring, would continue, but would not be increased by OSV Program activities.

Page 5-36, first partial paragraph

...With the implementation of the Management Actions already in use by the national forests, the project noise impacts to birds during early courtship and nesting periods would remain at existing less-than-significant levels. No new impacts would occur as a result of the continuation of the OSV Program and therefore, the Project's effect on special-status birds remains ~~is~~ less than significant.

Page 5-36, new text inserted after Bald Eagle

Golden Eagle

Very little research has been performed showing golden eagle response to OSVs. Most studies looking at eagle response to human disturbance involve bald eagles. Some of those studies have shown the response of eagles to human activities is variable. Individual eagles show different thresholds of tolerance for disturbance. The distance at which a disturbance causes bald eagles to modify their behavior also is affected by the sight distance of the motorized use. For example, forested habitat can reduce the noise generated by motorized activity. In addition, if the noise-generating activity is hidden from the nest site, disturbance thresholds may be reduced. Studies

that do involve golden eagle and human disturbance typically report golden eagles seem to be more sensitive to humans afoot than to vehicular traffic (Holmes et al. 1993; Hamman 1999). One study in Yellowstone National Forest showed there were only two responses by golden eagle to human presence: no visible response or the individual looked at the OSVs or humans and resumed their previous activity (McClure et al. 2009).

In the Californian Sierra Nevada and Cascade mountains, golden eagles nest on cliffs in rugged, open habitats with canyons and escarpments. In monitoring results reported under the Division's OHV Grants Program, three national forests reported nesting typically does not occur within close proximity to OHV trails. According to the USFS, disturbance from OSV use is not likely due to distance of OHV routes from suitable habitat (rocky cliffs). Suitable nesting habitat is typically protected by high cliffs (where OSVs are not expected to occur) and no take has been documented by USFS as a result of ongoing OHV/OSV activities. However, two forests with populations of golden eagles provide for management direction in their LRMPs. Inyo and Modoc National Forests restrict human disturbance within ¼ mile of active nests after February 1 (Table 3-5). No significant effect on golden eagle from OSV activity has been determined. Given the lack of documented effects, the species' listing status (not listed under the state or federal ESA and not a California Species of Special Concern, and that golden eagle nesting does not typically occur within close proximity to OSV trails, the project impact to golden eagle is considered less than significant.

Page 5-47, Wildlife Movement Corridors, last sentence of paragraph

The continuation of this funding as proposed by the Project would not change the extent of existing less-than-significant effects.

Page 5-51, Measure BIO-1

Measure BIO-1: USFS shall ~~incorporate~~ review the results of the northern goshawk and northern spotted owl focused studies ~~into~~ and adjust implementation of ~~m~~Management ~~a~~Actions as needed to address significant disturbance. If any such modification to Management Actions is necessary, the USFS shall ~~and~~ report these ~~actions~~ changes to the OHMVR Division for incorporation into the OSV Program as soon as revised USFS management actions are formulated. The need for implementing a Management Action, such as an LOP or route closure, for a particular nest site would be determined based upon the results of the focused studies and site-specific information related to the specific individual or pair such as observations of individuals being disturbed (e.g., owl or goshawk flying off of nest or roost) as OSV use occurs, evidence of nest failure that appears to be linked to OSV use, proximity of the OSV use to known nests, overlap of timing of OSV use with reproductive season, and local topography.

Implementation: By OHMVR Division and USFS

Effectiveness: Implementation of updated management actions would ensure the effects of OSV operations and recreation on northern goshawk and northern spotted owl remain less than significant.

Feasibility: Feasible

Monitoring: USFS shall maintain a log of monitoring efforts and ~~any management actions~~ protective measures taken to protect northern goshawk and northern spotted owl. This log shall be submitted to OHMVR Division ~~for review each summer~~ mid and end of season, and no later than June 30 for review prior to contract approval for OSV Program operations for the following winter season.

Page 5-51, Measure BIO-2

Measure BIO-2: USFS shall continue to work with the Pacific Southwest Research Station and other partners to monitor for presence of California wolverine. If there are any verified wolverine sightings, a USFS or other qualified biologist shall conduct an analysis to determine if OSV use within 5 miles of the detection have a potential to affect wolverine a natal denning site and, if necessary, a LOP from January 1 to June 30, route closure, or reroute will be implemented to avoid adverse impacts to potential breeding. The determination of the need for an LOP or other action shall take into account topography, other barriers between the OSV use and the known or likely den site, proximity of known or likely OSV use, and any other factors that may affect the level of disturbance.

Implementation: By OHMVR Division and USFS

Effectiveness: Implementation would prevent significant impacts to California wolverine from OSV operations.

Feasibility: Feasible; required by SNFPA S&G #32.

Monitoring: USFS shall maintain a log of monitoring efforts and any management actions taken to protect California wolverine from OSV use impacts. This log shall be submitted to OHMVR Division ~~for review each summer~~ no later than June 30 for review prior to contract approval for OSV Program operations for the following winter season.

Page 5-52, Measure BIO-3

Measure BIO-3: Educational materials shall be provided at each trailhead concerning the ~~on~~ red fox and the importance of minimizing direct contact with ~~red foxes at each trailhead~~ this species. USFS shall provide the results of Sierra Nevada red fox inventory and monitoring currently being performed by wildlife biologists from the ~~Forest Service~~ USFS, CDFG, and the University of California, Davis, to the OHMVR Division....

Implementation: By OHMVR Division and USFS

Effectiveness: Implementation of inventory and management actions would prevent significant impacts to Sierra Nevada red fox populations from OSV operations.

Feasibility: Feasible; required by SNFPA S&G #32.

Monitoring: USFS shall provide an inventory report and maintain a log of monitoring efforts and any management actions taken to protect Sierra Nevada red fox. This log shall be submitted to OHMVR Division no later than June 30 for review each summer prior to contract approval for OSV Program operations for the following winter season.

Page 5-53, Measure BIO-4, third paragraph

3) Annually monitor the groomed trail system and adjacent concentrated-use riding areas where plants listed in Table 5-6 have a potential for occurrence. Monitoring shall focus on locations that are chronically exposed to OSV use and where plants listed in Table 5-6 have a potential for occurrence and exposure to OSV impacts. If this monitoring reveals significant impacts, such as plants that have been crushed or seedbanks damaged by OSV tracks, USFS shall implement protective measures (e.g., temporary fencing, barriers, seasonal closures, signage, trail re-routes, public education, etc.) to restrict access and prevent further damage to these plants and engage in

public education. Follow-up monitoring shall be conducted to ensure that protective measures are implemented and effective.

Implementation: By OHMVR Division and USFS

Effectiveness: Completion of inventories and implementation of protective measures would minimize significant impacts on special-status plant species from OSV operations.

Feasibility: Feasible

Monitoring: USFS shall submit completed inventories to OHMVR Division for review. USFS shall maintain a log of monitoring efforts and protective measures taken any management actions implemented to protect sensitive status plants. This log shall be submitted to OHMVR Division for agency review each summer mid and end of season, and no later than June 30 for review prior to contract approval for OSV Program operations for the following winter season.

Page 5-53, Measure BIO-5

Measure BIO-5: USFS shall annually monitor aquatic resources in the Project Area near the groomed trail system for damage by OSV use during low-snow conditions. If these assessments reveal significant impacts, such as multiple OSV tracks through sensitive aquatic environments or crushed/damaged riparian vegetation, USFS shall implement protective measures (e.g., fencing, signage, trail reroutes, etc.) to restrict access and prevent further resource damage and engage in public education.

Implementation: By OHMVR Division and USFS

Effectiveness: Would prevent significant impacts to aquatic communities from OSV operations.

Feasibility: Feasible; requires increased resource monitoring efforts by USFS.

Monitoring: OHMVR Division shall modify the OSV Program Checklist used by national forests (Appendix C) to include monitoring for damage to aquatic resources. USFS shall maintain a monitoring log along with results, any protective measures taken, and success rate. This log shall be submitted to the OHMVR Division no later than June 30 for review each summer prior to contract approval for OSV Program operations for the following winter season.

Page 7-5, OSV Use

OSV Use. ~~OSV use is allowable in national forests as designated by the governing LRMP. The audibility of the OSV is largely affected by atmospheric conditions, the terrain and vegetation surrounding the trail routes, the speed of OSV travel, and the number of OSV users. The OSV Program Project facilitates increased OSV use along trail routes in the Project Area that have been previously used for wintertime recreation including motorized vehicles (Project Description, Section 2.6.1.2). At current OSV use rates, the OSV Program at 2010 baseline levels would not generate an increase the ambient noise levels associated with OSV use above historical seasonal levels. The increased OSV activity has the potential to increase the noise exposure of other visitors recreating near the project trails.~~

Noise from snowmobiles manufactured after June 30, 1976 have a noise emission of 73 dBA at 50 feet while traveling at 15 mph when tested under SAE J1161 procedures. This is the

equivalent of a single passenger vehicle or motorcycle on a roadway. A snowmobile under full throttle emits the same sound level as a truck pulling a camper at a constant highway speed applying very little throttle. In a worst case scenario, a snowmobile leaving a stop sign and applying full throttle, the noise produced is still about the same as a passenger vehicle driving down the road (International Snowmobile Manufacturers Association 2008). ~~The effect is audible but not long-lasting.~~

The audibility of the OSV is largely affected by atmospheric conditions, the terrain and vegetation surrounding the trail routes, the speed of OSV travel, and the number of OSV users.

Sound levels from two or three OSVs travelling together will be 45 dB at 500 to 1200 feet, the latter in open country and the former in more heavily wooded country. Each passage would expose a stationary person on the trail to noise ranging from 45 dB to 80 dB at the moment of passage, and lasting roughly one to three minutes depending on environmental conditions. Hence, on a busy trail, anyone within 500 to 1200 feet, will hear consistent OSV noise, well above the normally quiet background noise levels of 35 to 45 dBA Leq , depending on wind.

Noise levels generated by OSVs in the Project Area are not subject to regulation by local general plan or noise ordinance given the location on federal land in national forests. National forest LRMPs do not have S&Gs which restrict noise levels of OSV recreation. Thus, OSV use facilitated by the OSV Program would not occur in excess of established ambient standards.

OSV use is allowable in national forests as designated by the governing LRMP. In the Project Area, OSV noise generated by the OSV Program occurs in a recreation area ~~open~~ authorized for OSV use by the LRMP of the individual national forests. Because the activity is occurring in a trail system area designated for motorized use, the noise exposure is expected by other trail users as part of the ambient noise conditions ~~and therefore does not conflict or substantially detract from the recreational experience of other trail users.~~

Noise from OSV use is audible to other users on the recreation trail, which may include cross-country skiers and snowshoers. ~~OSV use is restricted to specific trail locations in order to minimize conflicts between uses.~~ OSV trails are signed to indicate that OSV use is permissible

Page 7-6, OSV Use continued discussion

on these trails. Non-motorized users of the trail system know in advance that OSV use occurs on and off the trails in the Project Area and that project trails do not offer protection from intrusive sights or sounds of snowmobiles. As discussed in Recreation, Section 8.3.2.3, OSV noise can detract from the quality of recreation experienced by non-motorized trail users. Non-motorized trail users who might be sensitive to OSV noise have the option of choosing to recreate in areas closed to OSVs which occur on many of the national forests, state parks, national parks, and national monuments. Continuation Operation of the OSV Program at 2010 baseline levels would not expand OSV use into new areas presently unused by OSV or promote OSV infringement upon quiet areas reserved for non-motorized users such as Nordic skiers and snowshoers. OSV intrusion into closed quiet wilderness areas on national forests adjacent to the groomed trails does occur as described in Land Use Plans and Policies, Section 3.3.3.1. Continued and enhanced enforcement of closed area boundaries is required as project mitigation (Measure LU-1) for OSV intrusion into wilderness areas.

Given the 1,761 miles of groomed trails provided by the OSV Program, the quick dispersal rates between the motorized and non-motorized user groups, ~~and the access to wilderness areas from groomed trails~~ other areas on forest lands, state parks, national parks, and national monuments which are available exclusively to non-motorized use, the lack of a quantified ambient noise standard on the forests, and the establishment of OSV use throughout forest lands by forest plan, the current noise impacts of OSV use on non-motorized users in the Project Area is considered less than significant. ~~Continuation of the OSV Program at 2010 baseline levels would not expose sensitive receptors to increased noise levels above existing conditions and is therefore considered a less than significant impact.~~

Page 8-10, Table 8-3, overflow frequency at Morgan Summit trailhead

| Table 8-3. OSV Program Parking Demand, Baseline 2010 | | | | | |
|---|------------------|-------------------------|-----------------------|-----------------------|----------------------------|
| National Forest | Trailhead | Parking Capacity | Weekday Demand | Max Day Demand | Overflow Requency |
| Lassen | Morgan Summit | 16 | 4 | 14 | None Occasional |

Page 9-10, Redirection of Grooming Funds, first paragraph, second to last sentence

This alternative would not necessarily stop grooming but would ~~substantially~~ reduce the frequency of grooming, ~~leaving~~ which could leave the trail conditions rough.

Page 11-5, Bibliography, addition of new references

Hamann, B., H. Johnston, P. McClelland, S. Johnson, L. Kelly and J. Gobielle. 1999. Birds. In G. Joslin and H. Youmans, coordinators, Effects of recreation on Rocky Mountain wildlife: A Review for Montana. Committee on Effects of Recreation on Wildlife, Montana Chapter of The Wildlife Society. 307pp.

Holmes, T. L., R. L. Knight, L. Stegall, and G. R. Craig. Responses of wintering grassland raptors to human disturbance. Wildl. Soc. Bull.; 21:461-468. 1993.

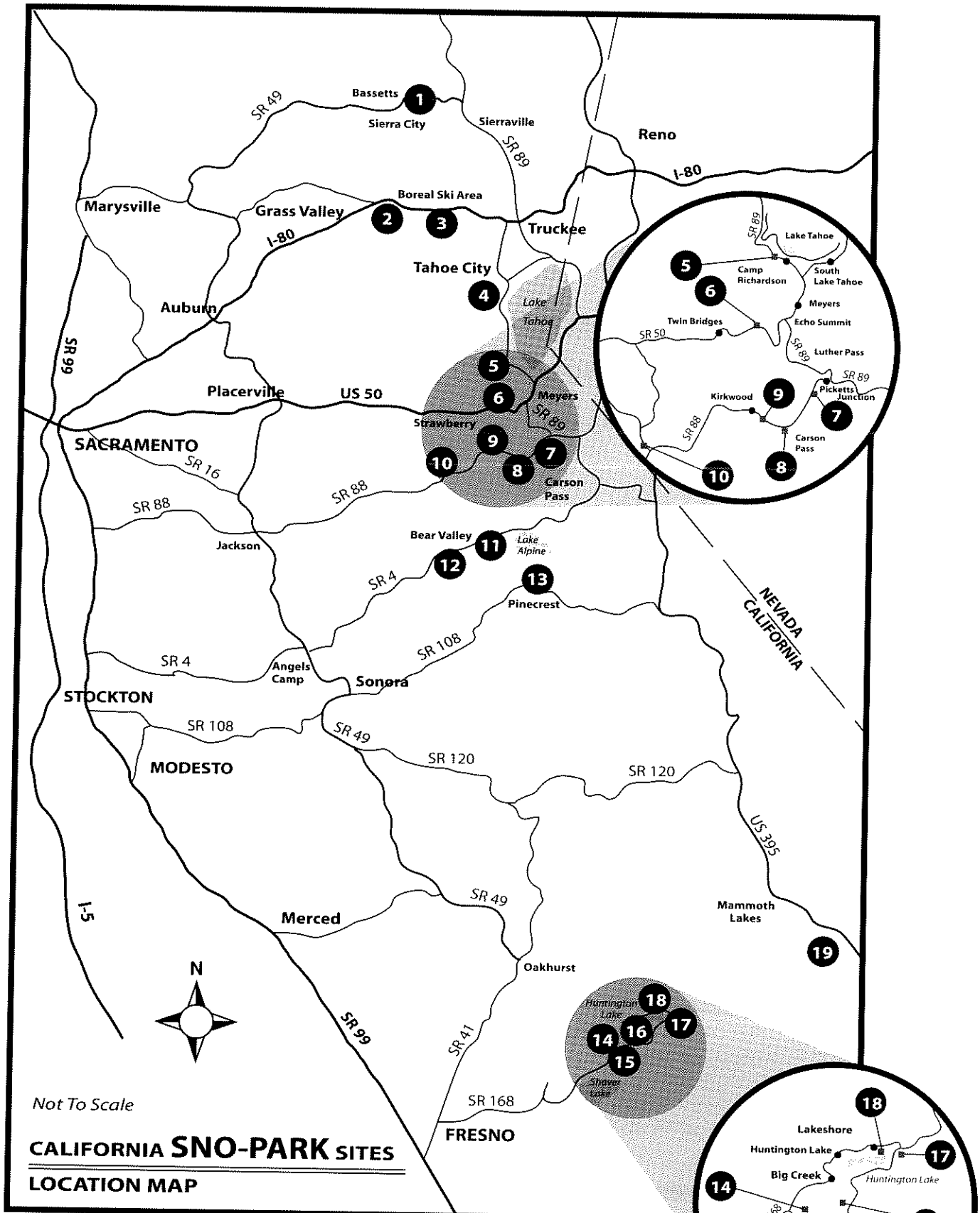
McClure, C., D. Reinhart, P.J. White, M. Donovan, and B. Teets. Wildlife responses to motorized winter recreation in Yellowstone; 2009 annual report. Prepared by Yellowstone Center for Resources, National Park Service.

Page D-19, Appendix D Table 1

| Table 1. USFS Forest-wide Standards and Guidelines Relevant to the OSV Program | |
|---|---|
| 9) Inyo (1988) | |
| <u>Wildlife (p. 98)</u> | <u>Golden Eagle. Maintain or enhance the integrity of nesting habitats for golden eagles. Limit human disturbance within one-quarter mile of nest sites from February 1 through June 30. Provide for several successional stages and vegetation types within five miles of nest sites. Provide artificial ledges on cliffs where the lack of ledges is a limiting factor.</u> |

ATTACHMENT A

**California Sno-Parks
California Department of Parks and Recreation**



LEGEND

- | | | |
|---------------------|--------------------|---------------------|
| 1. Yuba Pass | 8. Carson Pass | 15. Tamarack |
| 2. Yuba Gap | 9. Meiss Meadow | 16. Coyote |
| 3. Donner Summit | 10. Iron Mountain | 17. Eastwood |
| 4. Blackwood Canyon | 11. Lake Alpine | 18. Huntington Lake |
| 5. Taylor Creek | 12. Spicer | 19. Rock Creek |
| 6. Echo Lake | 13. Highway 108 | |
| 7. Hope Valley | 14. Balsam Meadows | |

SNO-PARKS

1. YUBA PASS

Located on the south side of Highway 49 at Yuba Pass. **Contact:** Tahoe National Forest, Sierraville Ranger District - (530) 994-3401.

GPS: 39°37'1.20"N, 120°29'23.10"W



2. YUBA GAP

Located on the south side of I-80 at the Yuba Gap exit. **Contact:** Tahoe National Forest, Sierraville Ranger District - (530) 994-3401.

GPS: 39°19'6.54"N, 120°36'8.70"W

No overnight parking, snowmobiling or busses

3. DONNER SUMMIT

Located on the south side of I-80 at the Castle Peak exit beyond Boreal Inn. **Contact:** Tahoe National Forest, Truckee Ranger District - (530) 587-3558.

GPS: 39°20'23.54"N, 120°20'38.25"W



4. BLACKWOOD CANYON

Located on the west side of Highway 89, three miles south of Tahoe City. **Contact:** Lake Tahoe Basin Management Unit - (530) 543-2600.

GPS: 39° 6'50.77"N, 120° 9'30.12"W

No overnight parking

5. TAYLOR CREEK

Located on the south side of Highway 89, just north of Camp Richardson Road. **Contact:** Lake Tahoe Basin Management Unit - (530) 543-2600.

GPS: 38°55'56.95"N, 120° 3'27.61"W



6. ECHO LAKE

Located on the north side of Highway 50 at Echo Lake Road. **Contact:** Lake Tahoe Basin Management Unit - (530) 543-2600.

GPS: 38°49'26.63"N, 120° 2'2.69"W

No snowmobiling

7. HOPE VALLEY

Located on the south side of Highway 88 at Blue Lakes Road. **Contact:** Humboldt-Toiyabe National Forest, Carson Ranger District - (775) 882-2766.

GPS: 38°44'53.70"N, 119°56'23.34"W



8. CARSON PASS

Located on the south side of Highway 88 near Carson Pass. **Contact:** Eldorado National Forest, Amador Ranger District - (209) 295-4251.

GPS: 38°41'42.72"N, 119°59'22.50"W

No snowmobiling

9. MEISS MEADOW

Located on the north side of Highway 88 near Carson Pass. **Contact:** Eldorado National Forest, Amador Ranger District - (209) 295-4251.

GPS: 38°41'46.81"N, 119°59'30.28"W

No snowmobiling

10. IRON MOUNTAIN

Located on the north side of Highway 88 at Mormon-Emigrant Trail Road.

Contact: Eldorado National Forest, Amador Ranger District - (209) 295-4251.

GPS: 38°37'44.19"N, 120°12'49.87"W



11. LAKE ALPINE

Located at the winter closure gate on Highway 4. **Contact:** Stanislaus National Forest, Calaveras Ranger District - (209) 795-1381.

GPS: 38°28'54.20"N, 120° 1'2.46"W



12. SPICER

Located on the south side of Highway 4 at Spicer Road. **Contact:** Stanislaus National Forest, Calaveras Ranger District - (209) 795-1381.

GPS: 38°25'44.44"N, 120° 4'38.01"W



13. HIGHWAY 108

Located at the winter closure gate on Highway 108, east of Strawberry. **Contact:** Stanislaus National Forest, Summit Ranger District - (209) 965-3434.

GPS: 108, 38°16'1.47"N, 119°59'30.31"W



14. BALSAM MEADOWS

Located on the north side of Highway 168, east of Shaver Lake. **Contact:** Camp Edison - (559) 841-3134.

GPS: 37° 9'33.79"N, 119°14'33.84"W

No snowmobiling

15. TAMARACK

Located on the south side of Highway 168, east of Shaver Lake. **Contact:** Sierra National Forest, High Sierra Ranger District - (559) 855-5355.

GPS: 37° 9'45.02"N, 119°12'8.50"W



16. COYOTE

Located on the north side of Highway 168, east of Shaver Lake. **Contact:** Sierra National Forest, High Sierra Ranger District - (559) 855-5355.

GPS: 37°10'3.20"N, 119°12'22.92"W

No snowmobiling

17. EASTWOOD

Located on the east side of Highway 168 at Huntington Lake Road. **Contact:** Sierra National Forest, High Sierra Ranger District - (559) 855-5355.

GPS: 37°15'21.04"N, 119° 9'39.10"W



18. HUNTINGTON LAKE

Located on the west side of Huntington Lake Road, three miles from Eastwood SNO-PARK. **Contact:** Sierra National Forest, High Sierra Ranger District - (559) 855-5355.

GPS: 37°15'5.30"N, 119°10'27.23"W



19. ROCK CREEK

Located on the west side of Highway 395 at Rock Creek Road. **Contact:** Inyo National Forest, White Mountain Ranger District - (760) 873-2500.

GPS: 37°29'40.18"N, 118°43'3.39"W

No snowmobiling



RECOMMENDED ACTIVITIES



Cross-country Skiing



Dog Sledding



Snowmobiling



Snow Play

ATTACHMENT B

ANNUAL SNOWMOBILE REGISTRATIONS

California Department of Parks and Recreation, OHMVR Division

OSV Green Sticker Registration Annual Changes

| YEAR | # OSV Registrations | Increase / Decrease from previous year |
|-------------|----------------------------|---|
| 1990 | 8020 | |
| 1991 | 8849 | 10 % |
| 1992 | 9837 | 10 % |
| 1993 | 10941 | 9 % |
| 1994 | 11844 | 9 % |
| 1995 | 12712 | 9 % |
| 1996 | 13569 | 9 % |
| 1997 | 14050 | 10 % |
| 1998 | 14913 | 9 % |
| 1999 | 15878 | 9 % |
| 2000 | 16945 | 9 % |
| 2001 | 17838 | 9 % |
| 2002 | 18986 | 9 % |
| 2003 | 19902 | 5 % |
| 2004 | 20758 | 4 % |
| 2005 | 21598 | 4 % |
| 2006 | 22487 | 4 % |
| 2007 | 22882 | 2 % |
| 2008 | 23202 | 1 % |
| 2009 | 22413 | -4 % |
| 2010 | 21542 | -4 % |