

Chapter 3 - Affected Environment and Environmental Consequences

3.1 Introduction

The following information provides a summary of the affected environment and the environmental effects on the physical, biological, and social components of the Tony Grove-Franklin Basin area, as related to the proposed action and alternatives. For clarity, the issue statements and indicators used to compare alternatives are repeated below from Chapter 1.

3.2 Winter Recreation Experience

Affected Environment

The Tony Grove – Franklin Basin area is popular with a variety of winter visitors. Being at a high elevation and accessed by a plowed state highway with plowed parking is a big contributor to this popularity. While visitors are often characterized as snowmobilers or skiers each group has diversity within their sports.

For snowmobilers, the majority are trail riders. This type of riding requires the least amount of skill and does not rely on high-powered machinery. Other than groomed snowmobile trails on the Tony Grove and Franklin Basin Roads these visitors do not compete with skiers in this area. In addition to these riders there are also hill climbers and boondockers. Hill climbers are some of the more adventurous of the riders regularly climbing (or high marking) near vertical slopes. They rely on the most powerful machines and advanced riding skills. Access to the steep slopes and deep fresh powder are important to these riders. Boondockers, as described by local enthusiasts, are more focused on traveling long distances through a variety of terrain and need to be adept at hill climbing as well as side hilling. They generally ride loops and intend not to cross their own tracks during an outing. This type of riding requires intermediate to advanced skill as they need to be able to negotiate a variety of terrain during a single ride.

Skiers also have diversity within their groupings. There are resort alpine skiers, cross country skiers, skate skiers, and backcountry skiers. The resort alpine skiers rely on developed resorts with chair lifts to access groomed and powder slopes. This is the largest group classified as skiers. They are not at issue in this analysis. Cross-country skiers are probably the next largest grouping. They generally are the least skilled and spend their time touring flat and very low angle slopes, preferring a groomed or skied-in track. They are probably the largest group of skiers outside of developed downhill ski resorts. Due to the lower skill needs this is generally the first step for starting to ski away from resorts and is popular with families and beginners. Skate skiers usually are more advanced skiers with specialized equipment. Exercise is an important part of their experience. This sport usually requires a wide, smooth, groomed track. In this area skate skiers would largely be found on the groomed snowmobile trails or on groomed Nordic tracks if provided. They directly compete with trail riding snowmobilers for the groomed snowmobile trails or separate space for their own groomed tracks. Complaints about

skiers not moving over for snowmobiles on the groomed trails may be attributed mostly to this group. Backcountry skiers are generally the most advanced and specialized of the ski groups. They are most similar to boondockers in that their activity requires more skill and advanced gear than cross country or skate skiers. They seek a quiet experience in a natural setting where there are opportunities to climb and ski down a variety of slopes ranging from the near vertical for the most advanced to gentler angle slopes for the beginners and intermediate skiers. Snow conditions are critical for this sport and fresh powder is the greatest reward. Backcountry skiers and boondockers have the most competition for terrain areas in their sport.

In addition to these grouping there are other winter visitors to the Tony Grove-Franklin Basin area. Snow shoeing is one of the faster growing winter sports. Equipment is inexpensive and it does not require a high skill level. With snowshoes one can travel most any slopes. There are also a growing number of winter visitors that are referred to in this analysis as Hybrids. They are either snowmobilers who ski/snowboard or skiers/snowboarders who snowmobile. They will snowmobile to a desired location and stop to ski or snowboard down the slopes, climb back up the slopes and then return to the trailhead via snowmobile. While still a minority of visitors, they are often highly skilled and seeking steep powder slopes too far from a trailhead for access without a machine and yet tracked out by snowmobiles. Tony Grove, with many steep narrow chutes and cliff bands for jumping off of, has become a popular area nationally for this sport also. Snowboards are also seen in the backcountry. By either hiking up hill in their boots or using the new technology of the split boards (snow boards which come apart and function as skies for climbing up hills then are fastened back together for the slide down) snowboarders share the backcountry with the other skiers. They are generally seeking the same experience as backcountry skiers, but have different equipment. For the purposes of this report they will be lumped in with backcountry skiers and not discussed separately.

The Tony Grove –Franklin Basin area provides suitable terrain for most of the visitors described above. The extreme terrain of the large bowls in the western edge of the Tony Grove area (Cornice Ridge, Naomi Peak, Mts. Gog and Magog) provides nationally recognized hill climbing for snowmobilers, but is rarely used by skiers due to the distance from the trail head and the extensive use by snowmobiles. Access to these areas is mostly from the Tony Grove Winter parking lot. There are limited loop opportunities, but the extreme steepness and jagged ridges only allow travel from the south to the north on the main ridge sometimes making completing the loop difficult when snow or weather conditions don't allow snowmobilers to climb out of the White Pine drainage to return to the Tony Grove Winter parking lot. This route also requires snowmobilers to cross their own tracks when they return via the Tony Grove Road groomed trail.

The Franklin basin area provides access to some higher bowls above White Pine Lake, at the head of Steam Mill Canyon and at the head of Steep Hollow, also on the western boundary of the area. The lower parts of Franklin basin, closer to Franklin Basin Road, have traditionally provided good intermediate and advanced skiing on the lower bowls such as Steam Mill Peak and the peaks to the north, as well as the north facing slopes in

Steam Mill, Hells Kitchen and Steep Hollow. Due to the higher density of trees in this area it was not heavily used by snowmobiles in the past, but provided desired snowmobile access on the ridge tops allowing boondockers to complete their travel loops.

The number of visitors of the many varieties has not been quantified. Trailhead counts of vehicles can give some idea of the amount of use an area may receive, but can not identify which, or how many, of the various types of visitors described above are associated with the vehicles. These counts are neither systematic nor consistent so they also provide a limited means to measure different types of use. In order to get better, more reliable use data the USFS has initiated a national, scientific means to collect better use numbers that may be comparable on a regional and national level. This effort is called National Visitor Use Monitoring (NVUM). This program randomly samples predetermined locations to establish scientifically reliable data. The Wasatch-Cache National Forest was sampled in 2003 and is again being sampled in 2007. Table 1 describes the percent of participants of the 2003 survey related to winter recreation activities and a comparison of the same categories from a national level. As indicated in the survey results a slightly greater percentage of visitors cross country ski then snowmobile both as a national average and on the Wasatch-Cache National Forest. While these are the most reliable use numbers available they do not necessarily represent the actual use in the Franklin Basin area. NVUM numbers are intended to provide valid use information at a national level for all activities, due to the small sample size of site specific and possible activity specific use numbers may not be totally accurate for the Tony Grove/Franklin Basin Area.

Table 1. Percent of Total Trips to the Wasatch-Cache National Forest for Selected Winter Recreation Activities.

<i>National Visitor Use Monitoring (NVUM) Activities</i>				
	Wasatch-Cache N.F. Use Numbers *		USDA Forest Service- National Use Numbers **	
Activity	Percent Participating	Percent as Main Activity	Percent Participating	Percent as Main Activity
Snowmobiling	2.95	2.38	2.6	2.1
Cross-country Skiing	4.27	3.18	3.9	3.0
Downhill Skiing	28.53	27.76	15.1	14.8

* Kocis et.al. April 2004

** USDA National Forest Visitor Use Monitoring Program, January 2000 – September 2003

While the NVUM numbers indicate a general relationship concerning amount of use, they do not establish how much of that use may be in the project area or even imply how much of the use pertains to the different types users within each type of activity (e.g. how

many of the 2.95 percent of snowmobilers are hill climbers, boondockers, or trail riders). Some trailhead vehicle count have been taken, but they are neither a scientific sample nor do they distinguish between within activity types of use or the where the visitors are traveling (e.g. all of the use at the Tony Grove Winter parking will be using the area, but many of the visitors to Franklin Basin use the road to access the riding in Idaho and do not enter the rest of the project area).

The results of a recreation outing are often discussed in terms of the experience one has and the benefits one receives from the experience. The experience resulting from an outing can have many contributing components. Some components are personal such as if you become ill or if some element of the trip didn't meet prior expectations. Some elements are beyond management control such as the weather. Some elements are of a more personal nature and may relate to issues defined by one's personal values. The Forest Service focuses on providing opportunities for individuals to engage in desired activities in appropriate settings. Opportunities, activities, and settings are part of the management system called the Recreation Opportunity Spectrum (ROS). The ROS provides land management agencies with defined or definable categories (zones) where opportunities for certain activities are allowed. These zones then provide visitors with an understanding of what to expect when they chose to go to a certain area (setting) for a specific activity. Providing the information helps visitors chose the best location for their desired activity so they have the best chance of having a quality, satisfying experience. Often when visitor expectations are not met they have a less satisfying experience. When the reasons for not matching visitor expectations are under management control, the visitors may express their dissatisfaction to the managing agency.

Based on comments to the Forest Service, winter recreation experiences are often less than satisfactory. Conflicts between the motorized and non-motorized winter recreation communities go back to the early 1980's and the decisions to create Wilderness areas on the Logan Ranger District.

These conflicting views are often the case where incompatible uses, generally the clash between mechanized and non-mechanized users, share the same geographic area. (Jackson and Wong 1982). The conflict is also generally asymmetrical, or one way, with non-mechanized winter visitors having their experience negatively affected by mechanized recreation, but mechanized winter visitors do not necessarily have their desired experience affected by the presence of non-mechanized winter visitors.

Many winter visitors come to the Tony Grove Franklin Basin area to get away from the normal weekday routine and relax and enjoy their desired activity. For non-mechanized, visitors may be looking for opportunities for solitude, physical exercise and enjoyment of the natural environment. Mechanized visitors may be seeking the same setting, but are more interested in socializing with other riders, seeking adventure, and enjoyment. For many snowmobilers being out in nature is an important part of their visit to National Forests (Borrie et.al. 2002). They enjoy the quite and solitude while sitting on a remote ridge top with their machines turned off. However for skiers, the journey may be the important part of their outing and they desire the quiet (ambient noise) skiing in an unaltered natural environment can provide for their entire trip.

Due to the relatively small size of the Franklin Basin/Tony Grove area solitude with mixed uses will be difficult to find. However, boundaries can be drawn to minimize the sounds of machines and improve safety. Separation of uses by physical or temporal boundaries may decrease the level of conflict over time.

Environmental Effects

3.2.1 Motorized winter recreation experience

Issue Statement: Implementation of the proposed action or the alternatives may affect the motorized winter recreation experience.

Indicators used to compare alternatives:

- Safety and Egress
 - Amount of flexibility within an alternative, to take alternate routes coming out of the higher terrain (to adjust to changing weather, snow, or avalanche conditions)
 - Relative accommodation for emergency and mechanical egress to trailheads
- Dispersal/Crowding
 - Relative amount of area open to motorized use within the project area
 - Availability of parking at trailheads

Alternative 1

In general, with spatial separation of use this alternative addresses the most of motorized visitors' issues. Some motorized users preferred this alternative with the additions included in Alternatives 1a, 1b, or 1c.

Safety and Egress

For snowmobilers, safety concerns relate to the flexibility to find safe routes out of the higher terrain and back to the parking areas if conditions change (weather, snow conditions, and avalanche terrain). They are also concerned about finding emergency egress out of the backcountry in case of medical emergencies or mechanical breakdowns.

Motorized access is maximized in this alternative relative to other alternatives having uses separated by closures, except for Alternative 1A because 1A includes the area around the “big curve” to the south and west of the Tony Grove parking area.

Access to and from the high backcountry bowls is provided down through Tony Grove, through White Pine Canyon, and down Steep Hollow. A snow trail from the Tony Grove to Franklin Basin trailheads is provided to maximize safety exiting the backcountry and

return visitors to the trailheads. Adequate safety routes for escape are provided for motorized users in this alternative. Therefore, accommodations are available for emergency and mechanical egress to trailheads.

Dispersal/Crowding

Concerns were raised through scoping that additional closures would not allow motorized visitors to disperse throughout the area creating crowding in the remaining motorized areas. There were also concerns expressed regarding availability of parking at trailheads.

This alternative has the greatest increase in areas open to motorized use, from the existing condition (Alt. 3), where use is restricted spatially, except for Alternatives 1a and 1c. Closures based on timing (Alternatives 2, and 5) have larger contiguous areas, but are closed some of the time to motorized use and therefore probably offer less terrain. Alternative 7 has no restriction on motorized use and therefore offers the most terrain for motorized visitors. Therefore, dispersal and crowding would not be a concern under this alternative.

Alternative 1A

In general, this alternative is the same as alternative 1 except that it adds a 20-foot wide groomed snow trail between Franklin Basin and Tony Grove parking areas. It also opens to motorized use a small area to the south and west of the Tony Grove parking area (referred to as the Big Curve).

Safety and Egress

This alternative is similar to Alternative 1 except that for motorized visitors coming down out of the backcountry the wider, fully groomed snow trail would provide a more easily recognizable boundary by which to return to either trailhead. Effects for safety and egress would be the same as Alternative 1.

Dispersal/Crowding

Effects on dispersal and crowding would be the same as Alternative 1.

Alternative 1B

In general, this alternative is similar to Alternative 1, 1a, and 1c, but it does not provide a snow trail between the Tony Grove and Franklin Basin parking areas. It provides for motorized access from the private property. It also provides a signed trail north of the Bunchgrass closure for egress from White Pine and Steammill Canyons to the Franklin Basin parking area.

Safety and Egress

This alternative provides a moderate amount of flexibility similar to Alternative 1, 1a and 1c, but less than Alternatives 2, 5, or 7. It provides more flexibility than Alternative 3. Travel south from White Pine Creek to the Tony Grove parking area would not be available. This alternative provides moderated accommodations for egress due to emergencies or mechanical breakdowns. It provides fewer accommodations than Alternatives 1, 1a, 1c, 2, 5 or 7, but more than Alternatives 3 or 6. Those visitors who snowmobile from the Tony Grove parking area down into White Pine Canyon and are not able to climb back out of White Pine Canyon would have to travel to the Franklin Basin parking area. This meets the criteria for emergency and medical egress from the high bowls, but would omit a convenience loop between the two parking areas.

Dispersal/Crowding

This alternative provides a relatively moderate amount of area open to motorized use and is about the same as Alternatives 1, 1a, and slightly less than 1c. It provides for less dispersal than Alternatives 2 or 5 when they are open to motorized use or Alternative 7 that is all open to motorized use. It provides for better dispersal than Alternatives 3 or 6 due to the opening of White Pine and Steam Mill canyons.

Effects on crowding would be greater than Alternatives 1, 1a, 1c, 3 and 6, due to the lack of ability to travel between and chose the Franklin Basin or Tony Grove parking area. Effects on crowding would be less than Alternatives 2, 5, or 7 which allow travel anywhere when open to motorized use.

Alternative 1C

In general, this alternative is similar to Alternative 1a. regarding effects to motorized recreation.

Safety and Egress

This alternative provides moderate to high flexibility to take alternate routes from the backcountry. It is slightly more flexibility than Alternatives 1 and 1a due to the opening of the big curve and opening the Twin Creeks area that may facilitate spring travel to and from Tony Grove when the road melts out and more flexibility than Alternative 1b which doesn't provide for travel between parking areas. It provides less flexibility than Alternatives 2, 5, or 7 which allow travel anywhere during the time that portion of the project area is open to motorized use.

Accommodations for emergency egress are moderate to high, but are similar to Alternatives 1, 1a, and 1b. It is less than for Alternatives 2, 5, or 7 that allow travel

anywhere during the time that portion of the project area is open to motorized use. It provides for more egress than Alternative 3.

Dispersal/Crowding

This provides for moderate dispersal similar to Alternatives 1, 1a, 1b except it may improve dispersal from the Tony Grove parking area to the high bowls above Tony Grove Lake by opening to motorized use the ridgeline near Theurer Hollow. This may provide over- and travel when the Tony Grove road melts-out in areas with southern exposure.

Effects on crowding would be the same as Alternative 1.

Alternative 2

Safety and Egress

This alternative would allow motorized visitors to enter and exit the project area wherever they wished during an on/off two-week opened period, so egress or emergency routes would not be necessary and motorized visitors could travel where they desired. Visitors unfamiliar with the area may have a more difficult time traveling safely as they will not be familiar with the terrain and signing and marked routes will not be provided. Adequate safety routes for escape are provided for motorized users in this alternative. Therefore, accommodations are available for emergency and mechanical egress to trailheads.

Dispersal/Crowding

This alternative closes the project area to motorized use for two weeks eliminating use in the general area from Twin Creek to Franklin Basin for that time period and requiring motorized visitors to use other areas. This could increase use during the two-week period the area is open to motorized use, but may not automatically be considered crowded, as current densities in the backcountry are low.

Crowding at the trailheads could be a factor when motorized visitors try to access the project area on their two weeks of open access. Parking lots already fill up on most Saturdays and holidays during the middle of the season. This problem has increased as the size of the trucks and trailers has expanded, but the parking lots have stayed the same.

Alternative 3

In general, this alternative preserves the high elevation bowls desired by the motorized users, but the non-motorized closure blocks access back to the trailhead from these bowls if weather or snow conditions change or during medical emergencies or mechanical breakdowns.

Safety and Egress

Safety concerns were expressed regarding this alternative. This alternative provides the fewest options for egress from the backcountry high bowls than all of the other alternatives allowing use. The non-motorized closure in the lower elevations of Bunchgrass, Steam Mill, and White Pine Canyon cut off a traditional route out of the White Pine Creek drainage across the summer trail in the middle of Bunchgrass and out of the gravel pit and back to the Tony Grove parking area. The desired travel route for boondocking the high bowls above Tony can only be traveled from south to north. This loop route drops into the head of the White Pine Creek drainage by White Pine Lake. Under certain snow conditions (particularly soft spring snow) motorized visitors are not able to climb back out of the White Pine drainage to return to the parking lot down Tony Grove road.

This alternative also blocks access into the lower portion of Steam Mill Canyon. In order to access these high bowls snowmobilers must drop in from the top of the ridge and are then required to climb back out and would have to travel north through very difficult terrain to exit through Steep Hollow. That would take them to the Franklin Basin parking, but not back to the Tony Grove parking where they started. Therefore, overall safety and egress is limited when compared to alternatives 1, 1a, 1b, 1c, 2, 5, & 7.

Dispersal/Crowding

This alternative has less area open to motorized uses than Alternatives 1, 1a, 1b, 1c, and 7. It has slightly more area open to motorized use than Alternatives 5 and 6. During previous implementation of this alternative, crowding in the backcountry was not raised as an issue and motorized visitors have been able to disperse from the trailhead into very low-density groups at various locations in the backcountry. Crowding at the trailheads is an issue about 20 days per season when parking areas may fill up most Saturdays and holidays in the middle of the winter.

Alternative 4

This alternative allows for no motorized or non-motorized use in the project area.

Safety and Egress

There is no use in the project area so there would be no safety concerns. There would be no access to egress from.

Dispersal/Crowding

Motorized visitors would lose the opportunity to play in this area and may travel to find similar terrain in less familiar areas. Safety may also decline indirectly due to an increase in the number of riders sharing high, steep bowls in areas like Providence Peak, Millville, and some of the bowls in S.E Idaho. The opportunity for motorized use would not exist in the analysis area.

Alternative 5

In general, this alternative provides flexible access and egress to and from desirable snowmobile areas, but not all in the same year. With the project area divided into two parts motorized visitors would lose some opportunities in any specific year.

Safety and Egress

This alternative allows flexibility to take any route in and out of the area open to motorized use that year. When using the southern half, with the boundary at the north ridge of White Pine Canyon, those visitors riding the loop trail and unable to get out of the White Pine drainage could take the traditional route out through the gravel pit or continue down the canyon to Highway 89 if needed due to a medical emergency or mechanical breakdown.

When using the northern half, motorized visitors could also come down anywhere. Access to Steammill may be improved if the boundary allows access from the low elevations of the canyon to the high bowls. Adequate safety routes for escape are provided for motorized users in this alternative. Therefore, accommodations are available for emergency and mechanical egress at any location available to snowmobiles.

Dispersal/Crowding

This alternative, although it alternates areas open to motorized use yearly, would provide about the same amount of open area as Alternatives 1, 1a, 1b, 1c, 3, and 6. Due to the project area being divided into two parts, crowding could be a problem at the trailheads. The alternative only provides one parking area for each open area. When motorized use is in the southern half, the Tony Grove parking area would probably be full most weekends, holidays, and a few weekdays during the season, with some visitors being displaced to other areas. When motorized use is in the northern half, parking may be less crowded due to a larger facility for parking.

In the backcountry visitor densities would be higher. In the southern half this would be less of a problem as the desired high bowls are larger and can accommodate more users. There are also more areas to spread out to (Naomi Peak, Gog, MaGog, and the bowls of upper White Pine Canyon). Parking would also limit the numbers able to access the area.

In the northern half there are fewer desirable high bowls to hill climb and user densities could increase enough that crowding may occur in the Steammill and Steep Hollow bowls.

Alternative 6

In general this alternative provides some flexibility in egress from the high bowls in the project area. A convenience egress route is provided out of White Pine Canyon back to the Tony Grove parking area. The alternative does bisect the motorized area by closing all of Steammill Canyon to motorized use eliminating the possibility of travel across the western boundary of the project area.

Safety and Egress

This alternative does not provide as much flexibility to take alternate routes out of the high bowls along the western boundary of the project area as Alternatives 1, 1a, 1b, 1c, 2, 5, 6, or 7. Alternative 4 does not allow any use in the project area and Alternative 3 does not provide an egress route out of White Pine Canyon, but does allow motorized travel across the western boundary of the project areas connecting Tony Grove to Steep Hollow for the highly skilled motorized visitor.

Egress for emergencies and mechanical breakdowns are provided from the Tony Grove high bowls back to the Tony Grove parking area. There is no motorized access to Steam Mill Canyon so no egress is needed. Adequate safety routes for escape are provided for motorized users in this alternative. Therefore, accommodations are available for emergency and mechanical egress to trailheads in the open areas.

Dispersal/Crowding

This alternative provides the least amount of area open to motorized use of the alternatives using spatial separation (Alternatives 1, 1a, 1b, 1c, and 3) except for Alternative 4, which closes the entire area to all use. It provides a similar amount to Alternative 5 during the time when the southern half is opened to motorized use, but more terrain than when the northern half is open to motorized use. Alternative 7 provides the maximum amount of area open to motorized use.

This alternative does propose new trailheads in the project area for both motorized and non-motorized visitors. Development of the new trailheads could alleviate parking problems in the project area.

Alternative 7

This alternative allows for motorized travel anywhere in the project area at any time and does not provide for any separate non-motorized areas.

Safety and Egress

This alternative provides total flexibility to take any route from the high country to a trailhead. Egress due to medical emergencies or mechanical breakdowns could occur anywhere.

Dispersal/Crowding

This alternative opens the entire project area to motorized use providing the most area open to motorized use of any alternative. Parking at trailheads would still be crowded on some Saturdays and holidays during the mid-winter months.

3.2.2 Non-motorized winter recreation experience

Issue Statement: Implementation of the proposed action or the alternatives may affect the non-motorized winter recreation experience.

Indicators used to compare alternatives:

- Safety (collisions and confrontations)
 - Amount of area with separation-of-use
- Reasonable access from parking areas
 - Relative accessibility to a variety of terrain from parking areas
- Air quality
 - Compliance or non-compliance with Clean Air Act air quality standards at the Tony Grove and Franklin Basin parking areas
 - A qualitative comparison of exhaust fumes detected by skiers (the smell of exhaust as it affects the non-motorized experience)
- Noise
 - Noise and the relative effect on the winter non-motorized experience
- Untracked powder
 - Areas of powder untracked by snowmobiles available to skiers

Alternative 1

Some skiers commented that snowmobiling and skiing are incompatible uses and give rise to conflicts when the two activities are done in the same area. Specifically, smelling exhaust fumes and hearing engine noise detract from the experience of skiing in an undisturbed, wild setting. Also, snowmobiles leave tracks through fresh snow, reducing skiers' opportunities to ski untracked powder.

Safety

The issue of safety was a concern for both non-motorized and motorized visitors. Some skiers are concerned that shared use areas are unsafe. Concerns were raised that snowmobilers highmarking on steep slopes above skiers could generate an avalanche that might injure or kill those trapped below by the moving snow. Travel through or across shared use corridors raises concerns about collisions and unfriendly confrontations between non-motorized and motorized visitors. Unfriendly confrontations between the two groups have escalated as perceived threats to their winter recreation opportunities increase. There were also safety concerns related to injuries due to increased risk from hitting snowmobile tracks buried under snow while skiing shared-use slopes.

The potential effects to safety are determined by the amount of area providing separation-of-uses. Concerns have been raised regarding hazards in the backcountry, hazards on shared trails, and confrontations in shared parking areas.

Considering direct effects, this alternative proposes less area for separation of uses than Alternatives 2, 3, 5, or 6, and therefore may be considered to provide fewer safe backcountry areas. Alternative 1 is similar to Alternatives 1a, 1b, and 1c as far as areas available are concerned. Alternative 1a has very slightly more area open to motorized use, but the opened area described as the "Big Curve" does not interfere with access to the nearby non-motorized area. Alternative 1b provides the same boundaries as Alternative 1. Alternative 1c moves the southern boundary of the motorized area to the Twin Creeks drainage, which sees very little skier use. Alternative 4 allows no winter recreation use and would be the safest alternative for the project area, but will displace both groups to other areas with unknown safety concerns. Alternative 7 provides no separation-of-use and would then be considered to provide the least safety of any alternative.

Safety issues would increase on the groomed trail system. There would be little change in the Tony Grove area as skiers have a suitable route up Tony Grove Creek to the higher country if they chose to go there which is a rare occurrence from this trailhead. Non-motorized access into Bunchgrass would be impacted by the snow trail also in Alternatives 1a, 1b, 1c, and the egress route in Alternative 6. In Franklin Basin skiers accessing the Hell's Kitchen non-motorized area would have to pass through motorized areas and cross the snow trail. Skiers could travel on the Franklin Basin road, but high snowmobile speeds and heavy traffic have created safety concerns there. They could also

travel off of the road through the meadows and trees, but there would still be safety concerns related to sight distance and mixing pedestrian and motorized traffic.

The snow trail would provide new opportunities for non-motorized and motorized visitors, but would also be a safety concern. The groomed trail from the Franklin Basin parking lot would improve access to White Pine Canyon and from there over to the Tony Grove parking lot, but high speeds facilitated by the groomed surface and limited sight distances related to the rolling terrain and numerous trees would decrease the safety for visitors and in particular groups of non-motorized mixing with motorized visitors.

Concerns have been raised about the intersection of the snow trail and the ski trail in the bottom of the Bunchgrass drainage. At this intersection the sight distance is limited to just over 200 feet for skiers coming down the canyon. Snowmobiles traveling west from the White Pine drainage would come down a step hill just prior to the intersection. While skiers can generally hear snowmobiles coming, they would be coasting down the hill at this location making minimal sound. In bad weather during poor visibility there is an increased safety concern. Some have proposed that this trail would be attractive to non-motorized visitors, however it does not provide a setting much different from the Franklin Basin road or any of the other groomed winter trails.

Given the considerations above, Alternative 1 would provide a moderate level of safety, the same as Alternative 1c. It provides roughly the same amount of area of separation as Alternatives 1a, 1b, and 1c, but it provides slightly less protection than Alternative 1b, which does not require crossing a snow trail to access Bunchgrass. It provides slightly more than Alternative 1a due to the increased volume and faster traffic on the wider groomed trail. It provides less safety for non-motorized visitors than the rest of the alternatives (2, 3, 5 and 6) except for Alternative 7 that provides no separation-of-use and therefore is rated the lowest for non-motorized safety. Alternative 4 would be the safest for the project area because it does not allow any use.

Reasonable Access from Parking Areas

Access from existing parking into the backcountry for skiers would either be through a shared-use area or across the shared-use snow trail. Access from the Tony Grove parking lot is through a non-motorized area (not including the parking), but does require crossing the snow trail. Access from the Bunchgrass non-motorized parking area is entirely in the non-motorized area, but requires crossing the Highway 89 and the snow trail about one half mile from the beginning of the trail. Access to the Hell's Kitchen drainage also requires travel in a motorized area, typically on the groomed Franklin Basin road.

Relative to the other alternatives, Alternative 1 provides moderately good access from parking to a variety of terrain the same as Alternative 1c. It does not provide access to or any separation-of use in any of the high bowls adjacent to the Wilderness boundary. Access from the Bunchgrass parking requires crossing the snow trail, but the snow trail is not as wide or smoothly groomed so use may be less and speeds may be lower. Access to the Hell's Kitchen non-motorized area requires traveling approximately one mile through a shared-use area or on a high use groomed snowmobile trail.

Air Quality/Smell of Exhaust

The area where the highest potential for poor air quality would occur is in the parking areas because of the concentration of the snowmobiles. The average total daily number of snowmobiles at the West Entrance in the Yellowstone National Park air quality study was 923 compared to the highest average number of snowmobiles Franklin Basin parking lot of 40. The number of snowmobiles at the Tony Grove or Franklin Basin parking lots is less than 5 percent of that at the West Entrance areas of Yellowstone National Park. It is expected that very little effect to air quality will occur from snowmobile use in the project area based on the same conclusions in the 2003 Wasatch-Cache National Forest Revised Plan FEIS. Cumulatively, no adverse air quality effects are expected because the traffic in Logan Canyon is low and intermittent.

Air quality direct, indirect and cumulative effects are expected to be the same as the no action alternative (Alt 3) because the total amount of snowmobile use would be the same. Therefore, the effect on air quality would be the same.

The effect of exhaust smell on the non-motorized experience is related to separation-of-use. The more distant motorized and non-motorized uses are (in time and/or space) the less likely the smell of exhaust will negatively affect the non-motorized users' experience.

Because there is some separation of use provided for in Alternative 1, there would be some relief provided from the smell of exhaust for non-motorized users. Effects of Alternatives 1A, 1B, and 1C would be the same as Alternative 1, related to smell of exhaust because non-motorized closure areas are the same. However, these alternatives would not be as effective as Alternatives 2 or 5 (complete separation of use), or Alternatives 3 or 6 (larger non-motorized areas, hence greater separation of use). Alternative 7 has no separation of use, so the likelihood of smelling exhaust would be greater than other alternatives, in those areas in which both motorized and non-motorized users recreate at the same time. Alternative 4 would have little to no effect since there would be no motorized or non-motorized use.

Noise

The issue of noise was raised by skiers as negatively impacting their desired experience for quiet and enjoyment of an undisturbed wild setting. The method of analysis is to measure the amount of sound generated by snowmobiles at selected locations. The discussion will focus on the relative effect of noise on the non-motorized visitor.

Several factors may affect the experience of people who hear snowmobiles. Some people are more sensitive to and bothered by the sound of snowmobiles and some are not (Vitterso et.al. 2004). The distance from the snowmobile lessens the loudness of the sound. Ridgelines and vegetation form physical buffers to sounds and decrease or

redirect the sounds. Hill climbing in the high bowls at the head of the drainages may increase the sound level throughout the drainage, especially machines with exhaust pipe modifications.

The effects of snowmobile noise on a person's experience would be similar to Alternative 1c. It would have more effect on non-motorized visitors than Alternatives 1b, 2, 3, 5, and 6. There would be less noise impacts than from Alternatives 1a and Alternative 7. Alternative 1a due to the wider, groomed trail across the bottom of the Bunchgrass ski closure would likely result in higher speeds and therefore more sound generated along the trail which has few topographic buffers as it crosses the bottom of the non-motorized area. This alternative would have a moderately high effect on the skiers experience due to motorized use being allowed in the White Pine and Steam Mill drainages and ridges. High marking in the lower sections of White Pine Canyon and riding the south ridge of Steam Mill Canyon will be in direct line of sight to the majority of the Bunchgrass closure. This will increase the likelihood and intensity of sound there, especially from machines with exhaust system modifications. The snow trail will increase motorized traffic along the eastern boundary of the Bunchgrass closure increasing the sound levels at the lower extents of the canyon as well. Sounds may be most objectionable where the snow trail crosses the ski trail in Bunchgrass and there is more concentrated use of all types and skill levels.

Another aspect of snowmobile noise is the potential harm to a person's hearing because of the loudness of the engine. Based on snowmobile noise levels measured at the Tony Grove area on April 14, 2006, no harm to hearing is expected to people near the snowmobile because noise levels are loudest right next to the machines at high speeds and this would occur for a very short period of time. When snowmobiles are next to someone for a longer period of time they would be idling and snowmobile noise at idle is low enough to not harm a person's hearing. As shown in Tables 1 and 2 in the Specialist Report, the average noise level of snowmobiles drops to levels that will not harm hearing within 300 feet of a snowmobile at high speed. No adverse effect to hearing is expected from snowmobiles because snowmobiles in concentrated areas such as parking lots are there for a short period of time and disperse during use.

Opportunities for Untracked Powder

Of the alternatives with spatial separation of uses (1, 1a, 1b, 1c, 3, 5, 6) this alternative provides a moderate amount of area with separation- of-uses (see technical report for actual acres). It is about the same as the amount of non-motorized area in Alternatives 1a and 1b. Alternative 1 provides less non-motorized area than Alternative 1c, but the area added does not provide very valuable powder skiing. The alternative provides fewer opportunities for powder than Alternatives 3, 5, or 6. Alternative 2 provides more area for powder snow, but because it alternates between motorized and non-motorized every two weeks. Depending on storm cycles and intensity this could mean there are only opportunities for fresh powder skiing less than 40 % of the season. While this alternative retains desirable non-motorized areas in Bunchgrass and Hell's Kitchen, it removes from motorized closure all of mid and lower White Pine and Steam Mill

Canyons shown closed in Alternative 3. While White Pine Canyon provides little for the backcountry skier it may be desirable for the cross-country skier. Steam Mill Canyon offers good backcountry terrain for intermediate to advanced skiers on the north facing slopes.

Alternative 1A

In general, this alternative may increase motorized use through the Bunchgrass closure and may increase the level of sound heard in the lower portions of the Bunchgrass closure. It also opens a small amount of additional terrain that provides little for the non-motorized visitor except a buffer to the west of the Tony Grove Creek closure.

Safety

This alternative would provide the least non-motorized safety of all alternatives except Alternative 7. Providing a groomed 20-foot wide corridor between Tony Grove and Franklin Basin may decrease safety slightly due to increase speeds for the entire length of the trail and likely increased use. It would also decrease safety at the intersection of the snow trail and the Bunchgrass ski trail for the same reasons. There would be no effect to safety by opening the area of the big curve coming out of the Tony Grove parking area. There is little to no mixed use in this area.

Reasonable Access from Parking Areas

Access to terrain is similar to, but not as good as Alternative 1, 1b, or 1c. This is largely due to having to cross the 20-foot wide snow trail. This would be most problematic at the intersection of the snow trail and the Bunchgrass ski trail.

Air Quality/Smell of Exhaust

Alternative 1A would have the same effect on air quality and smell of exhaust as Alternative 1.

Noise

This alternative would have the greatest impact from noise of all of the alternatives except Alternative 7. There would be an increase of noise in the lower portions of the Bunchgrass to Franklin Basin non-motorized area due to the likely increase in traffic and the increased noise associated with higher speeds. This could negatively affect skier experience as they exit the backcountry. There would be no effect of noise on non-motorized experiences due to the opening of the big curve out of the Tony Grove parking area. It does not provide much mixed use in this area and there is little expectation for quiet or solitude in this area right off of Highway 89.

Opportunities for Untracked Powder

Opportunities for untracked powder would be the same as Alternative 1. There would be no effect on opportunities for untracked powder due to the opening of the big curve out of the Tony Grove parking area. There may be a slight decrease in opportunities for untracked powder due to trespass into the Bunchgrass closure from the snow trail.

Alternative 1B

In general, this alternative would be similar to, but have fewer effects to non-motorized visitors than Alternative 1, 1a, and 1c. The majority of the difference is the lack of a snow trail across the bottom of the Bunchgrass closure. This may result in increased safety, improved access into Bunchgrass, and less noise.

Safety

This would be similar to Alternative 1, 1b, and 1c given that the non-motorized areas are similar in size. But given the lack of development of the snow trail across Clark Hollow and Bunchgrass there is a decrease in mix-use area and therefore an increase in safety.

Reasonable Access from Parking Areas

This alternative provides moderate access to a variety of terrain similar to Alternatives 1 and 1c. Access is improved in the Bunchgrass drainage due to the lack of a need to cross a snow trail in the bottom of the drainage.

Air Quality/Smell of Exhaust

Alternative 1B would have the less effect on air quality and smell of exhaust than Alternatives 1, 1a, or 1c due to the lack of a snow trail crossing the ski trail at the bottom of the Bunchgrass drainage.

Noise

There would be a low to moderate impact from noise, less than in Alternatives 1, 1a, 1c, or 7 due to the lack of a snow trail across the bottom of the Bunchgrass drainage. There would be a greater impact from noise due to the smaller non-motorized area than in Alternatives 3, 5, 6.

Opportunities for Untracked Powder

There would be similar opportunities for untracked powder to Alternative 1, 1a, and 1c, except there may be less likelihood of trespass into the bottom of the Bunchgrass closure as there would be no snow trail to lead people there.

Alternative 1C

In general, this alternative would be similar to Alternative 1 and 1b, except for the loss of non-motorized terrain south of the Tony Grove parking area. This change may increase noise slightly in the Blind Hollow area and initial management levels to mark and familiarize users with the new boundary.

Safety

Safety would be similar to Alternative 1.

Reasonable Access from Parking Areas

Access from parking would be similar to Alternative 1.

Air Quality/Smell of Exhaust

Alternative 1C would have the same effect on air quality and smell of exhaust as Alternative 1.

Noise

Similar to Alternative 1 except there may be a slight affect on the skier experience from noise because the Twin Creeks boundary is closer to the Blind Hollow closure. There remain both topographic and vegetative buffers between this area and the Blind Hollow drainage. Most of the area opened in this sub-alternative has dense vegetation and very little opportunities for cross country travel except on the ridgelines and along summer trails. The ridgelines leading towards Tony Grove do not lead visitors into the closures.

Opportunities for Untracked Powder

This alternative provides moderate opportunities for untracked powder the same as in Alternatives 1, 1a, and 1b. There is a slightly greater risk to opportunities for untracked powder if there is trespass from this area into Blind Hollow. There is a possible route into Blind Hollow down the trail to Hansen Pond. There has been trespass in this area in the past, but if staying within the boundary there would be no decrease in opportunities for untracked powder.

Alternative 2

In general, this alternative provides the greatest guarantee of opportunities for quiet recreation, but for alternating two-week periods. It would displace non-motorized visitors and increase use in other areas. Due to the short time frame for altering use, it may not provide as much fresh powder and may be difficult for out of town visitors to schedule their visits.

Safety

This alternative provides moderately high safety levels for non-motorized visitors. By completely separating the uses in time, non-motorized and motorized visitors risk of collisions, confrontations and avalanche concerns related to shared-use are eliminated. Still, non-motorized visitors may increase their use of unfamiliar areas, not used due to existing motorized use, and enter unfamiliar avalanche terrain such as Cornice Ridge. Skier safety may also be impacted by hardened snowmobile tracks hidden under light layers of new snow, but the degree of that effect is not predictable. It depends on what areas have motorized use in the prior two week period, when storms pass through, and how much snow the storms produce.

Reasonable Access from Parking Areas

Due to the lack of shared use, this alternative would provide access to the widest variety of terrain. Terrain close to parking areas would provide suitable areas for families and beginner groups of non-motorized visitors. More intermediate and advanced visitors could access many of the high bowls such as Cornice Ridge now considered lost to them due to heavy motorized use. However, most of the high bowls are too far from the trailheads for the average skier to travel to and from in a day.

Air Quality/Smell of Exhaust

Air quality direct, indirect and cumulative effects are expected to be the same as the Revised Forest Plan alternative because the total amount of snowmobile use would be the same during times when snowmobile use is allowed.

It is expected that there would be no effects of exhaust smell on the non-motorized recreation experience because under Alternative 2 complete separation of uses would be provided.

Noise

This alternative allows the least amount of noise of any alternative. It is expected that there will be no effects of noise to non-motorized users because they are separated by time of use. There will still be some sounds in the lower parts of the Bunchgrass drainage from traffic on Highway 89.

Opportunities for Untracked Powder

This alternative provides the largest area of opportunities for untracked powder, but given the uncertainty of snowfall it provides moderate to high opportunities for untracked powder. Tracks from snowmobiling would need at a feet of snow to adequately cover them. It is difficult to predict the amount or condition of the snow during any given two week period. Considering the main winter season to extend from mid-December to April there are roughly eight 2-week periods for alternating use. One half of these (four-two

week periods) are available for non-motorized recreation. If 80 percent of that time there was sufficient new snow, then during the entire season there would be a 40 percent chance of fresh powder being available compared to an area closed for the entire season. This would be a worst case scenario as some of the ski terrain is not available to motorized use due to tree cover or poor access and would not be tracked out during the two week motorized period.

Alternative 3

In general, with spatial separation of use this alternative would be moderate to high in providing for non-motorized visitors' opportunities. It provides the second largest amount of contiguous area permanently separated from motorized use and provides non-motorized access to those areas.

Safety

The areas providing separation of uses and by separation of access points determine the potential effects to safety. Considering direct effects, this alternative provides more area for separation of uses except Alternatives 6 or Alternative 5 when the southern portion is non-motorized. The then all alternative except Alternative 1 and therefore fewer concerns related to skier safety in the shared backcountry. Alternatives 2, 4, 5, and 6 provide the most safety in the project area since there is complete separation of use based on time- of-use or when no use is allowed.

Safety issues would still exist on the groomed snowmobile trails on Tony Grove Road and Franklin Basin Road, but alternatives to use of those routes by skiers are available in the lower portion of Tony Grove through the L.M. Turner closure along lower Tony Grove Creek and the opportunity of a skier-only trail in the meadows to the west of the Franklin Basin Road.

Reasonable Access from Parking Areas

Parking is still shared and education would be critical to reducing confrontations in shared parking areas. This alternative provides skiers with the most access to a variety of types of terrain without the need to pass through motorized areas. Parking at the Bunchgrass parking area provides for separation of use there, but requires non-motorized visitors to cross Highway 89.

Air Quality/Smell of Exhaust

It is expected that the direct and indirect effects of this alternative on air quality would be very low because the total number of snowmobiles are relatively low and the elevation of the project is mostly above the area of inversion that occurs in the Cache Valley.

Because there is some separation of use provided for in Alternative 3, there would be some relief provided from the smell of exhaust for non-motorized users. However, this alternative would not be as effective as Alternatives 2 or 5, which have complete separation of use provided. Alternative 3 would be similar to Alternative 6 because they both have relatively larger non-motorized areas, hence greater separation of use. Alternative 7 has no separation of use, so the likelihood of smelling exhaust would be greater than other alternatives, in those areas in which both motorized and non-motorized users recreate at the same time. Alternative 4 would have little to no effect since there would be no motorized or non-motorized use.

Noise

The direct effects of noise would be less than Alternative 1, 1a, 1b, 1c, and 7 due to the increased size of the non-motorized area and the associated topographic and vegetative buffers, but would be greater than the effects for Alternative 2, 4, and 6 where there is total separation of use by timing or Alternative 5 which has a larger contiguous area for non-motorized use and does not allow motorized use in the high bowls at the head of the drainages. The lack of snowmobile use in the lower White Pine and Steam Mill drainage would decrease the sounds from snowmobile use in the adjacent closure area.

Opportunities for Untracked Powder

This alternative provides skiers the largest contiguous area of permanent closure and therefore the greatest opportunity for untracked powder, except for Alternative 6 that provides a motorized trail in White Pine Canyon, but also adds high bowl skiing in the Steam Mill drainage for more variety of terrain. It does not provide as much high bowl area (better guarantee of powder) or variety of terrain as Alternative 5. Alternatives 1, 1a, 1b, 1c, and 7 provide less area of separation of use and therefore less opportunity for untracked powder. Alternative 2 provides a larger area available for untracked powder, but the quality of the snow is contingent on storms covering the tracks from the previous 2 weeks motorized use. Timing and amounts of snowfall as well as the amount of area snowmobiles would impact are too unpredictable to project untracked powder amounts. Alternative 4 provides no untracked powder for either group and Alternative 7 does not provide any separate use areas for skiing.

Alternative 4

In general, this alternative provides no direct benefits to recreation. Indirectly the displacement of all groups will cause increased use in other areas, increasing user density and potentially decreasing opportunities for finding untracked powder.

Safety

This alternative would provide the most safety in the project area, as all winter recreation use would stop. Indirectly, closing this area to all uses will displace both groups to other

locations. Non-motorized visitors value Franklin Basin partly because of the safer conditions there. With it closed non-motorized visitors may chose less safe areas such as Wood Camp, Upper Green Canyon, and the Wellsville Mountains Wilderness.

Reasonable Access from Parking Areas

There would be no access from the parking areas. Plowing of the Tony Grove parking lot could stop.

Air Quality/Smell of Exhaust

Alternative 4 would have little to no effect on air quality or smell of exhaust since there would be no motorized or non-motorized recreation use.

Noise

There would be no effect on noise in the project area because there would be no use.

Opportunities for Untracked Powder

This alternative would eliminate all opportunities for non-motorized or motorized use in the project area. Untracked powder would be seen as going to waste by both groups. Indirectly, this alternative would displace both groups to other areas, tracking existing powder faster then before.

Alternative 5

In general, this alternative provides the most area with separation of use, access to quiet recreation and untracked powder. The alternative identifies separate motorized and non-motorized areas that alternate yearly.

Safety

This alternative provides the most contiguous area for non-motorized use (southern half of project) every other year and a large area every year.

Reasonable Access from Parking Areas

Access from parking is completely separate. Non-motorized visitors would have access to a wide variety of terrain, but the high bowls of Cornice Ridge and Upper White Pine Canyon will be too far for the average skier to access from the parking areas.

Air Quality/Smell

Air quality direct, indirect and cumulative effects are expected to be the same as the no action alternative (Alt 3) because the total amount of snowmobile use would be the same. Therefore, the effect on air quality would be the same.

Alternative 5 would have complete separation of use so there would be minimal effect to non-motorized winter visitors from the smell of exhaust.

Noise

This alternative could provide a relatively quiet experience for the non-motorized visitor. When using the southern half with the boundary on the north side of White Pine Canyon topography would block sound transmission to the non-motorized area except when snowmobiles access Steammill Canyon where they ride an exposed ridge that is in direct line of sight of the Bunchgrass drainage. There may also be slightly increased noise into the Blind Hollow drainage when motorized use is in the southern zone in the Twin Creeks area.

When the non-motorized area is in the northern half, topography would decrease the sounds, largely due to the buffer provided by White Pine Canyon. Snowmobiles in the upper bowls of the southern half, particularly those hill-climbing in upper White Pine will be heard. It will be most noticeable from machines with modified exhaust systems.

Opportunities for Untracked Powder

This alternative may provide the most opportunities for untracked powder. Non-motorized use will have a wide variety of terrain. With a yearlong closure, skiing over snowmobile racks will not be an issue. It also provides the most high elevation skiing where powder is more certain. The huge bowls like above Tony Grove on Cornice Ridge would provide weeks of fresh powder for non-motorized visitors if they can get there.

When in the northern half, although the area is smaller than the southern half, there would still be a large area of separation and plenty of powder available. Skiers would have the Hell's Kitchen drainage and could explore farther north into Steep Hollow where there are numerous north-facing ridges. The high elevation bowls in Steammill Hollow and Steep Hollow would be a long distance, but could provide outstanding skiing for the more advanced visitor.

Alternative 6

In general, for the alternatives with permanently fixed boundaries (1, 1a, 1b, 1c, 3, 4) this alternative provides the largest contiguous non-motorized area that separates use except for the convenience snow trail down White Pine Canyon. For alternatives that change temporally (2 and 5) the non-motorized area is smaller than Alternative 2, but it rotates

open and closed every 2 weeks. For alternative 5 the area is similar to the southern half, but smaller than the northern half. Alternative 7 does not separate uses so the area open to non-motorized is larger than Alternative 6, but is all shared with motorized visitors.

Safety

This alternative provides the largest amount of area permanently closed to motorized use. The development of separate parking areas for motorized and non-motorized groups could improve safety and minimize conflict and confrontations between the groups.

Reasonable Access from Parking Areas

This alternative provides access to the widest variety of terrain of any of the permanent closures. It provides beginner terrain in the meadows north and west of the Franklin Basin parking area, proposed as a Nordic Center, for purposes of this analysis a Nordic Center is a groomed area for skiers. It allows for separate non-motorized access to the intermediate and advanced skiing on the north facing slopes of Bunchgrass, White Pine and Steam Mill Canyon as well as the mid-elevation bowls in the Hell's Kitchen drainage. Different from Alternative 3 it also provides access for the more advanced skier who can access the high elevation bowls in upper Steam Mill Canyon.

With the proposed addition of parking, it provides non-motorized parking at the Tony Grove trailhead to access the Tony Grove Creek and could eliminate the need for crossing Highway 89 to access the Bunchgrass drainage. It also provides parking for both users groups to access the Twin Creeks area.

Air Quality/Smell of Exhaust

Air quality direct, indirect and cumulative effects are expected to be the same as the no action alternative (Alt 3) because the total amount of snowmobile use would be the same. Therefore, the effect on air quality would be the same.

Alternative 6 would have some separation of use, similar to Alternative 3, so there would be minimal effect to non-motorized visitors from the smell of exhaust.

Noise

Of the alternatives, this alternative would provide the most quiet for non-motorized recreation except for Alternative 3 that does not provide for motorized access out White Pine Canyon and Alternative 5 when the southern half is non-motorized. The increased effect of noise is due to the provision for the convenience-motorized route down White Pine Canyon returning to the Tony Grove parking area. This route could increase hill climbing in Upper White Pine Canyon and would introduce additional sounds as the snowmobiles exited the snow trail across the bottom of Bunchgrass.

Opportunities for Untracked Powder

This alternative provides for the good access to untracked powder. Due to the inclusion of the high elevation bowls in upper Steam Mill a greater variety of terrain and higher elevation terrain is provided. The north facing slopes in Bunchgrass, White Pine, Steam Mill, and Steep Hollow are set aside. With the egress route in White Pine Canyon there would be a different experience than Alternative 3, but the slopes of the canyon walls are non-motorized protecting the opportunities there.

Alternative 7

In general, this alternative removes separation- of- use and provides shared access for all visitors to the project area from a ridgeline north of Twin Creek north to the Idaho border. This alternative does not provide for the non-motorized issues.

Safety

This alternative provided for no separation-of use and therefore the least safety for non-motorized visitors. Confrontations would continue with education efforts the main tool to decrease the conflict.

Reasonable Access from Parking Areas

This alternative provides shared access only. All terrain could be accessed all of the time, but it would be shared with motorized visitors.

Air Quality/Smell of Exhaust

Air quality direct, indirect and cumulative effects are expected to be the same as the no action alternative (Alt 3) because the total amount of snowmobile use would be the same. Therefore, the effect on air quality would be the same.

Alternative 7 has no separation of use, so the likelihood of smelling exhaust would be greater than other alternatives, in those areas in which both motorized and non-motorized users recreate at the same time.

Noise

Noise would continue to be an issue. There would be very few places where snowmobiles would not be heard in the project areas and no quiet places non-motorized visitors could plan to go and expect quiet.

Opportunities for Untracked Powder

This alternative would provide the least opportunities for untracked powder. Non-motorized visitors would continue to seek out more remote areas where trees and other obstacles minimize motorized access. As technology advances these remote or difficult to access areas may also be lost.

3.3 Manageability and Enforceability

Affected Environment

Please see Winter Recreation Experience, Section 3.2.

Environmental Effects

Issues Statements:

To what relative degree are the boundaries within the proposed action or any of the alternatives clearly recognizable and easily understood?

To what relative degree of effort is the proposed action or any of the alternatives implemented and administered?

Indicators used to compare alternatives:

- Manageability
 - Relative ease of understanding boundaries
- Enforceability
 - Relative effort involved in implementing and enforcing the alternatives

Alternative 1

Manageability/Enforceability

Having clearly defined boundaries helps winter visitors find and stay within appropriate areas and helps to decrease unintentional trespass. This can, in turn, decrease conflict.

Enforceability is affected by such parameters as distance from the trailheads, difficulty to access interior and distant boundaries and corridors, and information necessary to implement (such as signage or poles).

Some boundaries are similar to the boundaries in Alternative 3 (Existing Condition) such as the southern through western boundary of the Bunchgrass closure that is the same from the Tony Grove parking lot to White Pine Knob. This boundary is marked in some locations with permanent signs on trees or by placing poles marking the boundary is known trespass locations. One exception on this boundary is in the area just south and west of the Tony Grove Parking area (Big Curve) that was shown as non-motorized. This would be difficult to manage as motorized visitors have previously used that area when snow melts off of the Tony Grove road interfering with late season access or due to the bumpy conditions of the groomed road surface. Access to this portion of the boundary is not too difficult and signs and poles are manageable to put up. In spite of these efforts this marked boundary, particularly in the saddle between White Pine Knob and Chicken Hill and from the cornices just south of there, continues to receive trespass down into the Bunchgrass drainage.

With the opening of the White Pine and Steammill drainages new boundaries were developed. Boundaries for the Hell's Kitchen closure follow relatively distinctive ridges and topographic features. For this area a new southern boundary was created following a distinctive ridge from Steammill Peak south and east to near the Franklin Basin Road. From Steammill Peak to the north, the same western boundary as Alternative 3 was used. This boundary is well defined topographically, yet trespass was also a problem here through a marked saddle with traffic coming in from the Steep Hollow area. The northern boundary was moved south to the ridge directly above the yurt. Traffic on this ridge, this close to the yurt will be difficult to manage and will increase the noise level at the yurt. This ridgeline, thought marked at the bottom with signs and poles also received trespass into the previously closed area.

The snow trail proposed in this alternative from the Franklin Basin parking area to White Pine Canyon, would provide a well-marked boundary on the eastern edge of the motorized closure. It will also increase management involvement as a 20 wide clear path would need to be created and maintained to facilitate grooming from the Franklin Basin parking area to the southern ridge of White Pine Canyon (see letter dated July 25, 2006 from Utah State Parks in project file). Signing will be required to advise winter visitors of the appropriate uses on the trail as it will open up new opportunities for motorized and non-motorized groups. Winter stream crossings will need to be identified and marked. Two access routes from private property along Highway 89 will require marking and monitoring.

From White Pine Canyon to Clark Hollow the trail will be less visible making signing more important. The snow trail will facilitate snowmobile entry across the lower sections of the Bunchgrass closure making trespass into the Bunchgrass closure easier and less manageable. The snow trail also follows no discernible topographic features and is within sight distance of slopes desirable to snowmobilers. Safety would be an issue where the snow trail and the access trail into Bunchgrass Canyon cross requiring signing there also.

Alternative 1A

Manageability/Enforceability

This alternative would be similar to Alternative 1 except for the increased effort to clear a 20-foot wide snow trail from White Pine Canyon to the Tony Grove parking areas. This would require the most clearing and ground disturbance of any alternative. Two 20-foot wide bridges would be needed and proponent financing to build these bridges would be required. Numerous slopes would need to have flat areas the cut into the sides of the hills to create the 20 -foot wide flat level surface needed to groom the trail.

With the wider, smoother trail speed may become an issue. Speed limits, if put in place, would increase the management burden. Enforcement of speed limits would require more people on the ground and new equipment and training.

The 20-foot wide fully groomed snow trail would be the most easily understood boundary in this area and more recognizable than any other alternative.

Alternative 1B

Manageability/Enforceability

Boundaries for this alternative are moderate to highly manageable. They are more manageable than Alternatives 1, 1a, or 1c as there is no longer a snow trail crossing the bottom of the Bunchgrass non-motorized area. They are also more manageable than Alternatives 3 and Alternative 6 that have hard to delineate boundaries in White Pine and Steam Mill Canyons or the boundaries in the North Fork of White Pine Canyon. The boundaries are less definable than those for Alternatives 2, 4, or 7 which have no interior boundaries or snow trail.

The relative effort to implement and enforce the boundaries would be moderate. This is easier to enforce than closure areas in Alternatives 1, 1a, and 1c due to no snow trail crossing the non-motorized closure. It is more difficult to enforce than Alternatives 2 and 4, which have no interior boundaries or 5, which has a very clear interior topographic boundary.

Alternative 1C

Manageability/Enforceability

Similar to Alternative 1 except opening the Twin Creeks area would increase the need for signing until visitors understood the ridgeline and appropriate access. Enforcement

would require snowmobiling in difficult terrain or skiing up the Blind Hollow trail (about 2 hours each way) to check for trespass.

Alternative 2

Manageability/Enforceability

In this alternative most boundaries are well defined and understandable. The western boundary remains the ridgeline forming the Mt. Naomi Wilderness. Some sections of this boundary require signs and trespass has been an issue in the past, particularly past the marked boundary on the ridge leading to Blind Hollow and Cottonwood Canyon. Trespass also occurs in the Cherry Peak area, but his boundary is the same in all alternatives. The southern boundary is the same as Alternative 1 and the eastern boundary follows the Franklin Basin road. The northern boundary however is the Utah/Idaho border that does not have distinct topographic features and would require signing every two weeks as the season rotates between non-motorized and motorized uses making education and enforcement more difficult. The eastern boundaries are readily enforceable as they are along Highway 89 and include the parking areas. Trespass off of the Franklin Basin road could be an issue, but it is a relatively easy boundary to travel and check.

Alternative 3

Manageability/Enforceability

Many of the boundaries in this alternative are similar to other alternatives. There are some areas that are particularly difficult to manage and enforce. The greatest difficulty with this alternative is the lack of distinct topographic features in the upper part of White Pine Canyon and in Steam Mill Canyon to indicate where the non-motorized closures start. Poles and signs would need to be placed across the bottoms of both canyons to advise motorized visitors of the boundaries.

These are remote and difficult locations to reach and may necessitate motorized entry to the closure area. Enforcement would be difficult for the White Pine Creek closure and very difficult for the Steam Mill closure. Due to their distance from the trailhead and the difficulty of riding in the area the Steam Mill closure may have to be viewed from the Steam Mill Peak area as Forest Service personnel and equipment are limited in skills and equipment to travel in to this area.

Alternative 4

Manageability/Enforceability

This alternative is the most manageable as the accessible boundaries are along Highway 89 and easily viewed. The northern boundary would be more problematic as it does not have definable topographic features at the Utah and Idaho boundary. Motorized use would be allowed on the Franklin Basin road that would also create a need to sign and enforce this boundary. Signs and maps at from the Franklin Basin parking area could inform visitors entering the project area, reducing trespass from those visitors. Informing visitors entering the project area from Idaho will be more difficult, but the boundary is relatively easy to access.

Alternative 5

Manageability/Enforceability

This alternative provides clearly defined and understandable boundaries. In the southern half the southern boundary follows Twin Creek. This is similar to southern boundaries in Alternatives 1c, 2, 3, 4, and 6. The western boundary follows a distinct ridgeline that delineates the Mt. Naomi Wilderness boundary. The northern boundary (of the southern half) follows a distinct ridgeline forming the north side of White Pine Canyon. The eastern boundary is Highway 89.

The most difficult part of this boundary to manage would be the south and eastern portion of the of the north boundary. The ridge is less distinct in this area, approximately where the summer trail crosses White Pine Creek to Highway 89. This area may require additional signs that may have to be changed yearly. The most difficult boundary to access and mark would be the northwest boundary of the southern half, which would be extremely difficult to access and monitor.

Given the yearly rotation of the boundaries it is possible to permanently mark this area with signs indicating where the northern and southern half boundaries are and provide signs at the trailheads to indicate which half is open to which users group on a particular year.

The southern boundary of the northern half is as described above. The western boundary continues along the Mt Naomi Wilderness ridge to a distinctive ridgeline around Doubletop Mountain. From here it follows the ridge to the Utah/Idaho border. This area would also be difficult to monitor as it is remote and involves difficult winter travel. Permanent signs could be placed to mark the boundary, but monitoring by the Forest Service would be difficult. The eastern boundary follows the Logan River, which is distinguishable during the winter.

Alternative 6

Manageability/Enforceability

Relative to other alternatives the boundaries in this alternative are moderately easy to recognize and enforce. This alternative provides some boundaries similar to other alternatives and some new boundaries. The southern boundary of the area open to motorized visitors in the Tony Grove follows Twin Creek and is similar to the boundary in Alternatives 1c, 2, 3, 4, and 5. The western boundary is the same as other alternatives (Mt. Naomi ridge) except that motorized use stops before the drop into Steammill Canyon. From this point it turns southeast and follows the summer trail along the North Fork of White Pine Creek. This boundary would likely require poles and signs that could be removed yearly. This portion of the boundary is also difficult to access creating problems for monitoring and enforcement. As it has been identified as a favored area by some snowmobilers and it is likely that trespass issues would occur. The boundary then extends from the crossing of White Pine Creek south across the valley and up to White Pine Knob. This would also require signing and poles. It would also require signs and maps explaining the appropriate use in White Pine Canyon and the use of the egress trail. These signs would need to be maintained throughout the winter. The rest of this boundary follows the same boundary across Chicken Hill and down the ridge to the Tony Grove parking area. This alternative opens the Big Curve to facilitate motorized access from the Tony Grove parking area.

The northern boundary of the non-motorized closure follows the ridge line similar to Alternative 3 except where that alternative turns south towards Steammill Peak, this alternative follows a distinct ridge north to the Wilderness boundary. The eastern boundary is Highway 89 and the Franklin Basin Road that remains open to motorized use. The new boundary at the top of Steep Hollow has very recognizable topography and the cliff bands block most motorized traffic, but poles and signs may still be required at a few locations. The Franklin Basin road provides a clear and manageable boundary, but still requires signs and poles to delineate the closure.

The access trail down White Pine Creek will require signs and information about appropriate use. One of the more difficult issues with the access trail will be how to communicate when the trail has adequate snow. Due to the lower elevation, vegetation cover, and obstacles on the ground this trail will melt out and not be useable at the bottom when the top is still snow covered. Communicating when the trail is usable and when it is not will be difficult. This problem will be most noticeable on the south-facing slope coming down into Bunchgrass that will melt out more quickly than the rest of the trail.

This alternative has additional management provisions. It proposes speed limits in shared use areas such as the trail out of White Pine Canyon and the first three miles of the Franklin Basin Road. Posting speed limits requires enforcement of those limits. This will require additional equipment, training, and access far from the trailhead.

This alternative also proposes a Nordic Center in Franklin Basin. No building was analyzed in this alternative, only grooming of a route (see map for Alt 6)

This alternative suggested speed limits, signs, and information needs are essential to implementation.

Alternative 7

Manageability/Enforceability

Boundaries in this alternative are similar to Alternatives 2 and 4 in that they are the most manageable and enforceable compared to the other alternatives. Trespass would still need to be managed in the boundary at the top of Blind Hollow and along the Mt Naomi Wilderness. Trespass could increase if motorized users perceive there is no management of uses in the area. The Wilderness boundary is fairly clear and marked in places, but still gets trespassed.

Cumulative effects

The cumulative effects analysis area for winter recreation resources are the Logan and Ogden Ranger Districts when considering travel management issues and the Logan Ranger District when considering non travel management issues. This area is chosen because it will represent the majority of the area winter visitors to this project area use the majority of the time. Past, present and future actions that may affect the project area involve changes in opportunities for winter recreation. Implementation of the Utah Wilderness Act of 1984 eliminated motorized travel in approximately 44, 563 acres (Mount Naomi Wilderness) adjacent to the project area. The Utah Wilderness Act of 1984 also closed approximately 22, 986 acres (Wellsville Mountain Wilderness) on the west side of Cache Valley to motorized use.

In 1988, the Ogden and Logan Ranger Districts Travel Map and accompanying Special Order implemented closures to winter travel in a number of areas. The majority of these closures were intended to protect wintering wildlife. These areas remain closed. One is located in the lower section of Logan Canyon on the north side of the highway and extends from Woodcamp Hollow to just north of Theurer Hollow and south across Highway 89 at the Temple Fork Road junction to include to the north side of approximately the first 2 miles of the Temple Fork Road extending north through Spawn Creek to the an area just north of the Forestry Camp across from the Tony Grove Road junction with Highway 89. To the northwest of the project an area was closed in the Sink Hollow area to provide an opportunity for non-motorized use. This area has since been exchanged and is under management of SITLA and no longer under the closure order. A small area was closed in Card Canyon in the lower section of Logan Canyon and a large area of State and Federal land was closed around Hardware Ranch to protect wintering wildlife. On the adjacent Ogden Range District there were also closures adjacent to the

Snowbasin Ski Area, in the South Fork and Wheatgrass areas, in Mollens Hollow, and in a few scattered parcels north and east of Pineview Reservoir.

In 1991, in addition to the closures in 1988 at winter motor vehicle closure and gate was added to Green Canyon north of Logan Canyon. This closure helped reduce the repeated motorized trespass into the Mount Naomi Wilderness area and is heavily used by skiers today, but it has a very short season due to the low elevation. There was also a closure added at the head of Logan Dry Canyon.

There were no additional closures to motorized use until the March of 2003 Revised Forest Plan. This closed a large area of the Wasatch Front near Ogden from approximately Bountiful Peak north to the Ogden District boundary. On the Logan Ranger District winter motorized closures were added to the small non-Wilderness areas surrounding the access roads into High Creek, Smithfield, and Birch Canyons.

Closures to protect wintering wildlife were added on the Providence and Millville south facing slopes, along the lower portion of the Blacksmith Fork River up to the Left-hand Fork of Blacksmith Fork and on both sides of the Lefthand Fork of the Blacksmith Fork extending up into Leatham and Richards Hollow. The wildlife closure in Spawn Creek was extended north along Highway 89 to the across Highway 89 at the Franklin Basin Road junction and up Franklin Basin to Petersen Hollow and abutting the Beaver Mountain Ski Area. Wildlife closures were also added along the east side of the eastern boundary of the district over looking Bear Lake.

Closures were also added along both sides of the Logan Canyon Highway (Highway 89) to protect the Special Interest Area and the rare and Threatened plants located there.

Closures to provide for separate use areas for non-motorized visitors were added in the Garden City Canyon area just off of the Swan Flat Road and in the Limber Pine/Sunrise Campground area, which also protected these recreation sites and their developments such as interpretive signs, tables, and restrooms.

There have also been a few local timber sales that have required plowing of some district roads that serve in the winter groomed motorize trails. Not allowing any timber activity or hauling after December 15 minimizes these impacts.

Construction of the snow trail will create management difficulties in the summer as motorized trespass is likely and motorized advocates are already suggesting that this route be opened to year round travel.

Cumulatively the effects of Alternatives 1, 1a, 1b, 1c, 5, or 6 in addition to other actions in the cumulative effects analysis area is expected to remain the same. In spite of the closures specified above, the change prior to the current existing condition did not have a noticeable effect to visitor opportunities in the project area.

Alternatives 2, 4, and 7, in addition to other actions, may produce effects to opportunities. Alternative 2, which alternatives periods of time by two week intervals when the entire project area is open to either motorized or non-motorized use may displace visitors to other less desirable areas. Motorized visitors could find similar, but less extensive hill climbing opportunities in the Providence Peak/Logan Peak area. Boondockers could find numerous other, but less spectacular, loops and routes in the nearby area. Non-motorized visitors could find opportunities in other areas such as Garden City, for the intermediate skier or Logan Dry Canyon or Woodcamp for the intermediate to advanced skier. Beginner skiers may have a more difficult time as most of their other opportunities are low elevation (Green Canyon) or have difficult or hazardous access or are shared use areas (Temple Fork) or are unknown area such as the Sunrise Campground/Limber Pine area.

Alternative 4, in conjunction with other past or future actions could have a negative impact on recreation opportunities for motorized and non-motorized groups. With the project area permanently closed to winter recreation use, displaced visitors for both groups would find it difficult to find other similar quality opportunities.

Alternative 7, in conjunction with other past actions, will limit non-motorized opportunities on the Logan Ranger District. Past advances in snowmobile technology have allowed motorized visitors to expand their terrain. Some motorized visitors who were once high markers are now hill climbers. New machines and their technologic advances allow snowmobilers to travel through vegetation and over steep slopes that were not possible a short time ago. Skiers feel they have already lost terrain in Providence Canyon, Millville Canyon, Cornice Ridge, and other areas and feel that Franklin Basin is the last place providing a variety of opportunities for all ability levels.

Irretrievable or Irreversible Commitment of Resources

No irretrievable or irreversible commitments of winter recreation resources or opportunities are expected as a result of implementing any of the alternatives.

3.4 Private Land/Private Interests

Issue Statement: Private land and/or private interests may be affected by the proposed action or the alternatives.

Indicator used to compare alternatives:

- The relative degree to which private property/interests would be affected. Private interests include: 1) private in-holding with a private yurt located on it, 2) private landowners adjacent to NFS desiring motorized access, 3) outfitter and guide permittee providing motorized use, 4) outfitter and guide permittee providing non-motorized use and overnight yurt stays; and 5) use of Utah State University Outdoor Recreation Center yurt just south of the project area.

Affected Environment

The issue of private properties/private interests includes several aspects, as noted above. One of these involves four adjacent 40-acre parcels of private land entirely surrounded by National Forest (referred to as an “in-holding”). There is no road access to these properties. A yurt has been constructed on one of the parcels, for private use. The owner prefers a non-motorized recreation setting and experience.

Another aspect of this issue involves several parcels of private property located immediately adjacent to National Forest, across the Logan River from Highway 89. A private bridge across the Logan River has been constructed to one of the private parcels. These private property owners desire winter motorized access to the National Forest.

A third private interest involves a Special Use Permit with the Forest Service for a snowmobile outfitter and guide operation. The permit covers approximately 100 square miles on the Logan Ranger District, a portion of which is in the project area (primarily north of Steep Hollow). The outfitter and guide season runs from approximately the end of November through approximately mid-May (as snow permits). In 2006, approximately 80 trips were provided for approximately 535 customers.

Another private interest within the project area involves a Special Use Permit with the Forest Service to provide skier outfitting and guiding services within approximately 3500 acres on the Logan Ranger District. The operation includes maintaining two yurts and guiding winter ski tours within the permitted area. The season of operation includes 120 use days within approximately November 15 to May 15 (as snow permits). During the last five years, total user nights have ranged from about 240 to 300 nights.

Utah State University Outdoor Recreation Center (ORC) has a Special Use Permit, on approximately 1 acre, for maintaining and operating a yurt and outfitting and guiding winter ski tours, in the Blind Hollow area of the Logan Ranger District, just south of the project area. The yurt is operational each year from mid-to-late October to mid-to-late May. During the 2004-2005 season, the yurt was occupied 66 nights by 244 individuals.

Environmental Effects

As guided by Forest Plan (G80), the Forest Service is to evaluate the assertion of private property and give due consideration to any valid existing property right that may exist, and therefore, give consideration to the effects of its management actions on adjacent private land and private interests.

Private In-holdings

This issue involves four adjacent 40-acre parcels of private land entirely surrounded by National Forest (in-holdings) and a private yurt located on one of the parcels.

Alternatives 1, 1A, 1B, 1C, and 7 would have similar effects on the private in-holdings and yurt described above. Under these alternatives, the four 40-acre private parcels would be within a motorized use area. Since motorized use would be allowed on National Forest adjacent to these private in-holdings, there is the potential for sights and sounds of motorized use (from outside the private land) to be evident within the private parcels, including the private yurt located within one of the parcels. Because the private yurt owner desires a quiet winter recreation experience, this adjacent motorized use could negatively affect that desired experience. To what degree would depend on the timing and amount of the total use that would be in this particular time, when the yurt was occupied. It is not likely the groomed snow trail would have any effect on this private land because it is over a mile distant from the yurt.

Alternative 2, alternating motorized and non-motorized use every two weeks, would provide a quiet, non-motorized recreation experience for the private yurt owner during the non-motorized periods. During the motorized use periods, the effects on the private in-holdings, and the yurt would be similar to alternatives 1, 1A, 1B, 1C, and 7, as described above. This alternative would be superior to those in that there would be some time each year that a quiet, non-motorized recreation experience at the yurt could be most likely assured.

Alternatives 3 and 6 would afford the greatest protection of the quiet, non-motorized experience in that it has the largest area of non-motorized use surrounding the private in-holding and the yurt. The convenience egress trail in Alternative 6 would not likely affect the yurt because it is on the other side of the ridge, so sights and sounds of motorized use related to that trail would not be evident.

Alternative 4 would provide complete protection of the quiet non-motorized experience on the private land because there would be no winter recreation use of National Forest lands allowed under this alternative. Access to the private land would have to be provided by the Forest Service through easement or other authority if this were the selected alternative.

Alternative 5 would have similar effects to Alternative 2 in that it alternates motorized and non-motorized use, however it is for a longer period of time. Under Alternative 5, use alternates between the north and south portions every other year. The effect to the yurt would be that every other year visitors to this private yurt could be relatively assured of a quiet, non-motorized experience, because every other year motorized use would not be allowed in the northern portion.

Adjacent Private Property

This issue involves several parcels of private property located immediately adjacent to National Forest, across the Logan River from Highway 89.

Alternatives 1, 1A, 1B, 1C, and 7 would have similar effects on the private property adjacent to National Forest. Under these alternatives, ungroomed, private access routes through protected wildlife habitat provide the opportunity to reach motorized use areas. Travel is allowed both in and out for the private landowners. Under Alternative 1B, emergency egress is allowed out through the southernmost route through private property.

Alternative 2, alternating motorized and non-motorized use every two weeks, would limit use of adjacent National Forest for motorized use to only those periods open to motorized use. This would negatively impact the private landowners desiring motorized recreation adjacent to their property during the restricted two-week periods. They would be free, however, to use other areas of the Forest.

Alternatives 3 and 6 would limit the opportunities for motorized winter recreation adjacent to the private property because the area directly adjacent is non-motorized under these alternatives. Although Alternative 6 includes a corridor down White Pine, it is for egress only. Private property owners would be free to use the Tony Grove parking area and other areas open to motorized use under these alternatives.

Alternative 4 would prohibit all winter recreation use in the project area. This would limit any kind of access to the adjacent National Forest for private land owners (or anyone), negatively impacting their pursuit of motorized recreation on lands adjacent to their property. They would be free to use other areas open to motorized activity on the Forest.

Alternative 5 would have similar effects to Alternative 2 in that it alternates motorized and non-motorized use, however it is for a longer period of time. Under Alternative 5, use alternates between the north and south portions every other year. The effect to the private land owners would be that every other year they would be able to access either the northern or southern portion for winter motorized recreation. Motorized access to the northern portion would be provided directly since most of the Forest Service/private property boundary lies in the northern portion. Access to the southern portion, when it is motorized would need to be through the southern end, in lower White Pine Canyon or from the Tony Grove parking area (not directly accessible from the private land).

Snowmobile Outfitter and Guide Operation under Special Use Permit

This issue involves a snowmobile outfitter and guide (O&G) operation under Special Use Permit which allows operation on a portion of the project area (generally north of Steep Hollow).

Alternatives 1, 1A, 1B, 1C, and 7 would have similar effects on the snowmobile O&G operation. Under these alternatives, the area within the project area (north of Steep Hollow) allows motorized use. Therefore, implementation of any of these alternatives would not affect the snowmobile O&G operation.

Alternative 2, alternating motorized and non-motorized use every two weeks, would limit use of the permitted area (within the project area) to only those periods open to motorized use. This would negatively impact the O&G operation only for that area within the project area (Steep Hollow to the Idaho border). This area encompasses approximately 3,800 acres of the permittee's 65,000 total acres under the permit, contains no key drop off or pick up areas, and is not part of any loop opportunities. The permittee would be free to use other areas of the Forest under his permit.

Alternatives 3 and 6 would not limit opportunities for operation of the snowmobile O&G operation because the non-motorized area is generally south of Steep Hollow. The permitted area is generally north of Steep Hollow (open to motorized use under Alternatives 3 and 6). The Franklin Basin Road is also available for motorized use (as it is under all alternatives, except Alternative 4).

Alternative 4 would prohibit all winter recreation use in the project area. This would negatively impact the permitted O&G operation within the project area by approximately 3,800 acres. The permittee would be free to use other areas open to motorized activity on the Forest under permit.

Alternative 5 would have similar effects to Alternative 2 in that it alternates motorized and non-motorized use, however it is for a longer period of time. Under Alternative 5, use alternates between the north and south portions every other year. The part of the project area under snowmobile O&G permit is in the northern portion (north of Steep Hollow). The effect of Alternative 5 on this operation is that they would only be able to use this portion of their permit every other year. The permittee would be free, however, to use other areas of the Forest under his permit.

Skier Outfitter and Guide and Yurt Operation under Special Use Permit

This issue involves a Special Use Permit with the Forest Service to provide skier outfitting and guiding services, including two yurts.

Alternatives 1, 1A, 1B, 1C, and 7 would have similar effects on the skier O&G operation and the yurts. Under these alternatives, the two yurts are within non-motorized areas. However the area around them is not as large as Alternative 3 or 6 and would not, therefore, afford as much protection from the sights and sounds of motorized use. Since motorized use would be allowed on National Forest adjacent to the yurts, there is some potential for sights and sounds of motorized use to affect the desired quiet non-motorized recreation experience at the yurts. It is not likely the groomed snow trail would have any effect on this operation because it is several miles distant from the yurts.

Alternative 2, alternating motorized and non-motorized use every two weeks, would provide a quiet, non-motorized recreation experience for the yurt visitors during the non-motorized periods. This alternative would be superior to alternatives 1, 1A, 1B, 1C, and 7 in that there would be some time each year that a quiet, non-motorized recreation experience at the yurts could be most likely assured. Under Alternative 2, however, use

of the yurts for non-motorized recreation would be limited to every other two-week period. Motorized use accessing the yurts, if so desired, could take place during the motorized use periods.

Alternatives 3 and 6 would afford the greatest protection of the quiet, non-motorized experience desired in operation of the skier O&G permit, in that it has the largest area of non-motorized use surrounding the yurts. The convenience egress trail in Alternative 6 may slightly likely affect the southern yurt because it is fairly near the corridor, so sights and sounds of motorized use related to that trail may be evident.

Alternative 4 would prohibit winter recreation use of National Forest land in the project area. This would negatively affect the skier O&G operation in that it would not be allowed. The business would have to be relocated in order to continue if this alternative were selected.

Alternative 5 would have similar effects to Alternative 2 in that it alternates motorized and non-motorized use, however it is for a longer period of time. Under Alternative 5, use alternates between the north and south portions every other year. One yurt is located in each of the portions. The effect to the yurts would be that every other year visitors to this yurts could be relatively assured of a quiet, non-motorized experience, because every other year motorized use would not be allowed in the that portion. The yurt in the motorized portion would likely be impacted by nearby motorized use, or the operation voluntarily curtailed during that period.

USU Outdoor Recreation Center Yurt

This issue involves a Special Use Permit for maintaining and operating a yurt and outfitting and guiding winter ski tours in the Blind Hollow area just south of the project area.

This yurt is located to the south of the project area. The desired operation of the yurt is for quiet, non-motorized winter recreation use for educational and recreational purposes. Although the yurt is a non-motorized use area, on occasion, some sounds from the adjacent motorized use area can be heard.

Alternatives 2, 4, and 5, because they have either alternating non-use periods (alts 2 and 5) or no winter recreation use at all (alt 4), these alternatives would provide the greatest opportunity for the desired winter recreation experience at the USU-operated yurt in Blind Hollow.

Cumulative Effects

The cumulative effects analysis area for private land/private interests is the Logan Ranger District because it represents the administrative area within which private interests, such as a Special Use Permit (SUP) may be authorized. Past, present, and reasonably

foreseeable future actions considered relative to effects on private land/private interests in the project area includes a permit authorized in 2006 for the operation of a yurt in Green Canyon. This yurt operates in addition to the yurts in and adjacent to the project area and has no effect on the private land/private interests addressed here. Therefore, since this has no effect, implementation of the proposed action or any of the alternatives would have no additive or cumulative effect on the private land/private interests in this analysis.

Irretrievable or Irreversible Commitment of Resources

No irretrievable or irreversible commitment of private land or private interest is expected to occur from the proposed action or any alternatives because no private land or private interest would be removed from the area.

3.5 Water Quality/Riparian/Wetlands/Aquatics

Affected Environment

The general analysis area for this issue includes the drainages within the project area boundary, namely, Theurer Hollow, Tony Grove Creek, Bunchgrass Creek, White Pine Creek, Stream Mill Canyon, and Hells Kitchen Canyon.

Assumptions and Methodologies

An assumption is made in this analysis that the winter trail between the parking areas will not be open to snowmobiles when there is a lack of snow at the beginning of the winter season and in the spring when snow melts away and bare areas are present.

The analysis method used is to consider the desired conditions for the resources from the Wasatch-Cache National Forest Revised Forest Plan; describe water features, wetlands, floodplains, and aquatic species and their conditions within the drainages, present research on potential effects of snowmobiling activities related to wetlands; and present an analysis of effects of the proposed project and alternatives along with recommended mitigation measures where applicable.

Existing Inventories, Monitoring, and Research Literature Review

Several sources of information were used to analyze the effects of the proposed project and alternatives. On October 6, 2005, an interdisciplinary field trip was taken to the project area to review the location of the proposed snowmobile trail from the Tony Grove parking lot to Clark Creek (first unnamed creek south of White Pine Creek). On April 24, 2006 a field review of snowmobile use and effects during spring snow melt was conducted at Tony Grove and Franklin Basin trailheads.

Fish monitoring surveys were conducted on project area streams in 2004. Amphibian surveys were conducted on the Logan Ranger District from 2001-2004 and included sites

in the Project Area. Additionally, information in the 2006 MIS Monitoring Report (USDA Forest Service 2006c) was used in determination of effects on population trend for the Bonneville cutthroat trout.

Site-Specific Resource Conditions

Water Features

The analysis area is located in portions of two subwatersheds, Hells Kitchen Canyon-Logan River (Hydrologic Unit Code 160102030302) and Tony Grove Creek (Hydrologic Unit Code 160102030304). From south to north, the project analysis area is within portions of the following drainages: Theurer Hollow, Tony Grove Creek, Bunchgrass Creek, Clarks Hollow, White Pine Creek, Stream Mill Canyon, and Hells Kitchen Canyon. These drainages flow into the headwaters of the Logan River which flows into the Bear River northwest of Logan, Utah. Within these drainages, stream length ranges from 2.2 miles to about 5.8 miles and streams flow generally from west to east. Portions of the area have been glaciated, and moraine features and cirques can be seen in Tony Grove Creek, White Pine, and Steam Mill drainages. Each of these drainages has a small lake located in the cirque basin at the head of the drainage.

The proposed snow trail would cross six perennial streams. The pull-behind groomed portion would cross Tony Grove Creek, Bunchgrass Creek, and Clark Creek (Clarks Hollow), and White Pine Creek. The portion of the trail proposed for the State snow-grooming machine would cross two small-unnamed creeks north of White Pine Creek.

Wetland, Floodplains and Municipal Watersheds

Most of the area is dry upland. Small areas of wetland that are less than 1 acre in size occur near springs and along stream channels. Small wetlands occur immediately adjacent to stream channels with only a few larger wetlands occurring on the flatter areas near the Logan River. The width of wetlands adjacent to stream channels where the proposed groomed trail crosses stream channels are about 70 feet on Tony Grove Creek, 40 feet on Bunchgrass Creek, 10 feet on Clark Creek, and 70 feet on White Pine Creek.. An existing road crosses the stream located about 600 feet southeast of Franklin Basin road and no wetlands occur along ephemeral channel 4,400 feet SE of Franklin Basin road.

Floodplains have been defined in various ways, but, for this analysis, these areas are defined as flat areas adjacent to streams that are composed of unconsolidated depositional material derived from sediments transported by the related stream, based on definitions contained in (Fairbridge 1968). Most of the streams in the area have no floodplains or very small areas adjacent to the stream where sediment may become deposited during high flows. This is because the stream gradients of most of these streams are moderate to steep and the stream channel is moderate to highly-confined so that there is not much area for the streams to flow outside of their banks. Water originating in the Logan River

drainage is used for municipal purposes by Logan City which takes the water from springs located near Spring Hollow about 12 miles below the project area.

Water Quality

The State of Utah has designated the streams draining the Bear River watersheds above the National Forest boundary as Antidegradation Segments. This indicates that the existing water quality is better than the established standards for the designated beneficial uses. Water quality is required by state regulation to be maintained at this level. The beneficial uses of streams within these watersheds, as designated by the Utah Department of Environmental Quality, Division of Water Quality, are:

- Class 2B – protected for recreation
- Class 3A – protected for cold water species of game fish and other cold water aquatic species
- Class 4 – protected for agricultural uses.

The numeric water quality standards can be found in Section R317-2, Utah Administrative Code, *Standards of Quality of Waters of the State* (Utah, State of. 2006a).

In the most recent assessment of water quality, the State of Utah has determined that the waters within these watersheds that drain the Logan River fully support its beneficial uses with the exception of Tony Grove Lake which is impaired for dissolved oxygen (Utah, State of. 2006b). Tony Grove Lake is scheduled to be studied in 2007 to determine the cause of the impairment.

Threatened, Endangered, and Sensitive Aquatic Species

No threatened or endangered aquatic species occur on the Wasatch-Cache National Forest. The Intermountain Region Sensitive Species list was last updated in December 2003 (http://fsweb.r4.fs.fed.us/unit/bpr/bpr_web/r4_tes_lst_03.rtf). The Colorado River cutthroat trout (*Oncorhynchus clarki pleuriticus*), Bonneville cutthroat trout (*Oncorhynchus clarki utah*), and the Columbia spotted frog (*Rana luteiventris*) are the only sensitive species listed for the Wasatch-Cache National Forest. The Colorado River cutthroat trout and the Columbia spotted frog are not found on the Logan Ranger District.

The Logan River drainage contains the largest remaining meta-population of Bonneville cutthroat trout (BCT). Tony Grove Creek, Bunchgrass Creek, and White Pine Creek are all essential tributaries providing spawning and rearing habitat for BCT. Tony Grove Creek was sampled on July 20, 2004, and juvenile BCT were abundant (487 ± 83 fish/mile). Bunchgrass Creek was sampled on July 23, 2004. No fish were captured and it was determined that the newly installed culvert at Highway 89 was a fish barrier. Baffles were installed in the culvert to provide fish passage in the Spring of 2006 and adults were observed spawning above the culvert. White Pine Creek was last sampled on July 21, 2004. BCT were abundant (703 ± 105 fish/mile) and numerous age classes were observed. Twin Creek was similar to Bunchgrass in that a culvert extension was installed

which prevented fish passage. Baffles were installed in 2006 and adults were observed spawning above the culvert.

Management Indicator Species

Bonneville and Colorado River cutthroat trout were the two aquatic species identified as management indicator species (MIS) in the Wasatch-Cache National Forest Plan. Both of these subspecies have been petitioned for listing under the Endangered Species Act. The Bonneville cutthroat trout (BCT) was found to be “not warranted” for listing while the Colorado Cutthroat Trout is still being considered. Only the BCT will be addressed in this analysis because the Colorado River cutthroat trout is not present in the Project Area (See TES section above). As noted in the 2006 MIS Monitoring Report (USDA Forest Service 2006c), the trend for the BCT in the Tony Grove area subwatershed of the Logan River is “flat”.

Amphibians

Amphibian surveys were conducted on the Logan Ranger District during the summers of 2001 through 2004. Boreal toad (*Bufo boreas boreas*), tiger salamander (*Ambystoma tigrinum*), and boreal chorus frog (*Pseudacris triseriata maculate*) were all found on the District. However, only tiger salamander and boreal chorus frog were found in the Project Area. Both of these species are common throughout suitable habitat in Utah.

No effects to amphibians are expected to occur under any of the alternatives. During winter, amphibians hibernate, using rodent burrows, beaver lodges, and other similar structures. They are protected from being crushed and are not vulnerable to fuel spills. There is no further discussion on amphibians in this analysis.

Environmental Effects

Issue Statement: Water quality/riparian/wetlands/aquatics may be negatively affected by the proposed action or the alternatives.

Indicator used to compare alternatives:

- The relative degree to which water quality/riparian/wetlands/aquatics would be affected by the proposed action or any of the alternatives

This section discusses the issues and the direct, indirect, and cumulative effects to water quality, wetlands/riparian, and Bonneville cutthroat trout. While aquatic invertebrates are also found in several of the water features found in the project area, effects to them would be similar to those for BCT. They will not be discussed further.

The issue regarding wetlands/riparian is that snowmobiles may damage wetlands by digging up the soil with its tracks and runners. The method of analysis is to determine where wetlands occur, look at where snowmobiles currently are used in wetland and

riparian areas, determine what damage occurs, and using this information assess the proposed action and alternatives.

The issue regarding water quality is that the effects of snowmobile use may cause sediment and/or oil and gas to enter a stream. The analysis method for sediment is to determine the likelihood of snowmobiles to damage stream banks and soil. The analysis method for oil and gas is the amount of time snowmobiles are likely to be over a stream.

The issue regarding aquatic species is that effects of snowmobile use may cause sediment and/or oil and gas to enter a stream and impact aquatic species. Like the water quality issue, the analysis method for sediment is to determine the likelihood of snowmobiles to damage stream banks, and soil, and the analysis method for oil and gas is the amount of time snowmobiles are likely to be over a stream channel.

Alternative 1 (Proposed Action)

Effects on Wetlands

The direct, indirect and cumulative effects on wetlands from snowmobiles are expected to be similar to the no-action alternative because snowmobile riding conditions are similar between alternatives. Although there would be more concentrated snowmobile use along the snow trail between the Tony Grove and Franklin Basin parking lots, mitigation would be in place such that snow would be deep enough across stream areas where wetlands occur before the trail would be open for use. Although ground disturbance would occur during construction of the trail between Franklin Basin and White Pine Creek, no disturbance would occur in wetland areas. No adverse affects to wetlands or riparian areas along the Logan River are expected since access from private land would be across an existing bridge that crosses the Logan River. Monitoring conducted on April 24, 2006 showed no adverse effects to wetlands from snow compaction and the same is expected under this alternative (USDA Forest Service 2006a).

Effects to Water quality

The soil disturbance that may occur under this alternative would be 3.92 acres of soil disturbance at the soil surface along 1.62 miles, assuming a 20-foot wide snow trail that would be cleared of vegetation between Franklin Basin trailhead and White Pine Canyon. It is expected that some low vegetation will grow back over disturbed soil areas in 1 to 2 years. Measures will be taken to control erosion where soil disturbance occurs, and sediment is not expected to move off-site. There is a very low potential for sediment reaching a stream channel because of the relatively low ground slope where the trail is located, the narrow trail width generally running perpendicular to the slope, and erosion control measures that would be installed. No direct, indirect or cumulative impacts to water quality are expected because of low potential for sediment reaching a stream channel. Oil and gas entering a stream channel is not likely because the amount of time a

snowmobile is over a stream is very short. These areas tend to be avoided when snow depths are low because of the likelihood of getting stuck.

Effects to Aquatic Species (Bonneville cutthroat trout)

Based on the analysis discussed under water quality, little impact is expected to Bonneville cutthroat trout because of the low potential for sediment reaching a stream channel. Oil and gas entering a stream channel is not likely because the amount of time a snowmobile is over a stream is very short.

Because Tony Grove Creek, Bunchgrass Creek, and White Pine Creek are tributaries that provide spawning and rearing habitat for BCT, in the unlikely event a snowmobile were to leak gas into one of these creeks, some mortality to individual BCT could occur. The likelihood and extent of mortality would be determined by how much fuel leaked into the stream in proportion to stream flows. Most of Bunchgrass and Tony Grove Creek and all of Twin Creek would be closed to motorized use under this alternative, so the potential for a leak is highly unlikely. Even in the unlikely event of a leak affecting individuals, there would be no effect to the trend of BCT resulting from this alternative.

Alternative 1A

This sub-alternative would include provisions in Alternative 1, but would open the “Big Curve” area to motorized travel and the over-the-snow trail would be groomed 20 feet wide the entire length.

Effects to Wetlands

In order to analyze the effects to wetlands, assumptions were made about how the 20-foot wide groomed trail would be constructed across stream channels. These assumptions were made in relation to the requirements for the state groomer (as described in the letter from Utah State Parks dated July 25, 2006 and 11/21/06 meeting notes, in the project record).

The assumptions are:

1. Up to 3 bridges may be necessary to cross streams, because without a bridge, the stream is too wide and/or the approaches too steep for the groomer to cross without causing damage to the stream channel or banks.
2. Bridges would extend to about 5 feet back from the top of the stream bank in order to be outside of the active channel.
3. Woody vegetation such as willows would be cut along the groomed trail where they cross wetlands to approach the bridges.
4. Fill material would be placed at the ends of the bridges so that the approach to the bridge would not be too steep for the groomer. The amount of fill would vary between bridges and would depend on the steepness of the approach. This is affected by how high the stream banks are in relation to the bridge height and the

hillside slope gradient. This, in turn, would affect the amount of cut and fill along the trail that is needed to level the trail.

Assuming up to three bridges are needed, under a worst case scenario, effects to wetlands would occur at three stream crossings from the construction and maintenance of the 20-foot wide snow trail, as summarized in Table A. The short-term direct effects to wetlands would be the removal and crushing of vegetation and the compaction of wetland soils (over an area of approximately 2,800 square feet) from equipment used to install the bridge footings, the placement of the bridge deck, and removal of vegetation across the wetland. The long-term, direct effects to wetlands would be the loss of approximately 1,200 square feet of wetlands where the bridge footings and fill material would be placed, and the reduction of about 2,800 square feet of woody species mass, from the cutting of willows to maintain low brush across the wetland.

Effects of motorized use on wetlands are expected to be the same as described under Alternative 1.

Stream Name	Stream Width (ft)	Wetland Length and Area (ft/ft ²)	Short-Term Effects	Long-Term Effects		
			Vegetation Crushing and Soil Compaction (ft ²)	Fill Material (ft ²)	Bridge Footings (ft ²)	Willow Cutting (ft ²)
Tony Grove Creek	30	70 / 1,400	0	0	0	1,400
Bunchgrass Creek	20	40 / 800	1,200	400	200	600
Clarks Hollow ²	5	10 / 200	0	0	0	0
White Pine Creek	30	70 / 1,400	1,400	400	200	800
TOTAL			2,800	800	400	2,800
<p>1 Snow trail width is assumed to be 20 feet and no wetlands are affected at two unnamed stream crossings located about 600 feet (an existing road crosses the stream and will be used as is for the snow trail) and about 4,400 feet SW of Franklin Basin Road (no wetlands at this ephemeral stream crossing because it is so small and dry).</p> <p>2 Clark Hollow stream crossing is narrow, incised, and bridge would span stream channel and wetland area adjacent to it.</p>						

Effects to Water quality

Recommended mitigation for this alternative is the same as for the proposed action, with the addition of erosion matting to be installed on the bare soil along the trail 100 feet on each side of the stream crossings immediately after the trail is constructed. A high risk of adverse short-term effects to water quality would occur along stream channels for about a week during the construction of the trail when soil is exposed. The risk is high during this time because the ground surface would be bare and exposed for a width of 20 feet. Although erosion control measures such as straw bales and sediment fences would be installed, a high intensity rainstorm would likely cause sediment to move during the time when soil is exposed. Monitoring of construction activities at ski areas where large areas

of soil have been disturbed shows that when bare areas are covered with erosion matting very little soil erosion or sediment movement occurs (USDA Forest Service 2006b). The likelihood of oil and gas entering a stream channel from snowmobile use is the same as Alternative 1. It is expected that no oil or gas would enter a stream channel during construction of bridges and the snow trail because inspections for equipment fluid leaks are required and fueling of equipment would be outside of RHCAs.

Effects to Aquatic Species (Bonneville cutthroat trout)

Effects would be similar to Alternative 1 except the soil disturbance that may occur under this alternative would be 10.48 acres of soil disturbance along 4.33 miles of trail assuming a 20-foot wide snow trail that would be cleared of vegetation between the Tony Grove and Franklin Basin trailhead. In the unlikely event a snowmobile were to leak gas into Tony Grove Creek or Bunchgrass Creek some mortality to individual BCT could occur. The extent would be determined by how much fuel was leaked into the stream in proportion to stream flows. With the construction of a bridge over White Pine Creek and Bunchgrass Creek, the chance of fuel reaching these streams would be further reduced. Construction of the bridges would increase the chance of sediment reaching the stream (during construction and for 1-2 years after). Material and equipment to construct the bridges would have to be transported to the sites, increasing potential disturbance. Any disturbance inside the stream channels would likely result in some mortality to individual BCT. Eggs and juveniles are present throughout the summer and would be vulnerable to disturbance during this time. Although in the unlikely event of a leak some individual BCT may be affected, there will be no effect to the trend of BCT resulting from the project.

Alternative 1B

This sub-alternative would include the provisions in Alternative 1, but would have no portion of the over-the-snow trail groomed. The trail location would be signed, but no clearing of vegetation or ground disturbance would take place.

Effects to Wetlands

Effects to wetlands due to use in areas open to motorized use would be the same as Alternative 1. However, there would be no construction or maintenance of a snow trail, so effects associated with that would not occur.

Effects to Water quality

Effects of sediment or oil and gas in streams from snowmobile use would be the same as Alternative 1, except there would be no chance of soil erosion, sediment, or oil and gas entering a stream along the snow trail because no trail would be constructed.

Effects to Aquatic Species (Bonneville cutthroat trout)

Effects would be similar to Alternative 1 except there would be no soil disturbance from groomed trail construction because no trail would be constructed.

Alternative 1C

This subpart would include provisions in Alternative 1, but the southern boundary would be extended to the Twin Creek Road (as in Alternative 3).

Effects to Wetlands

Same as Alternative 1.

Effects to Water quality

Same as Alternative 1.

Effects to Aquatic Species

Effects would be similar to Alternative 1. However, BCT in portions of Twin Creek could be exposed to the unlikely event of fuel leaks, because this area would be open to motorized use in this alternative. The potential effect, similar to Alternative 1, would be on individual BCT; there would be no effect to the trend of BCT resulting from the project.

Alternative 2**Effects to Wetlands**

Effects to wetlands from use in motorized areas would be similar to Alternative 1, with a very low potential for damage to wetlands because snow would cover the snow trail and open terrain during the period open to motorized use. There would be no snow trail constructed. The amount of time snowmobiles could be used in the area would be reduced by 50%.

Effects to Water quality

Effects to water quality from sediment, oil, or gas in streams from motorized use would be similar to Alternative 1. The potential for effects may even be reduced because the snowmobile trail would not be constructed and amount of time snowmobiles could be used in the area is reduced by 50%.

Effects to Aquatic Species (Bonneville cutthroat trout)

No sediment inputs to area streams would be expected with this alternative since no ground disturbance would occur (no snow trail construction). The chance of oil and gas entering a stream channel is not likely because the amount of time a snowmobile is over a stream is very short. In the unlikely event a snowmobile were to leak gas into Twin Creek, Tony Grove Creek, Bunchgrass Creek, or White Pine Creek, some mortality to individual BCT could occur. In this unlikely event, the extent of mortality would be determined by how much fuel was leaked into the stream in proportion to stream flows. Although snowmobiles would be allowed in the areas of White Pine Creek, Bunchgrass Creek, Tony Grove Creek, and parts of Twin Creek, the potential for an oil/fuel spill is further reduced because the amount of time snowmobiles are allowed in the area is reduced by 50%. Although in the unlikely event some individual BCT are affected, there will be no effect to the trend of BCT resulting from the project.

Alternative 3

This no-action alternative represents the areas that are open and closed to motorized winter use as shown in the 2003 Wasatch-Cache National Forest, Revised Forest Plan, in place during the winters of 2003-2005.

Effects on Wetlands

In general, the direct effect of snowmobiles is the potential to cause vegetation and soil disturbance from the snowmobile tracks and treads. The indirect effect is the potential loss of wetlands due to the direct effects of vegetation loss and soil disturbance.

Very little to no direct or indirect effects to wetlands from snowmobile use are expected under this alternative because most snowmobile use is done under deep snow conditions. It appears that snowmobilers avoid stream areas in low snow conditions because of the likelihood of getting stuck. On April 24, 2006, a field review was conducted around the Tony Grove parking area to determine what impact snowmobiles had on wetlands and soils resources. This parking lot was chosen because of the concentration of snowmobiles here and wetlands nearby. This time of the year was chosen because snow was melting and not very deep, ephemeral streams were flowing, and the ground surface was exposed with patches of snow. A few snowmobile tracks were seen across the upland areas of sagebrush and grass but no tracks were seen in the stream areas or wetlands near the parking lot.

Effects to Water quality

Very little direct, indirect or cumulative effects to water quality are expected under this alternative because snowmobiles run along the surface of the snow and most of the time they do not drive across bare soil. The time period when snowmobiles would drive across bare soil is usually during low snow periods in late fall and during spring snowmelt when patchy snow conditions occur. Observations of snowmobile tracks on areas without snow

cover were reviewed on April 24, 2006 at Tony Grove area and very little soil disturbance was seen. It was expected that by late spring no signs of snowmobile use on bare ground in the Tony Grove trailhead area would be seen (after plants started to grow). Since very little soil impacts are expected from snowmobile use and the recovery time is very short, it is not expected that sediment would reach a stream channel. Oil and gas entering a stream channel is not likely because the amount of time a snowmobile is over a stream is very short and snowmobiles tend to avoid stream channels to avoid getting stuck.

Effects to Aquatic Species (Bonneville cutthroat trout)

Very little direct, indirect or cumulative effects to aquatic species are expected under Alternative 3 because snowmobiles run along the surface of the snow and most of the time and do not drive across bare soil. Since very little soil impacts are expected from snowmobile use and the recovery time is very short, it is not expected that sediment would reach a stream channel. Oil and gas entering a stream channel is not likely because the amount of time a snowmobile is over a stream is very short. Most of Tony Grove Creek, Bunchgrass Creek, and White Pine Creek would be excluded from motorized use which would also reduce the risks of oil/gas spills entering a fish-bearing stream. In the unlikely event individual BCT are affected by an unlikely leak or spill, there will be no effect to the trend of BCT resulting from the project.

Alternative 4

Under this alternative there would be no recreation use in the project area during the winter season.

Effects to Wetlands

No impacts to wetlands from snowmobile use would occur during the winter season because there would be no motorized or non-motorized use in the project area.

Effects to Water quality

No sediment, oil or gas would enter a stream because no motorized or non-motorized use would be allowed in the project area.

Effects to Aquatic Species (Bonneville cutthroat trout)

There would be no potential for sediment, oil, or gas to enter a stream (and therefore there would be no potential for effects to BCT) because there would be no motorized or non-motorized use allowed in the project area. Nor would there be any effect on the trend of BCT resulting from the project.

Alternative 5

Effects to Wetlands

The potential for disturbance to wetlands from snowmobile use would be similar to Alternative 2 (Temporal Alternative) because there would be 50% use (use would occur in half of the area every other year as compared to every other week under Alternative 2). There would be no snow trail constructed, so no effects related to construction or maintenance would occur.

Effects to Water quality

The effects of sediment, oil, and gas on water quality would be the same as Alternative 2 (Temporal Alternative) because use would occur in half of the area every other year (50% use of any area over time).

Effects to Aquatic Species (Bonneville cutthroat trout)

Effects on BCT under Alternative 5 would be similar to Alternative 2. Little to no sedimentation would occur since there would be no trail construction or maintenance. While snowmobiles would be allowed in all of White Pine Creek, Bunchgrass Creek, and Tony Grove Creek and portions of Twin Creek, they would only be allowed every other year (50% use over time) reducing the potential for effect due to the unlikely event of a leak or spill. In the unlikely event of a leak or spill of gas or oil, individual BCT would be affected; there will be no effect to the trend of BCT resulting from the project.

Alternative 6

Under this alternative, allowing no motorized use in the Steam Mill Canyon drainage would eliminate any potential for effects to wetlands or water quality in that area. This alternative would include the concept of additional facilities such as parking areas.

Effects to Wetlands

Under Alternative 5, disturbance to wetlands from motorized use would be the same as Alternative 3. Although other facilities such as additional parking areas would be constructed, they would be located to avoid wetland areas.

Effects to Water quality

The effects of sediment, oil, or gas in streams from motorized use would be the same as under Alternative 3.

Effects to Aquatic Species (Bonneville cutthroat trout)

Effects related to snowmobile use near streams (such as the unlikely event of oil or gas leak causing mortality to BCT) would be similar to Alternative 4. Little to no motorized use would occur near fish bearing streams, except along the motorized egress corridor in White Pine Canyon. The potential for effects here would be minimal because of the snowmobile is not directly over the stream. Any new parking facilities would be located to avoid impacts to BCT. There would be no effect to the trend of BCT resulting from this project.

Alternative 7

Effects to Wetlands

The effects of disturbance to wetlands under this alternative would be the same as under Alternative 1.

Effects to Water quality

The effects of sediment, oil, or gas on water quality under this alternative would be the same as under Alternative 1.

Effects to Aquatic Species (Bonneville cutthroat trout)

Effects would be similar to Alternative 1, except all of White Pine Creek, Bunchgrass Creek, Tony Grove, and some of Twin Creek would be open to motorized use (more area open and therefore an increased potential for the unlikely event of an oil/gas spill occurring in a fish bearing stream). In the unlikely event of a leak or spill, few individual BCT could potentially be affected; however, there will be no effect to the trend of BCT resulting from the project.

Cumulative effects

The cumulative effects analysis area for water resources is the Logan River watershed upstream of the confluence with Temple Fork. The cumulative effects area includes the drainages with which the project area bisects. These include Theurer Hollow, Tony Grove Creek, Bunchgrass Creek, White Pine Creek, Stream Mill Canyon, and Hells Kitchen Canyon.

This area is chosen because there is water quality data that has been collected at this point. The other activities that may cause soil disturbance and may adversely affect water quality, wetlands, and aquatic resources that occur in this area include livestock grazing and summer ATV use. Cumulatively, the effects of constructing the snow trail and allowing motorized use under any of the alternatives in addition to the other activities that occur in the cumulative effects analysis area for water resources is expected to maintain the quality of the water, condition of wetlands, and quality of aquatic habitat. The

potential for sediment, oil, or gas to enter a stream is very low and wetland areas will be avoided. Since water quality is not expected to be impacted, then aquatic resources would not be expected to be impacted. These conclusions are reinforced by water quality data collected in the Logan River drainage by the State of Utah since 1993 which shows that all of the beneficial uses are being met in the waters draining the Logan watershed. In addition, BCT population monitoring has been occurring in the Logan River Drainage for several years. While population numbers have fluctuated, no impacts from winter motorized recreation use are known to have occurred. Since there are no direct or indirect effects on BCT, there are no cumulative effects.

Irretrievable or Irreversible Commitment of Resources

No irretrievable or irreversible commitment of resources is expected to occur to water quality, wetlands, or aquatic resource from any of the proposed action or alternatives of this project because no water resources are impacted or removed from the project area, wetlands are avoided and not impacted, and aquatic resources are not expected to be affected.

3.6 Scenery

Affected Environment

Project Landscape Character Theme - Natural Appearing

The existing landscape character has been influenced by both direct and indirect human activities, but appears natural to the majority of viewers. Natural elements such as native trees, shrubs, grasses, forbs, rock outcrops and streams or lakes dominate the views. While there is evidence of human influence from historic use, campgrounds, small organization camps, rustic structures and management activity, it is part of the valued built environment in the landscape to the majority of viewers.

Project Landscape Character Theme - Developed Natural Appearing

This landscape character theme is characteristic of National, National Forest and State scenic byways with developed recreation facilities, concentrated use areas and undeveloped recreation impacts within the foreground of the viewshed (1/2 mile). In these areas, the roadway, recreation amenities, and development are anticipated features in the landscape. For users these amenities are part of the valued natural appearing landscape. Users of these amenities are attracted to the natural appearing landscape, but desire a moderate to easy interaction with the landscape through the use of these amenities. This landscape character is adjacent to Natural Evolving and Natural Appearing landscape character themes and should draw from, complement and harmonize with these themes.

Project Scenic Integrity Objectives

Natural Appearing LCT with a High SIO where the valued landscape character “appears” intact. Deviations may be present but must repeat the form, line, color, texture, and pattern common to the landscape character so completely, and at such scale, that they are not evident.

- Cultural Features found in the landscape are: campgrounds, group sites, organization camps, picnic areas, recreation cabins, and organizational sites follow architectural themes and harmonize with the surrounding landscape.
- Historic sites are maintained or enhanced to propagate their inherent values.
- Roadway guardrails integrate into the surrounding landscape.
- Bridges complement the surrounding landscape.
- Fences are subordinate to the landscape by use of color and blending with the historical cultural context of the communities.
- Parking lots, trailheads, restrooms are present. Architecture is thematic and borrows from the form, line, color and texture of the surrounding landscape. Parking lots, roads, and other amenities appear to be part of the natural appearing landscape by eliminating the geometry of the built feature upon the landscape. For example, road cuts do not slice through the landscape, but are shaped, contoured and constructed so that the landscape is only interrupted by the track of the road.

Scenic Attractiveness

Viewing scenery is one of the top five things to do on the Wasatch-Cache National Forest according to research conducted for the National Visitor Use Monitoring (NVUM) in 2002 and 2003. Within the proposed project area, the Wasatch-Cache National Forest is managing the landscape character as Natural Appearing and Development Natural Appearing landscape character themes (LCT). For both of these themes, the naturalness or apparent naturalness is the dominant image that people see, with some introduced positive cultural elements (such as, fences, roadways, parking lots, trails, campgrounds and structures) that are subordinate to the viewed landscape.

The viewshed of Highway 89 throughout Logan Canyon has long been recognized as a jewel for scenery in the State of Utah and in the Nation. Formal recognition began in the late 1980’s when the Highway was designated as National Forest Scenic Byway not long after the State of Utah gave its designation as a State Scenic Byway. In early 2000’s the Byway received its designation as a National Scenic Byway. In the corridor management plan for the byway objectives were identified to protect the intrinsic qualities of scenery for the canyon. The project falls within Upper Canyon (Franklin Basin) portion of the byway where the landscape is “characterized by mountainous terrain and large, expansive groves of aspen, which make a sharp contrast to adjoining Douglas fir, sub alpine fir and lodgepole pine” stands. For the most part the viewed landscape in this part of the canyon appears natural with some incursions of minor roadways both dirt and pavement. There are recreation residence on private land located between Tony Grove turnoff and Franklin

Basin trailhead intersection that introduce the built environment into the landscape in the section of the byway. For further information, see the Scenery Report in the Project File.

Environmental Effects

Issue Statement: The proposal or alternatives may affect the scenic integrity of the landscape.

Indicator used to compare alternatives:

- The relative degree to which Scenery Management meets objectives

Alternative 1

The effects of this alternative on the viewed middleground landscape will be short term for the most part once vegetation is established. During construction and until herbaceous plants are established in the seen disturb areas less than a quarter of the length of trail construction will be evident from Highway 89 and about 2/3 of trail length would be seen from middleground views of the recreation residence on private land. Because of the removal of woody vegetation within the proposed 20 foot wide groomed section of the trail that are seen may have contrasting textural and/or color change where the geometry of the trail may be evident. Where the trail is constructed views from the immediate foreground by the causal visitor of the trail may be evident even after herbaceous plants are established because of the contrast of the plant structure within the viewed landscape.

Alternative 1A

This alternative has the potential to have the greatest effect on the landscape because of length of the trail and the steepness of the slope where the 20 foot wide trail is being proposed to be constructed. About a third of the trail is being constructed perpendicular to the slope where only large woody vegetation and rocks will need to be removed for a 20 foot width. The remainder of trail is being constructed parallel to the slope in varying percent of cross slopes. About half of the trail would have minimum disturbed areas of around 23 to 27 feet in width with the last quarter of the trail having disturbance area widths of 34 feet and a small section needing approximately a 68 foot width to accommodate a cut along a steep slope. In the parallel section of the trail as disturbance areas expand there is a greater possibility that herbaceous plants may not establish or may take a longer period of time to establish because of the 1 1/2 to 1 cut and fill slopes. In these sections the geometry of the trail may dominate the viewed landscape. Those viewing the landscape from Highway 89 and from the recreation residence may see about quarter of the trail during construction and until vegetation is established in the

landscape. Once vegetation is established small sections of the trail may be evident because of the contrast in color and texture of vegetation between the undisturbed and disturbed vegetation in the viewed landscape. During the snow on season and in good light conditions the groomed tracks will be evident to both the users of the recreation cabins and travelers on the highway and portions of the trail parallel to the slope may be evident.

Alternative 1B

Effects for 1b are the same as Alternatives 2-5 except that trail signs and pull-behind groom trail may be evident in seen areas from the highway and recreation residences during the snow on season.

Alternative 1C

Has a similar effect to Alternative 1.

Alternatives 2-5

Alternatives 2-5 will have little if any effect on the viewed landscape in the off snow season because the proposed actions happens when snow is on the ground. During the snow on season tracks from skis or snowmobiles on the south face of the ridgeline that is just north of the Tony Grove turn off may be evident, but this will be a short term effect for alternatives 2, 3 and 5 because of weather conditions. This south facing ridgeline appears to be the only location where there may be concentrated evidence of snow activities as viewed from Highway 89, because of viewing distance from the activities $\frac{3}{4}$ of mile plus and that the main focus of viewer will be within a few degrees of the cone of vision of the alignment of the road. On the other hand concentrated or single tracks may be evident in the middleground view from the recreation residence on private land because the duration of view from the residence. As weather conditions and sunlight change evidence of snow activities may not be apparent.

Alternative 6

This alternative will have similar effects to Alternatives 2-5 except that this alternative is proposing to construct a pedestrian bridge near the Franklin Basin and the concept of parking areas up Tony Grove Road and at Twin Creek road. These proposed constructed features could be part of the Develop Natural Appearing LCT if they are constructed to comply with the Forest Plan. Because both proposed parking areas would be designed to accommodate snowmobiles and motorized transport, for the design to comply with Forest Plan direction the parking lot would need to have a minimum of 1 parking stall sized area of landscaping per 10 parking spaces. For motorized snow parking areas this can be

difficult if not taken into consideration early on in the design process. Parking areas would be designed to meet Forest Plan direction.

The Twin Creek parking area would be evident from Highway 89 by the casual visitor. Through the incorporation of screening and proper placement the parking lot could potentially be subordinate to the surrounding landscape and thus could keep the landscape intact as an anticipated built feature in the landscape.

The proposed parking area just up the Tony Grove road would not be seen from Highway 89 because the placement could occur on a bench above the road. The parking lot would not be evident to the recreation residences on private land because of existing topographic and vegetative screening. If the proposed parking lot is placed north of the Tony Grove overlook corner, vegetation would also screen the parking area from view. Doing similar mitigation measures as mentioned in the Twin Creek parking area the parking lot could be subordinate to the viewed landscape and become an anticipated built feature and maintain the high scenic integrity objective of this Developed Natural Appearing landscape.

Alternative 7

Has a similar effect to Alternative 1.

Cumulative Effects

The cumulative effects analysis area for scenery is the Logan Canyon viewshed. The past, present, or reasonably foreseeable activity in this area that may cumulatively affect scenery includes reconstruction of the Little Bear trail in 2005. The effect of this project on scenery is negligible. Because this effect is minimal and effect from the proposed project is short-term and minimal, cumulatively, the effects of the proposed action or any of the alternatives in addition to Little Bear trail reconstruction will have little to no additional effect and will not significantly affect scenery in the analysis area.

Irretrievable or Irreversible Commitment of Resources - No irretrievable or irreversible commitment of resources is expected to occur to scenery resources from either the proposed action or its alternatives because vegetation that may be removed for the snow trail would grow back over time if the winter trail was abandoned. No other motorized or non-motorized activities would have impacts to scenery resources outside of snow trail corridor.