Exhibit B

Wildlife and Environmental Concerns

Wildlife and Environmental Concerns: Over-Snow-Vehicles in the Stanislaus National Forest

These comments provide additional support and details for our Alternative relating to our concerns with snowmobile impacts on wildlife and the environment. In addition, please refer to the included "Best Management Practices" (BMPs) for more detail on management practices that will help to limit these impacts and additional background supporting our recommendations.

In general, our Alternative addresses impacts to the environment and wildlife through the BMPs and through the closure of areas to OSVs, restrictions of OSVs to designated routes and by placing Best Available Technology (BAT) restrictions on OSVs for some shared-use areas. The creation of large closure and restricted areas partly addresses wildlife concerns. Restrictions set forth in the BMPs also address concerns with regard wildlife and the environment. Additional restrictions may need to be imposed in specific areas in response to species monitoring.

The Stanislaus National Forest Plan already prohibits OSVs in some areas, such as Recommended Wilderness, Near Natural Areas, Research Natural Areas, and some Special Interest Areas to protect habitat or outstanding natural values. We support continuing and enforcing these closures. We also support the Stanislaus's proposal to prohibit OSVs in all Special Interest Areas, Experimental Forests, developed areas, and in areas below 5,000 feet. We strongly oppose the Forest's proposal to allow OSVs within the Pacific Valley and portions of the Eagle/Night Near Natural Areas. Opening these areas to OSVs contradicts the stated management goals set forth for Near Natural Areas in the Forest Plan and jeopardizes future conservation efforts for Wilderness-quality lands within these areas. We hope that the Stanislaus will use the Winter Travel Plan as an opportunity to enforce, not weaken, the Forest Plan.

We recommend closing all crucial winter range, fawning habitat, and sensitive species nesting or breeding habitat that occurs above 5,000 feet in order to protect wildlife and other sensitive natural resources. The Stanislaus's Forest Plan Direction (April 2010) states that deer winter concentration areas and winter range areas may be closed to motor vehicles from November 15 – April 15 and states that motor vehicles may be restricted in a 100 acre buffer around marten den sites or 700 acre buffer around fisher den sites. The travel plan is an opportunity to solidify these protections by prohibiting OSVs in these areas. Likewise, OSVs should be prohibited in important avian areas during limited operating periods.

Wildlife Concerns

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 they 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 glucocoritcoid stress levels, increased flight distance, habitat fragmentation as well as community and population disturbance (Baker, E. and Bithmann 2005).

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 many instances, snowmobiles induce animal flight, causing increased energy expenditures. In Yellowstone National Park, where snowmobile-wildlife interactions have been most extensively studied, evasive maneuvers in response to snowmobiles have been documented in a number of species. These maneuvers result in increased energy expenditures for the affected wildlife. 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). These energy expenditures are 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."

Sierra Nevada Red Fox

The Sierra Nevada red fox (SNRF) is listed as a Management Indicator Species on the Stanislaus NF. This extremely rare forest carnivore is classified as a Threatened Species in California and a Region 5 Sensitive Species. The species is found at or around 6,500 feet in elevation and prefers areas with forest cover (Perrine et al. 2010). They avoid open areas and dense forests. Recent sightings have been concentrated in high elevation areas near Lassen Peak and Sonora Pass but the extent of their current distribution is unknown (Perrine et al. 2010). Most recently, an individual was caught on camera in Yosemite National Park, the first proven detection in almost a century (Chappell 2015). While very little is known about this species, the travel planning process presents an opportunity to minimize impacts from winter recreation on Sierra Nevada red fox.

Our most pressing concern with SNRF in regards to OSV use is in how OSVs may tip the competitive balance between coyotes and SNRF. Snow compacted by OSVs can become travel corridors that facilitate coyote incursion into red fox habitat. There are several studies in other areas that show coyotes heavily utilize snowmobile tracks (Koehler and Aubry 1994, Buskirk et al, 2000, Bunnel, *et.al.*, 2006), allowing them to move into areas that are normally the domain of species better adapted to deep snows, such as lynx. Although it is likely that red foxes also exploit snowmobile tracks opportunistically, we are concerned that snowmobiles tip the competitive equation more in favor of coyotes. Coyotes and foxes utilize the same food resources and coyotes are known to prey on fox as well. Without snowmobiles packing down

trails, the lighter red foxes may have just enough of an edge to coexist with the otherwise dominant competitor in lean winter times.

Given that the Stanislaus NF is one of very few places in the world where SNRF are known to exist, any analysis accompanying this travel plan should include an examination of how OSV trail and area designations will minimize impacts to SNRF populations. We suggest that the Stanislaus NF implement trail closures or re-route trails that may facilitate coyote movement into suitable Sierra Nevada red fox habitat.

California Wolverine

While wolverines are extremely rare in California, evidence of the presence of at least one animal on the Tahoe NF indicates connectivity between the western Rocky Mountains and the Sierra Nevada (Morriaty et al. 2009), and the California Wolverine is a Region 5 Sensitive Species. Although it is likely that there is currently only one wolverine in California, the possibility remains that more could follow. Given the possibility of wolverines in this landscape, and the long-term impact of any travel plan, it is important to consider how OSVs may impact this species. There is scientific uncertainty about the exact effects of snowmobiles on wolverines. However, compelling anecdotal evidence suggests snowmobile use displaces wolverines and may reduce reproductive success, especially when it occurs within potential wolverine denning habitat. 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 all 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). Although the lone detected wolverine in California is a male, not a reproductive female, in general it appears that wolverines are sensitive to human disturbance and are less likely to occur in areas with anthropogenic activity (Fisher et al. 2013). By increasing the number of acres on the Stanislaus NF that are non-motorized in winter, especially in large blocks of high-elevation terrain, the Forest may increase wolverine habitat security. Given the historic use of the high elevation crest zone area by wolverine, any land management planning action such as the current Over-Snow Vehicle Use Designation plan must consider long-term implications for enhancing or diminishing the potential for recovering a sustainable, healthy population of native species – including the wolverine.

American Marten

American marten is listed as a Management Indicator Species on the Stanislaus NF and a Species of Special Concern in the state of California but marten occupancy is on the decline (Moriarty 2011). Although recreational activities are not the primary threat to martens, increased human activity can increase stress to individuals and habitat with limited human use is important for marten survival. As marten are active throughout the winter and thus often present in areas where snowmobiling occurs, it is important for the Forest Service to take steps to mitigate OSV

impacts on this species. Martens travel on top of the snow but also utilize the subnivean zone, especially during very cold weather. Limiting the size of play areas, or restricting OSVs to designated routes, are two tools that can be used to protect subnivean habitat. We also recommend following the lead of other National Forests, such as the Plumas, and implementing trail closures or re-routing portions of trails within ¼ mile of marten den sites. In addition, we recommend restricting OSV activity within suitable marten habitat, especially in areas where the Forest has evidence of marten detections from baited photo-detection cameras or track plates. The Pacific Valley near natural area and the Eagle/Night roadless area both have proven detections documented by Forest biologists and by CSERC doing cooperative surveys in partnership with the Forest. Those areas should remain non-motorized in order to avoid disturbance and stress for martens.

Pacific Fisher

The Pacific fisher is a candidate for listing under the Endangered Species Act and is listed as a Region 5 Sensitive Species. It is also a Management Indicator Species on the Stanislaus NF although the animal is not currently proven to still be present within the Stanislaus NF. Human activity directly threatens fishers through poaching and trapping and indirectly by causing behavioral or habitat use modifications (Naney *et al.* 2012). Therefore it would be important to assess the impacts of, and possibly curtail, potentially disturbing motorized recreational activities within areas where fisher habitat is formally designated for special consideration by the current existing Stanislaus Forest Land and Resource Management Plan. Absent documented evidence that the fisher is no longer present within the Forest, the agency should assume residual pockets of remaining animals and should manage suitable habitat to support the recovery of the population.

Birds

Many threatened or sensitive bird species, such as the bald eagle and northern goshawk great gray owl, California Spotted owl, peregrine falcon, and golden eagle, occupy areas that also provide high-quality recreation opportunities. We will delve into noise impacts from OSVs later in these comments, but would like to stress here that it is important to consider how excessive noise related to motorized recreation may impact breeding birds. Many birds rely on auditory communication which can be disrupted by anthropogenic sources of noise. We recommend locating snowmobile staging areas and groomed trails away from known sensitive species nesting areas or winter roosting areas. Existing monitoring and closure actions to protect activity centers and winter roosting areas should be continued.

Subnivean Mammals

Compacted snow fundamentally alters habitat quality in the subnivean zone (Keddy *et al.* 1979, Sanecki *et al.* 2006). Small mammals, including marten and Sierra Nevada snowshoe hare, which remain active during the winter depend on the insulated space between the snowpack and ground for winter survival.

Winter temperatures, even with snow cover, are stressful to small mammals (Schwartz *et. al.*, 1964, Fuller 1969, Fuller *et al.* 1969, Brown 1970) and many small mammal species depend on the insulated space between the frozen ground and the snow for survival. 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).

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. Likewise, Sanecki et al. (2006) documented a decline in small mammals following destruction of the subnivean zone following snowmobile activity. Population declines of small mammals undoubtedly impacts the species that prey upon them, creating ecosystem level disturbance. Sierra Nevada red fox and American marten almost certainly prey upon subnivean mammals and thus are impacted by any changes to these small mammal populations. We suggest limiting the size of OSV play areas in order to protect subnivean habitat and the species that depend (directly or indirectly) upon it.

Amphibians

Several amphibian species are federally listed as endangered (Sierra Nevada yellow-legged frog) or threatened (Yosemite toad, California red-legged frog) and the Stanislaus NF must avoid negatively impacting these species when designating routes and areas that are open to winter motorized use. Although direct mortality to fish and amphibians from OSVs is unlikely, the indirect effects of OSV exhaust and associated pollutants pose a concern. Pollutants from snowmobile emissions are deposited upon and accumulate within the snowpack throughout the winter (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). Researchers have 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 (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. 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 pollution pulse and its subsequent effect on aquatic systems is of particular concern for sensitive aquatic species. These species are sensitive to pollutants that have been trapped in the

snowpack and melt into surface water. In addition, frogs that emerge in the spring and travel over ice and snow may be directly threatened by OSVs.

The "pre Proposed Action" released this spring included a proposal to end the snowmobile season on April 14 for several areas on the Stanislaus NF. This closure date would ensure that snowmobiles would not directly impact sensitive amphibian habitat and would avoid or limit any direct interactions between these species and snowmobiles. We believe the snowmobile season should end, Forest-wide, on April 14 to protect wildlife habitat, limit damage to vegetation and soils, and reduce the chances that OSVs will travel across insufficient snowpack.

Stanislaus Meadow is one of the few places in the entire Stanislaus National Forest where Sierra Nevada yellow-legged frogs are proven to breed. This unique, and rare, habitat area must be protected to the highest extent possible in order to best protect this vanishing species. Snowmobiles should not be allowed in Stanislaus Meadow simply relying upon a deeper snow depth to somehow ensure protection for the SNYLF. In particular, the Forest Service is fully aware that expectations that snowmobile riders will self-restrict riding to only areas with the required snow depth is an expectation that will not be realistic for some riders. Accordingly, eliminating any legal snowmobile use in Stanislaus Meadow and surrounding areas is essential for protection of the species.

Pollution concerns

Impacts to air quality

Two-stroke engines, which represent the vast majority of OSV use on NFS land, are particularly dirty and polluting machines. A two-stroke snowmobile can emit as many hydrocarbons and nitrogen oxides as 100 cars and create up to 1,000 times more carbon monoxide (EPA, 2002). Since that study was performed, cars have become substantially cleaner but most snowmobiles continue to use older technology. In addition snowmobiles, emit significant amounts of carbon dioxide (USDI 2000), which is classified as an air pollutant under section 302(g) of the Clean Air Act and is well-documented to contribute to climate change.

Two-stroke engines emit many carcinogens and pose a danger to human health (Eriksson et al. 2003, Reimann et al. 2009). 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). 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 humans and animals well short of fatal doses (EPA 1993). Carbon monoxide – even at levels meeting OSHA standards – is particularly harmful to humans engaging in active sports (such as skiing) because it interferes with the ability of human blood to transport oxygen. Winter recreationists are especially at risk because the concentration of these emissions increases with elevation and cold (Janssen and Schettler, 2003). Yellowstone National Park conducted many studies examining how, and at what levels, OSVs impact human health. Studies in the park have shown that park personnel were exposed to dangerously high levels of pollutants when 2-stroke

machines were allowed in the park. By requiring 4-stroke machines that utilize Best Available Technology this exposure has been dramatically reduced (Spear and Stephenson, 2005).

In a study on the Medicine-Bow National Forest Musselman and Korfmancher (2007) documented a decline in air quality with increased snowmobile activity. They measured higher ambient concentrations of CO_2, NO_x, NO, and NO_2 at a snowmobile staging site and found significantly higher concentrations of these air pollutants on days with significantly more snowmobile activity. The researchers concluded that snowmobile exhaust was degrading air quality.

Due to concerns with air pollution, particularly at OSV staging areas or where OSV use is concentrated, we recommend separating motorized and non-motorized winter recreationists to the extent possible. Separate parking areas for motorized and non-motorized users will help skiers and snowshoers limit their exposure to snowmobile exhaust. Separating parking areas will also help to relieve congestion as snowmobile trailers take up considerably more space than passenger cars and trucks, often leaving little or no room for non-motorized users to park at trailheads. Designating trails for non-motorized use gives skiers and snowshoers the option to avoid snowmobile exhaust and other issues that cause conflict between non-motorized and motorized winter trail users. In addition, the forest is required to protect the Class 1 airsheds within the designated Wilderness on the forest.

The creation of closed areas in our Alternative addresses the desire of nonmotorized recreationists to breathe clean air and to protect Class 1 airsheds in and near the forest.

Water quality impacts

Earlier in these comments we discussed concerns about snowpack pollution in regards to amphibians. Here we would like to emphasize our overall concerns with water quality.

Not only do snowmobiles increase air pollution – quite significantly in areas where many machines are concentrated – this pollution settles into the snowpack and affects snow chemistry. Musselman and Kormacher (2007) found that many changes to snow chemistry on snowmobile trails when compared to untracked powder. These changes included elevated numbers of cations and some anions and a significant drop in pH. Other studies have shown that snowpack concentrations of ammonium and sulfate positively correlate with snowmobile activity (Ingersoll 1998). Concentrations of toluene and xylene in the snow are also positively correlated with snowmobile traffic (Ingersoll 1998). Likewise, snowpack concentrations of benzene are higher in areas with heavy snowmobile use (Ingersoll 1998). When the snow melts, these pollutants, which are stored in the snowpack throughout the winter, are released in a concentrated pulse and can seep into groundwater or enter surface water.

Many forests restrict or prohibit snowmobile activity within municipal watersheds, and we recommend that this forest consider taking similar steps. For instance, recreational snowmobiling is not allowed within the municipal watersheds for the cities of Bend, OR or Salt Lake City, UT. Likewise, snowmobile traffic should be directed away from surface water. Just as "leave no trace" guidelines and Forest Service regulations help safeguard water quality by prohibiting camping within 300 feet of lakes and 150 feet of rivers and streams, snowmobile

trails should be located away from surface water. The BMP document that we have developed recommends locating snowmobile trails at least 300 feet away from lakes and 150 feet away from rivers and streams and prohibiting cross-country travel over frozen lakes

In addition to concerns with exhaust deposition onto the snowpack, we would also like to highlight an often over-looked water quality issue related to OSVs. Both early and late in the season snowmobiles often travel over bare ground or areas with little snow to access trails and play areas, leading to the same erosion and soil compaction issues that are commonly associated with wheeled motor vehicles. Adequate snowpack can help prevent these issues. There should be at least 12 inches of snow before allowing snowmobile trails to be groomed. Off-trail use should not be allowed until there is at least 18 inches of snow on the ground.

Noise Pollution

Silence is a valuable and fragile resource that can easily be shattered by snowmobiles (Vittersø et al. 2004). 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. A noise study from Yellowstone National Park 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 (NPCA, 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 (NPCA, 2000) and even four-stroke snowmobiles can be audible from as many as 8 miles away (Burson, 2008).

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 (Luckenbach 1975, Wilshire *et. al.,* 1977, Bury 1980).

Many people visit the forest in the winter with the expectation that they will experience silence or natural soundscapes,.and it is important that this opportunity be afforded to those who cannot travel deep into the Wilderness. In order ensure that there are places on the landscape where both people and wildlife can escape the sound of snowmobiles it is important for the Forest Service to consider how sound travels when designating motorized and non-motorized areas. Many of the terrain features that lend themselves to natural boundaries, such as ridgelines and rivers, can also help to buffer noise. By using these types of terrain features to demarcate motorized and non-motorized areas the Forest Service will be able to better enforce travel regulations and non-motorized areas will be quieter.

In defining the boundaries of the closure areas included in our Alternative, we have considered noise impacts. It is important that areas be protected where users can be assured of experiencing natural soundscapes.

Soil and Vegetation Damage

Pollution from OSV exhaust contains a number of elements that can damage 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); 2) sulfur dioxide which is taken up by vegetation and can cause changes in photosynthesis (Iqbal 1988); 3) oxides of nitrogen which may be harmful to vegetation or may act as a fertilizer, causing changes in plant species composition (Falkengren-Grerup 1986); 4) organic gases such as ethylene, to which plants may be extremely sensitive (Gunderson and Taylor 1988); and 5) heavy metals which may cause phytotoxic damage.

OSVs can cause significant damage to land cover 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).

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 that compaction may affect the soil surface microstructure, early spring germination and growth, seed dispersal from capsules still attached to dead stalks, and may modify seed predation patterns by subnivean rodents.

Abrasion and breakage of seedlings, shrubs, and other exposed vegetation frequently result from snowmobile travel across a landscape (Stangl, 1999). Although these impacts may not be environmentally significant when they occur in robust forest environments, they can be very significant when they occur in sensitive forest habit, such as high mountain slopes or meadows. A recent study on the Gallatin National Forest (MT) found 366 acres of trees damaged by snowmobiles on timber sale units - slowing forest regeneration (WWA 2009).

One way to limit damage to vegetation and soils is to ensure that there is sufficient snow cover before allowing OSV use in an area. Our BMPs recommend a minimum snow depth of 18

inches before allowing cross-country travel and 12 inches before allowing grooming. We also recommend setting a specific snowmobile season (December 1 – April 14), with these dates serving as "bookends" before and after which OSV use is not allowed at all. This helps to ensure OSVs are not traveling through areas where snow has melted or not yet accumulated.

Sensitive Plant Species

The Forest Service is required to maintain plant diversity and ecosystem integrity and included in this charge is the identification of rare and sensitive plants. A conservation plan for sensitive species in areas where dispersed winter recreation takes place outside of ski resorts typically does not exist for sensitive species. Such plans would support plant viability and protection of wildlife where needed. Winter travel planning is an opportunity to establish conservation plans for sensitive plants (and animals) that live in snow areas. We request that the Stanislaus NF create winter conservation plans for sensitive species as part of over-snow vehicle management planning.

There are a number of sensitive plant species on the Stanislaus NF. While many of these species are dormant during the snow season, others are vulnerable to impacts from OSVs if proper restrictions are not in place. Of particular concern is whitebark pine. Whitebark pine are slow growing conifers that are found in high elevation mountain environments – often the same areas that are desirable for cross-country OSV travel. Because trees are not covered by snow like many other plants are in the winter they are vulnerable to mechanical damage. OSVs run into mature trees, snapping branches and damaging trunks and over smaller trees that are partially buried in the snow. Under the best of circumstances this damage merely slows growth but can also lead to tree mortality.

The Forest Service should only permit snowmobile use when there is sufficient snowpack to protect soils and vegetation. As we have stated previously in these comments, and in our BMPs, there should be at least 12 inches of snow before allowing snowmobile trails to be groomed. Off-trail use should not be allowed until there is at least 18 inches of snow on the ground. These standards will help to protect soils, vegetation, and water quality.

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