

EXECUTIVE SUMMARY

INTRODUCTION

The Bridger Bowl ski area (Bridger Bowl) is located in Bridger Canyon, approximately 15 miles northeast of Bozeman, Montana (see Figure 1-1). Bridger Bowl, Inc., a non-profit Montana enterprise operates the ski area. Bridger Bowl, Inc. currently owns approximately 480 acres on the lower mountain and has a Special Use Permit (SUP) from the Gallatin National Forest (GNF) for use of approximately 1,042 acres of National Forest System (NFS) lands. The Study Area for this analysis includes the current SUP area, those NFS lands proposed for SUP area expansion, and the private lands within and adjacent to the Bridger Bowl; it totals approximately 2,574 acres.

Local Bozeman skiing enthusiasts began using the area in the mid-1940s. The State of Montana negotiated with the local landowner and purchased 120 acres near the base of the Bridger Mountains for access to the national forest and for the proposed State Park and ski area in 1949. Although the plans for a State Park fell through, the local ski enthusiasts organized themselves as the Bozeman State Park Recreational Association (BSPRA) and continued with plans to develop a winter sports area beyond the State land. In 1954, the Forest Service issued the BSPRA a SUP to operate a rope tow and construct a parking area on NFS lands. For the past 50 years, Bridger Bowl, Inc. has pursued acquiring lands in the base area and has used this property to construct parking lots, base lodges, a ski patrol building, and ski terrain for beginners and novice skiers. The area has grown from one rope tow to eight lifts (including one surface lift reserved for ski patrol access to the ridge), 69 developed skiing trails, and two day lodges, with another lodge under construction in 2003 that is scheduled to open in 2004.

RELATION OF THE PROPOSED ACTION TO PREVIOUS NEPA

A draft Environmental Impact Statement (DEIS) for the Bridger Bowl Special Use Permit Renewal and Master Development Plan Update was prepared by the Forest Service in 1998 to and distributed for public comment in April 1999. It provided analysis of the effects of expanding the SUP boundary to the north and south, amending relevant Forest Plan Management Area prescriptions to conform to the proposed SUP expansion, and approving the revised Bridger Bowl Master Development Plan (MDP). Based upon review of the numerous comments received by the public and the need for new or revised analyses of resources (e.g., Threatened, Endangered, or Sensitive species; old growth forest; and additional analysis of cumulative effects), the Forest Service determined that the preparation of a Supplemental DEIS (SDEIS) would be the most effective way to present new information and respond to public comments on the DEIS. This SDEIS supercedes and replaces the 1999 DEIS, and includes changes to the proposed project elements that have taken place since the 1999 DEIS (Table 1.2-1). Many of the issues raised during the comment period for the 1999 DEIS have been incorporated into this SDEIS. In addition, new topography information and new, more accurate GIS methods have been used for the analysis in this SDEIS. A summary of public comments received on the DEIS is included in this document as Appendix B.

Table 1
Summary Comparison of Proposed Action Elements

1999 DEIS Project Proposal	2003 SDEIS Project Proposal
Renew SUP	Not required, SUP renewed in 2002 with existing boundary with a reduction of the west boundary
Expand SUP boundary on north and south, reduce boundary on the west to the ridge	Expand SUP boundary on north and south
Change designation of lands to MA 2 on north side of existing SUP (Bradley Meadows) and establish MA 2 on currently undesignated areas	Same
Construct seven new lifts, remove one lift and replace one lift	Construct six new lifts, remove one lift, replace one lift, and modify two lifts
Develop 22 new ski runs; plus N-8 access trail	Develop 16 ski trails; including N-8 access trail
Construct 4 new roads and relocate Bohart Ranch Trail, "Good Clean Fun"	Construct 1.8 miles of new roads (eight segments to proposed lifts and one to Limestone Chalet). No need to relocate Bohart Ranch Trail, "Good Clean Fun"
Expand Snowmaking from 10 to 27 acres	Snowmaking expansion completed, currently 27 acres of snowmaking coverage

Since the 1999 DEIS was issued, some construction activities have taken place at Bridger Bowl, both on private Bridger Bowl property and NFS lands. The Forest Service issued a new SUP to Bridger Bowl for operations within the existing SUP boundary in November 2002 under the authority of National Forest Ski Area Permit Act of 1986 (16 U.S.C 497b). This permit issuance did not constitute a major federal action under the terms of the National Omnibus Parks and Public Lands Management Act of 1996 (16 U.S.C 497c); however, one of the requirements of the new SUP is to have an accepted MDP on file. Bridger Bowl submitted a revised MDP to the Forest Service to fulfill this requirement; the accepted MDP is dated February 2002. The new SUP includes an adjustment to the western boundary of the Bridger Bowl SUP 50 feet west of the ridge line to accommodate Inventoried Roadless Areas. The 136-acre parcel that is now excluded from the SUP area was designated MA12 and has been appended to the GNF Forest Plan. The area of the Bridger Bowl SUP area has been issued for 1,042 acres as a result of this SUP area adjustment.¹ This SUP boundary adjustment of approximately 100 acres was discussed in the 1999 DEIS.

Since 1995, Bridger Bowl has completed several projects on both private and public lands to improve the existing conditions and meet the demands of today's skiers. On private lands, Bridger Bowl had parking lots designed and constructed to meet the Bridger Canyon Zoning Ordinance requirements. They have also completed the installation of a new wastewater treatment system, under the jurisdiction of Montana Department of Environmental Quality. A

¹ The current SUP indicates that the permit area is 1,042 acres; however, GIS analysis more accurately indicates the actual area of the SUP is 1,122 acres. The permitted SUP area (1,042 acres) is used throughout the text portions of this SDEIS, while the GIS-derived SUP area (1,122 acres) is used for all GIS analysis and data tables within this SDEIS.

new Ski Patrol building has been constructed on private lands adjacent to the Jim Bridger Lodge in November 2002. Construction of a new 35,629 square foot new Day Lodge began in the summer of 2003 and is scheduled for completion in 2004. Also, a beginner lift (Snowflake) was constructed on private lands adjacent to the lower portion of the Virginia City lift in the summer of 1999.

Over consecutive summers from 1998 to 2003, additional snowmaking lines were installed near the Virginia City Lift expanding the snowmaking coverage from 10 acres to 27 acres to allow for more reliable early season openings and to improve the quality of the skiing experience for beginners. The volume and timing of water withdrawals were not changed from conditions before the snowmaking expansion, and as such, water rights and instream flows were not affected (Bridger Bowl Management, 2003). All of these activities have occurred on private lands; however, the cumulative effects of these projects are included in this SDEIS.

The Powder Park Lift provides an access route for skiers accessing the Alpine and Bridger lifts and was designed to compensate for the shortening of the Alpine lift in 1995. The patrol surface lift (P-1) was replaced with a new platter lift, with no change to the ski patrol only access policy. This project was approved by the USFS as part of the 2000 summer construction plan. In 2001, the Pierre's Knob lift was replaced with a fixed grip triple chair to reduce lift lines and the unloading area was graded to allow for easier access for lower ability skiers.

In addition to projects and activities that have occurred at Bridger Bowl since the release of the 1999 DEIS, changes to the proposal have occurred as a result of new information and in response to public comments received on the 1999 DEIS; this is pertinent primarily to the Bradley Meadows portion of the analysis area. The options described in the 1999 DEIS for the N-1 and N-2 lifts have been reviewed and consolidated into a single lift line (identified as N-1 in this SDEIS). One ski run has been eliminated from the Proposed Action and three others have been removed from connected or reasonably foreseeable actions. Furthermore, the N-3 lift, described in the 1999 DEIS, has been eliminated. These project elements have been eliminated from the original proposal due to changes in other projects beyond the scope of this proposal (i.e., 360 Ranch). As a result, these projects are not included in this SDEIS; they are not proposed or under consideration by any known agencies at this time.

PURPOSE AND NEED

The Forest Service and Bridger Bowl management worked cooperatively to develop the purpose and need for this proposal. The overall purpose of the projects within the Bridger Bowl Master Development Plan Update 2002 is to improve the current recreation experience at Bridger Bowl, and address the expected growth in skier visits over the 40-year duration of the SUP in a financially sound manner.

Over the past 50 year operational period of Bridger Bowl, the ski area has seen increases in annual skier visits, with annual skier visits growth reflecting the growth in population in the region. This growth in annual skier visits is affected by the amount and timing of snowfall among other factors.

While the regional population has increased, other regional ski areas that compete with Bridger Bowl have expanded. Despite the increased number and size of the competition, Bridger Bowl continues to attract a high percentage of local skiers, and guests often experience crowded conditions in lift lines and on popular ski trails during busy periods.

Prior to the expansion of the parking and current expansion of the base area facilities, Bridger Bowl visitors regularly found crowded conditions in the parking and lodge facilities. These crowding conditions resulted in decreases in the largest single day (peak day) skier visits. Previous Bridger Bowl MDPs indicated the need for expanded base facilities; focus group studies conducted by Bridger Bowl in 1999 reconfirmed the need for improved facilities and “uncrowded” skiing.

Three needs must be met to achieve this overall purpose: 1) continue to provide uncrowded skiing by better accommodating high demand periods, 2) provide for new trails and lifts to retain existing skiers and attract new skiers by providing terrain variety and a range of trails for all ability levels, and 3) accommodate anticipated growth while maintaining the desired uncrowded slope conditions.

Need 1: To continue to provide uncrowded skiing by better accommodating high use periods.

Background

The current Comfortable Carrying Capacity (CCC) for lifts and terrain at Bridger Bowl is 3,200 skiers. On peak days, which are typically comprised of weekends, holidays, and big snow days, Bridger Bowl has observed up to 4,525 skiers. More routinely, the resort sees high use days of 3,500 skiers. On these days, guests often experience full parking lots, long lift lines, crowded slopes, and congested skier service facilities.

Skier focus group surveys, conducted by Bridger Bowl, indicated that a high quality recreation experience includes uncrowded slopes, a variety of slopes and terrain, low prices, and access to ridge skiing (Bridger Bowl Focus Group Study, 1999). Due to the close proximity of the ski area to Bozeman and the high number of local skiers, Bridger Bowl experiences high weekend and low midweek skier utilization levels. This utilization pattern tends to create a more expensive and inefficient resort operation, in that the ski area infrastructure realizes low utilization midweek. The current use pattern also results in the perception of crowded weekends at the resort. Although skier visitation continues to increase annually, peak day visitation has decreased since 1995. The reduction in the quality of the recreation experience has had a direct effect on visitation patterns and an indirect effect on the economic viability of the resort.

On-slope congestion is partially controlled by lift capacity; the lift only delivers a certain number of persons per hour despite high demand. Under peak conditions, the length of time and number of people in the lift line expands to unacceptable levels. Increasing lift capacity, without terrain expansion, would increase skier density above current levels and not address issues of amount and variety of terrain.

A second crowding condition occurs during periods of high snowfall or adverse wind conditions. During this condition, lifts and trails that are below avalanche terrain cannot be opened or have delayed openings until avalanche hazard reduction is accomplished. This means that in a highly desirable skiing condition (i.e., good new snow conditions), skiers who wish to utilize the Bridger Lift and Deer Park lifts are diverted to the Pierre's Knob and to a lesser degree, the Alpine lift. The diversions create long lift lines, sometimes in excess of three times the lift ride time (Bridger Bowl Management, 2003). This condition also causes more advanced, faster skiers to utilize terrain more used by lower ability level skiers, creating the potential for skier conflicts on limited terrain.

Focus

Reducing skier congestion at the base of lifts and on existing trails could be accomplished via the expansion of skiable terrain at Bridger Bowl, installation of new lifts, and modification of existing lifts. Expansion of skiable terrain would create more areas in which people could ski and help better distribute skiers across the mountain. Installation of new lifts would serve the new terrain in the expansion areas and increase access to existing ski terrain along the ridge, which is currently accessible only by foot. New lifts, located in areas of reduced avalanche potential, could distribute skiers better and reduce the mixing of different ability level skiers during times of snow safety concerns. Modification of some of the existing lifts within the SUP would improve skier circulation among lifts near the Deer Park Chalet.

Need 2: To provide new trails and lifts to help retain existing skiers and attract new skiers by providing a range of trails for all ability levels and terrain variety.

Background

Bridger Bowl has seen modest development over the past eight to ten years, with projects on both private and NFS lands designed to improve the recreation experience and better meet skier demands. In contrast to Bridger Bowl's modest development over the past eight years, Big Sky (45 miles from Bozeman) has developed 13 new lifts in the past 10 years (Big Sky Resort; website; November, 2003). Moonlight Basin, adjacent to Big Sky (47 miles from Bozeman) opened with four lifts as an independent ski area (Moonlight Basin website, December 2003). The Discovery Ski Area (134 miles from Bozeman) has added three new lifts since 2002 with three new trails in 2003 (Discovery Ski Area website, November 2003). Expansion of lifts, trails and facilities has also take place at Red Lodge Mountain Resort in Red Lodge, Montana and Big Mountain Ski and Summer Resort in Whitefish, Montana. A new ski area named Blacktail Mountain near Kalispell, Montana also opened recently.

Focus

Bridger Bowl could expand the amount and variety of skiable terrain available by incorporating the Slushman Drainage and Bradley Meadows areas into its SUP. The Slushman Drainage has already been allocated for winter sports (ski area) by the Forest Plan. Bridger Bowl could also provide increased access to existing ski terrain within the SUP area. Opportunities for expansion would create additional ski terrain for intermediate, advanced, and expert skiers as well as

provide a diversity of terrain at the resort. Additional lift service to the ridge would also enhance access to unique ski terrain within the existing SUP area.

Need 3: To accommodate anticipated growth in visitation at Bridger Bowl.

Background

Skier visits have increased by approximately 1.5 percent per year over the past 15 seasons (Bridger Bowl Management, 2003). Similarly, average annual growth in Gallatin County/Bozeman has been approximately 1.6 percent (Greater Bozeman Area Transportation Plan; Bozeman Transportation Coordinating Committee, 2001). Due to the strong connection between the community and the ski area, increases in skier visitation are directly tied to population growth.

As stated previously, the lift and terrain CCC for Bridger Bowl is 3,200 skiers. Using the population growth rates identified above, and a similar relationship between annual skier visit growth and population growth, Bridger Bowl will need to accommodate to 4,500 skiers, with an ability to handle peak days of up to 6,000 within the next 10 years.

Some of this expansion has taken place in the parking and skier services areas after 1999, so that the capacity of the guest services is 5,400 skiers. With completion of the base area improvements, parking congestion has been reduced, and facility congestion will be reduced upon completion of the new day lodge.

Focus

Accommodations for anticipated growth in the market could be accomplished via the expansion of skiable terrain and by providing increased access to existing ski terrain within the SUP area. Opportunities for expansion would create additional ski terrain for intermediate, advanced, and expert skiers as well as providing a diversity of terrain at the resort. Upgrading some of the existing lifts, as well as installing new lifts, would increase uphill capacity to service new and existing terrain. Providing lift service to the public to the ridge would enhance access to unique ski terrain within the existing SUP area.

SUMMARY OF THE PROPOSED ACTION

Lifts

- Modify or replace in existing alignment Bridger and Deer Park lifts
- Remove Alpine Lift
- Construct six new lifts (P-2 and P-3 surface lifts; and S-1, A-1, A-2, and N-1 chairlifts)

Trails

- Expand SUP area into Slushman Drainage (337 acres) and Bradley Meadows (274 acres)
- Construct 16 new trails (96 additional acres of developed ski terrain)

Mountain Service Roads

- Increase mountain road network by 1.8 miles in eight new road segments to facilitate lift construction and maintenance access within the Study Area on both NFS and private lands

Utilities

- Power for proposed project elements would be drawn from existing power lines and would be trenched within existing and proposed mountain service roads

Under the Proposed Action (and other action alternatives) additional development on private lands owned by Bridger Bowl could occur at a later time without a requirement for Forest Service approval or NEPA analysis. Construction of the Limestone Chalet, modification of the Virginia City Lift, and expansion of the parking area are not considered part of Bridger Bowl's site-specific NEPA proposal, but are considered connected actions.

SCOPING AND PUBLIC INVOLVEMENT

A notice of intent (NOI) to prepare an EIS was published in the Federal Register on June 13, 1997. Sixty-six letters were sent, using the GNF mailing list, to federal, state and local government agencies, Native American tribes and groups, and individuals interested in Forest activities. The GNF created an interdisciplinary team (IDT) to coordinate the scoping process within the Forest Service and assist in the development of issues and alternatives in response to the issues raised during the scoping process. Internal scoping involved meetings with IDT members on the Bozeman Ranger District and the GNF. Written correspondence with the USDI-Fish and Wildlife Service (USFWS) identified wildlife species of concern.

This project has been under discussion since 1986. Numerous newspaper articles (Bozeman Chronicle 6-23-91, 10-23-96, 10-24-96, 6-20-97, 6-24-97, Lone Peak Lookout 9-19-97) and local radio interviews have been prepared and conducted for the project at various times over the past 17 years. Several public meetings have also been held to discuss the various past proposals and consultant studies (June 23, 1997 - 3 PM and 7 PM Open House at Bozeman Ranger District offices, Bozeman, MT). A total of 87 letters and telephone calls were received and recorded in response to the initial scoping process. Additional comments were received during the two open houses. A synthesis of comments received during the initial scoping process is included in this document as Appendix A.

ISSUES RAISED DURING SCOPING

The comments received during the scoping process raised issues, concerns, or questions regarding the environmental effects of the project or alternatives. Some issues were identified by the public during the scoping process; other issues relate to resources that are protected by federal and/or state laws or management practices, and as such, they require analysis in the EIS.

From comments received during scoping and the comment period for the 1999 DEIS, issue statements were developed and refined to provide a measurable estimate of the environmental consequences that could result from each of the action alternatives. The intent of the following

issue statements is to clearly identify environmental resources that may be affected by specific activities associated with the implementation of each alternative.

Visual Resources

Existing ski trails at Bridger Bowl are visible from many locations adjacent to the project. Implementation of the Proposed Action would result in the location and construction of additional ski trails. This has the potential to change the existing visual condition as observed from various points, of which Bridger Canyon Road (BCR) was identified as the critical viewing point. Effects to this resource are estimated through comparison of existing visual conditions in the Bridger Bowl study area against impacts of alternative implementation.

Roadless

About 101 acres of the proposed expansion into the Slushman drainage basin to the south would be within the Bridger Bowl Roadless Area #1534. Effects to this resource are estimated through comparison of existing roadless characteristics (i.e., Natural Integrity, Natural Appearance, Remoteness, Solitude, and Special Features and Boundary Management) against expected impacts of alternative implementation.

Watershed

The Proposed Action has the potential to affect water quality and quantity. Existing water quality may be affected by surface and subsurface ground disturbance. These disturbances may include construction of parking areas, ski trails, access roads, and area operations such as increased demands on water and the sewer/septic system. Flow regime and channel morphology may be affected by these disturbances, which could alter the hydrologic response of the watershed. Water quality effects have been estimated by comparing existing sedimentation and water quality in surface and subsurface water resources to the condition under the developed condition. Water quantity effects have been estimated through the use of computer models and professional interpretation of the modeled effects under the developed condition in the SDEIS.

Wildlife

The Proposed Action has the potential to affect Threatened, Endangered, Proposed, Sensitive, and/or Management Indicator species. Habitat removal from the installation of chairlifts and the construction of ski trails may negatively affect the viability of species within Bridger Bowl study area. Effects on wildlife habitat are estimated through analysis of survey information and comparison of the existing wildlife habitat to wildlife habitat under the developed condition. Effects on wildlife disturbance are estimated by comparing existing use of Bridger Bowl and the disturbance regime to the anticipated condition after development.

Fisheries

The Proposed Action has the potential to affect habitat for aquatic species in the South Fork of Brackett Creek, which is inhabited by Yellowstone cutthroat trout and other species. Effects have been estimated through comparison of the existing aquatic habitat conditions to the anticipated conditions after development and how habitat changes would affect these species.

Wetlands

Several small wetlands occur in or near the project area. The Proposed Action has the potential to affect the wetlands by construction or operation activities. Effects to wetlands are estimated through comparison of the existing area and function of wetlands against the effects of development on the area and function of wetlands.

Recreation/User Conflicts

The proposed expansion of the SUP boundary may block access to or result in a loss of backcountry skiing and snowboarding terrain. Effects will be estimated through comparison of the existing capacity and economics of the ski area to the developed condition. Effects to backcountry and Nordic skiing have been estimated in the SDEIS by comparing the existing opportunities for these activities to the opportunities available under the developed condition.

ADDITIONAL ISSUES RAISED DURING THE DEIS PROCESS

Additional input on the document was received during the comment period for the 1999 DEIS; these comments raised issues, concerns, or questions regarding the environmental effects of the project or alternatives that were not clearly addressed or were not included in the 1999 DEIS. Additional issue statements were developed and refined to provide a measurable estimate of the environmental consequences that could result from each of the action alternatives and to include this information in the SDEIS. A more complete summary of the comments received during scoping is included as Appendix B in this document.

Purpose and Need

The document needs to better support the purpose and need to expand the ski area beyond its existing boundaries.

Recreation

Dispersed recreation and access to public lands needs to be described in more detail in the document. Additionally, ski area capacity across the alternatives should be described more clearly. Lastly, snowmobile use within the area needs to be addressed.

Socio-Economic Resources

The issue of Environmental Justice was not outlined in the document; there are potential effects to minority and low-income populations as a result of this proposal.

Noise

The document should describe current noise levels and anticipated effects as a result of the proposal.

Safety

The document should describe more clearly about issues of safety including skier safety, transportation and road safety, and emergency services.

Watershed Resources

The document should describe the anticipated road density at Bridger Bowl. It should also include a map of affected watersheds as well as disclose impacts to wetlands.

Vegetation

The document needs to describe the potential for noxious weeds to invade the project area as a result of construction. It should also describe effects to white bark pine.

Wildlife and Fisheries

There is no documentation of correspondence with the US Fish and Wildlife Service in the document. Additional surveys are requested for the boreal owl, wolverine, flammulated owl, and goshawk. Impacts to the Yellowstone cutthroat trout need as a result of increased snowmaking need to be more clearly defined.

Cumulative Effects

The document inadequately describes cumulative effects, particularly any reasonable foreseeable actions.

ALTERNATIVES CONSIDERED BUT ELIMINATED

Removal of P-2 Lift and Construction of a Shortened Slushman Lift to Avoid Impacts to Inventoried Roadless Areas (IRAs)

This alternative was identified to consider the effects of the reducing the lift system in the Slushman area, avoiding potential impacts to IRAs. The description of the current Proposed Action already indicates that no roads would be constructed to the proposed P-2 lift in the IRAs, and other impacts of the skiing and lifts are illustrated in the action alternatives. This alternative would not meet the project Purpose and Need for a lift system in the Slushman area for access to the ridge for avalanche control.

Increased Ski Area Capacity through Facility Upgrades within the Existing Ski Area, No SUP Expansion

This alternative was identified to assess the possibilities of expansion of facilities within the current ski area boundary. At the time of the 1999 DEIS, facilities were limited in the base area and in the ski terrain in general. Base area capacities have been increased on private lands to meet growing demand. To increase capacity for future demand and reduce existing congestion in the ski terrain, additional lift capacity could be developed; however, additional lift capacity within the existing SUP area would increase the number of persons on a ski trail, thus increasing skier density on existing trails. As a result, this alternative would not meet the Purpose and Need of maintaining “uncrowded” conditions.

Construction of the Ridge Access Lift P-2 further to the South above the Proposed Slushman Lift

This alternative was considered to reduce impacts of P-2 lift construction on the ridge area and responded to the issue of skier safety, which was raised during the scoping process. This alternative was not studied in detail in the 1999 DEIS because of avalanche safety concerns in the southern portion of the Slushman Bowl area and the cliff areas adjacent to the bowl. However, after comments to the 1999 DEIS were received, further study was completed in the Slushman Bowl. The alignment proposed in this SDEIS was found to better address previous construction and avalanche concerns, as well as skier circulation concerns.

Construction of Ridge Access Lift P-2 without Public Access

This alternative was developed to address public concerns regarding additional ridge access by the public, which affects ski quality and safety. The P-2 lift would be constructed, but access would be restricted to ski patrol for snow safety operations. Impacts to physical and biological resources from this alternative would be the same as the Proposed Action. Because of the similarities of this Alternative to others carried forward, this alternative was not analyzed in detail.

Construction of the Slushman Lift without the Ridge Access Lift P-2

This alternative would allow the lift and trail development in the Slushman drainage to meet the Purpose and Need for additional diverse terrain, but would not allow for the construction of the P-2 lift. This alternative was considered in response to the issue of increasing terrain in the Slushman area while limiting public access to the ridge. Access to the ridge would continue to be allowed for hike-to backcountry skiers. Avalanche safety would continue as currently managed. This alternative was not studied in detail because it would have been difficult for the ski patrol to access the ridge above the proposed Slushman lift and ski terrain in a timely manner for adequate avalanche hazard reduction work, and the impacts to resources would be very similar to the Proposed Action since no tree clearing would be required for trails servicing the P-2 lift.

Construction of a Chairlift to the Ridge

This alternative considered an aerial chairlift, rather than a surface lift to the ridge to reduce possible resource impacts, responding to vegetation and wildlife issues raised during scoping, and to make skier access to the ridge easier. This alternative was not analyzed further due to the lack of sufficient area at the proposed top terminal for skier unloading without major earthwork on the ridge. Additional concerns included the additional capacity the lift would provide to the ridge, as well as user safety due to high wind on the ridge.

Expansion of the Ski Area Permit for the Slushman and Bradley Meadows Areas without Lifts

This alternative was developed to address the concern of increasing lift-served skiing outside of the current SUP area by allowing the expansion of the SUP area without the construction of lifts.

The proposed expansion areas would be accessed by hiking along skier access trails. This alternative was not studied in detail because of snow safety concerns and skier evacuation concerns. Additionally, this alternative did not meet the Purpose and Need for the project, which includes the expansion of lift served skiing opportunities in order to better serve the public demand for less crowded conditions at Bridger Bowl.

ALTERNATIVES CONSIDERED IN DETAIL

Alternative 1

Under Alternative 1, there would be no change to the existing SUP or its boundaries, and Bridger Bowl would continue to operate under the conditions of the 40-year SUP that was issued by the Forest Service in November 2002. The existing lifts, ski trails, and facilities at Bridger Bowl would also be maintained in their current condition under Alternative 1. The overall resort CCC of Bridger Bowl would remain unchanged at approximately 3,200 skiers as limited by the capacity of the lifts and terrain. The guest services capacity under existing conditions is 5,400; this is limited by the capacity of the wastewater treatment system and will not change upon completion of the new day lodge. Under Alternative 1, there would be no additional effects on the biological or human environment resulting from development of new facilities. Implementation of Alternative 1 would not meet the Purpose and Need for the Proposed Action; however, it must be analyzed to provide a baseline by which to compare the environmental consequences of the action alternatives. Refer to Figure 2-1 for a graphic representation of Alternative 1.

Lifts

Under Alternative 1, Bridger Bowl would continue to operate eight ski lifts. Any future lift replacements on NFS lands would require project-specific NEPA analysis and approval from the Forest Service.

Trails

The existing terrain at Bridger Bowl would be maintained under Alternative 1, including 69 named trails that provide approximately 407 acres of developed ski terrain. The existing trail network would continue to accommodate a range of skier abilities from beginner to expert. It is comprised of approximately 1.4 acres of beginner terrain, 97.2 acres of novice terrain, 57.6 acres of low-intermediate terrain, 113.6 acres of intermediate terrain, 55.7 acres of advanced-intermediate terrain and 81.5 acres of expert terrain.

Mountain Service Roads

Under Alternative 1, Bridger Bowl would continue to operate its existing network of mountain service roads. The Bridger Bowl Study Area contains approximately 16 total miles of roads on NFS lands, Bridger Bowl private lands, and other private lands. Of this total, 8.6 miles are on NFS lands. No new road construction or obliteration projects would occur. Any future road construction or obliteration projects on NFS lands would require specific Forest Service approval.

Support Facilities

No new guest service facilities would be constructed on NFS lands under Alternative 1; however, construction of the new day lodge in the base area would continue.

Alternative 2

Alternative 2 is the Proposed Action as detailed in the 2002 Bridger Bowl MDP. If Alternative 2 is selected by the Forest Service, the 2002 Bridger Bowl MDP would be approved and would serve as the guidance document for the life of the SUP. Under Alternative 2, the guest services capacity would increase to 6,200 upon completion of the Limestone Chalet. However, the capacity of the lifts and terrain would only increase to 6,100, thus limiting the overall resort CCC of Bridger Bowl to 6,100.

In addition, the Bridger Bowl SUP boundary would be expanded to the north by 274 acres to include the Bradley Meadows area above the South Fork of Brackett Creek. The SUP boundary would also be expanded to the south into the Slushman Drainage area for an additional increase of 337 acres. In all action alternatives, the southeast portion of the SUP area would be adjusted to include the gun tower that Bridger Bowl currently uses for avalanche control work within their SUP area. This boundary adjustment would result in a net increase of 45 acres² to the Bridger Bowl SUP area. Refer to Figure 2-3 for a graphic representation of Alternative 2.

Connected Actions

Under all action alternatives, additional development on private lands owned by Bridger Bowl could occur at a later time without a requirement for Forest Service approval or NEPA analysis. For purposes of disclosure, these project elements are described here and the effects of these connected actions are described in Chapter 3; however, they are not considered part of Bridger Bowl's site-specific NEPA proposal.

The portion of the Virginia City Lift located on private land is proposed for modification within its existing alignment. Bridger Bowl would shorten the length of the lift line and relocate the bottom terminal uphill to reduce congestion in the base area.

In addition to completion of the new day lodge, the Limestone Chalet is proposed on private lands at the base of the proposed N-1 lift. The Limestone Chalet would be 4,151 square feet in size and would provide 180 additional restaurant seats and 50 deck seats. At a turnover rate of 3.7 people per seat, the Limestone Chalet would accommodate approximately 800 people per day with necessary infrastructure, including an on-site septic system.

An additional 1.5 acres of parking would be constructed adjacent to the existing parking lot on private lands in the base area. The additional parking lot would bring Bridger Bowl parking

² The proposed adjustment to the Bridger Bowl SUP area in the vicinity of the gun tower would result in a net increase of 45 acres to the SUP area. This is due to minor adjustments along this edge of the boundary, including the removal of approximately 16.7 acres from the current SUP area and the addition of approximately 61.4 acres for the inclusion of the gun tower. Refer to Figure 2-4 for additional information.

areas to design capacity as governed by Bridger Canyon zoning restrictions. Although the parking would be constructed on private land, new lots would have a native or gravel surface and be built with appropriate erosion control and drainage provisions.

Lifts

Under Alternative 2, Bridger Bowl would operate a total of 13 ski lifts, including 10 chairlifts and three surface lifts (see Figure 2-3). Bridger Bowl would increase the capacity of the lifts and terrain, as demand warrants, from 3,200 to 6,100. Two existing chairlifts would be modified or replaced in their existing alignments; Bridger and Deer Park chairlifts. The Alpine chairlift would be removed, and six new lifts would be constructed; P-2 and P-3 surface lifts; and S-1, A-1, A-2, and N-1 chairlifts.

Bridger Bowl would increase lift and trail capacity as demand warrants, therefore the development projects may be delayed in response to demand and financial considerations.

Trails

Alternative 2 proposes the development of additional ski terrain in both the Bradley Meadows and the Slushman Drainage expansion areas. This would entail the creation of 16 new trails (S-1 through 7 and trails N-1 through 9). Under Alternative 2, the Bridger Bowl trail network would increase by approximately 96 acres to 85 trails on approximately 503 acres. The trail network would accommodate the entire range of skier abilities from beginner to expert, comprised of approximately 1.4 acres of beginner terrain, 97.2 acres of novice terrain, 58.6 acres of low-intermediate terrain, 120.5 acres of intermediate terrain, 66.3 acres of advanced-intermediate terrain, and 159 acres of expert terrain.

The 16 proposed trails would be constructed according to the Clearing with No Grading and the No Construction Activities construction techniques described above and displayed graphically in Figure 2-2. Timber removal techniques would be consistent with Forest Service Standards and Guidelines. Trail alignments would follow natural fall lines to the greatest extent possible. Edges of the trails would be irregular to simulate natural forest openings consistent with providing a quality skiing experience and meeting visual quality objectives.

Mountain Service Roads

Under Alternative 2, the road network within the study area would increase to a total of 17.7 miles, with 1.4 miles of new road proposed on NFS lands and 0.4 miles of new road proposed on private lands. All new roads would have a natural native surface and would be used to access lift terminals for summer maintenance and construction. In total, eight new road segments would be constructed to facilitate lift construction and maintenance access. Two new road segments would be constructed to the top of the proposed A-2 and N-1 chairlifts, five road segments to the bottom of N-1 (on private lands), A-1, A-2, P-3 and S-1 chairlifts, and one road segment to the bottom of the Limestone Chalet on private land. The roads would meet Forest Service standards.

Utilities

The increase in on-mountain guest services capacity would be accommodated by the existing wastewater treatment system plus the on-site septic system at the Limestone Chalet; together they would accommodate 6,200 skiers per day. Power for proposed project elements, including the new lifts, would be drawn from existing power lines currently installed for power to chairlifts on existing terrain and would be trenched within existing and proposed mountain access roads. Additional power, domestic water, and wastewater treatment would be necessary for completion of the Limestone Chalet on adjacent private lands.

Forest Plan Direction and Consistency

Alternative 2 would require several amendments to the GNF Forest Plan to create and/or maintain consistency with management direction. These four proposed amendments are summarized below and detailed in Appendix C.

- Change the management area designation in the Bradley Meadows area (217.3 acres) from MA 12 (with an emphasis on dispersed recreation and big game habitat) to MA 2 (with an emphasis on winter sports areas). Section 13 was acquired by the Forest Service in 1993 through a land exchange; this area currently has no management area designation. In addition to the change above, approximately 57 acres would also be allocated to MA 2 (Marlenee, 1999). The remainder of Section 13 would be designated to MA 12 to maintain habitat integrity.
- In conjunction with the SUP adjustment for the inclusion of the gun tower, change MA designations along the proposed southeast SUP boundary from MA 11 to MA 2 to ensure that all lands within the SUP area are designated MA 2. This would result in approximately four acres changing to MA 2. Approximately 17 acres would be removed from the SUP area and re-designated MA 11 as part of this proposal.
- In conjunction with the change in management area designation from 12 to 2, the Visual Quality Objective (VQO) for the Bradley Meadows area would also be amended to be consistent with MA 2 direction. As a result, the VQO for this area would change from *Retention* to *Partial Retention*.
- The elk habitat effectiveness index (HEI) is based on open road densities and cover availability. The Forest Plan standard for HEI is applied at the compartment level, since timber compartments are ecological units defined by topographic and hydrologic features, and generally encompass an area representative of elk summer range. It requires an HEI rating of at least 0.70. The Proposed Action includes timber compartments 504 and 515. Compartment 504 currently has an HEI of 0.54, while compartment 515 currently has an HEI of 0.50. The HEIs for timber compartments 504 and 515 are both below the minimum standard of 0.70 established in the Forest Plan. While road density would increase within the Study Area, it would not substantially alter the current HEI for compartment 504 or 515; however, a Forest Plan amendment is

required to address the current substandard condition and enable the Proposed Action to be consistent with management direction.

- In timber compartment 504, the existing area of old growth is currently below the Forest Plan standard of 10 percent; current conditions only display 7.0 percent old growth within the compartment. Implementation of the Proposed Action would further reduce the percentage of old growth within the compartment from seven to 6.95 with construction of the project elements associated with the N-1 Lift and N trails.

Alternative 3

Alternative 3 was developed by the Forest Service to reduce impacts to the Bridger IRAs surrounding Bridger Bowl by eliminating development in the Slushman Drainage area. None of the projects proposed under Alternative 3 would occur in the roadless area. Under Alternative 3, the guest services capacity for Bridger Bowl would increase from 5,400 to 6,200. The SUP area would be expanded by 274 acres to the north to include the Bradley Meadows areas. Expansion of the SUP area into the Slushman Drainage would not occur. The remainder of the project elements under Alternative 3 would be as described under Alternative 2. Refer to Figure 2-5 for a graphic representation of Alternative 3.

Lifts

Four new lifts would be constructed under Alternative 3; one surface lift (P-3), and three chairlifts (A-1, A-2, and N-1) for a total of 11 lifts. Bridger Bowl would increase the capacity of the lifts and terrain, as demand warrants, from 3,200 to 5,600. The Deer Park and Bridger lifts would be modified or replaced within their existing alignments. Under Alternative 3, the S-1 and P-2 lifts would not be constructed because there would be no expansion into the Slushman Drainage.

Trails

Alternative 3 proposes the development of nine new trails in the Bradley Meadows area. This would expand the developed trail network by approximately 52 acres for a total of 459 acres. The proposed trail network would have 78 developed trails, which would accommodate the entire range of skier abilities from beginner to expert. This would be comprised of approximately 1.4 acres of beginner terrain, 97.2 acres of novice terrain, 58.6 acres of low-intermediate terrain, 120.5 acres of intermediate terrain, 66.3 acres of advanced-intermediate terrain, and 114.4 acres of expert terrain.

Mountain Service Roads

Under Alternative 3, the road network within the study area would increase to a total of 17 miles, with 0.8 miles of new road proposed on NFS lands and 0.3 miles of new road proposed on private lands. All new roads would have a natural native surface and would be used to access lift terminals for summer maintenance and construction. Seven new road segments would be constructed to facilitate summer lift construction and maintenance access. Two new road segments would be constructed to the top of the proposed A-2 and N-1 chairlifts, four road

segments to the bottom of N-1 (on private lands), A-1, A-2, and P-3 chairlifts, and one road segment to the bottom of the proposed Limestone Chalet. The roads would meet Forest Service standards.

Support Facilities

The guest support facilities at Bridger Bowl would be the same under Alternative 3 as proposed under Alternative 2. Bridger Bowl would continue to operate the Jim Bridger Lodge and the Deer Park Chalet, as well as the new day lodge once it is completed.

Forest Plan

Alternative 3 would require several amendments to the GNF Forest Plan to create and/or maintain consistency with management direction. These four proposed amendments are summarized below and detailed in Appendix C.

- Change the management area designation in the Bradley Meadows area (217.3 acres) from MA 12 (with an emphasis on dispersed recreation and big game habitat) to MA 2 (with an emphasis on winter sports areas). Section 13 was acquired by the Forest Service in 1993 through a land exchange; this area currently has no management area designation. In addition to the change above, approximately 57 acres would also be allocated to MA 2 (Marlenee, 1999). The remainder of Section 13 would be designated to MA 12 to maintain habitat integrity.
- In conjunction with the SUP adjustment for the inclusion of the gun tower, change MA designations along the proposed southeast SUP boundary from MA 11 to MA 2 to ensure that all lands within the SUP area are designated MA 2. This would result in approximately four acres changing to MA 2. Approximately 17 acres would be removed from the SUP area and re-designated MA 11 as part of this proposal.
- In conjunction with the change in management area designation from 12 to 2, the Visual Quality Objective (VQO) for the Bradley Meadows area would also be amended to be consistent with MA 2 direction. As a result, the VQO for this area would change from *Retention* to *Partial Retention*.
- The elk habitat effectiveness index (HEI) is based on open road densities and cover availability. The Forest Plan standard for HEI is applied at the compartment level, since timber compartments are ecological units defined by topographic and hydrologic features, and generally encompass an area representative of elk summer range. It requires an HEI rating of at least 0.70. The Proposed Action includes timber compartments 504 and 515. Compartment 504 currently has an HEI of 0.54, while compartment 515 currently has an HEI of 0.50. The HEIs for timber compartments 504 and 515 are both below the minimum standard of 0.70 established in the Forest Plan. While road density would increase within the Study Area, it would not substantially alter the current HEI for compartment 504 or 515; however, a Forest Plan amendment is

required to address the current substandard condition and enable the Proposed Action to be consistent with management direction.

- In timber compartment 504, the existing area of old growth is currently below the Forest Plan standard of 10 percent; current conditions only display 7.0 percent old growth within the compartment. Implementation of the Proposed Action would further reduce the percentage of old growth within the compartment from seven to 6.95 with construction of the project elements associated with the N-1 Lift and N trails.

Alternative 4

Alternative 4 was developed by the Forest Service to reduce potential impacts to wildlife and old growth forest by eliminating development in the Bradley Meadows area. Under Alternative 4, the guest services capacity for Bridger Bowl would increase from 5,400 to 6,200 as demand warrants with proposed expansions and upgrades, the same as in Alternatives 2 and 3. In addition, the Bridger Bowl SUP boundary would be expanded to the south by 337 acres to include the Slushman Drainage area. Expansion of the SUP area into the Bradley Meadows area would not occur. Refer to Figure 2-6 for a graphic representation of Alternative 4.

Lifts

Similar to Alternative 3, Bridger Bowl would operate 11 ski lifts, including nine chairlifts and two surface lifts under Alternative 4. Bridger Bowl would increase the capacity of the lift and trail system to 5,100. Four new lifts would be constructed under Alternative 4; one surface lift (P-2), and three chairlifts (A-1, A-2, and S-1). The replacement and/or modification of two existing lifts (Deer Park and Bridger) would be as described under Alternative 2. Under Alternative 4, the proposed N-1 and P-3 lifts would not be constructed because there would be no expansion into the Bradley Meadows area.

Trails

Alternative 4 proposes to develop seven new trails in the Slushman Drainage area, which would expand the developed trail network by approximately 45 acres for a ski area total of approximately 452 acres. The trail network would have 76 trails, which would accommodate a range of skier abilities from beginner to expert. This would be comprised of approximately 1.4 acres of beginner terrain, 97.2 acres of novice terrain, 57.6 acres of low-intermediate terrain, 113.6 acres of intermediate terrain, 55.7 acres of advanced-intermediate terrain, and 126.1 acres of expert terrain.

Mountain Service Roads

Under Alternative 4, the road network within the study area would increase to a total of 17.1 miles, with 0.9 miles of new road proposed on NFS lands and 0.3 miles of new road proposed on private lands. All new roads would have a natural native surface and would be used to access lift terminals for summer maintenance and construction. In total, five new road segments would be constructed to facilitate lift construction and summer maintenance access. One new road segment would be constructed to the top of the proposed A-2 chairlift, three road segments to the

bottom of A-1, A-2, and S-1 chairlifts, and one road segment to the bottom of the proposed Limestone Chalet. The roads would meet Forest Service standards.

Support Facilities

Under Alternative 4, the guest support facilities at Bridger Bowl would be the same as proposed under Alternative 2. Bridger Bowl would continue to operate the Jim Bridger Lodge and the Deer Park Chalet, as well as the new day lodge once it is completed.

Forest Plan

Only one Forest Plan amendment would be required under Alternative 4; this is relative to the boundary adjustments made to accommodate the gun tower. Approximately 17 acres of land would be removed from the SUP and re-designated MA 11, while another 4 acres would be added to the SUP area and designated MA 2. The remainder of the lands in the proposed Slushman Drainage expansion area is already MA 2, and the current SUP would be amended to expand the SUP to include approximately 337 acres to the south of the existing SUP, within the Slushman drainage basin.

SUMMARY COMPARISON OF ALTERNATIVES

Table 2 presents a summary comparison of the alternatives, while Table 3 compares the environmental consequences of each alternative. A detailed analysis of the environmental consequences of each alternative is presented in Chapter 4 of the SDEIS.

Table 2
Summary Comparison of Bridger Bowl Facilities by Alternative

MDP Components	Alternative 1	Alternative 2	Alternative 3	Alternative 4
SUP area (acres)^a	1,122	1,778	1,441	1,504
Ski Area Capacity (CCC)	3,200	6,100	5,600	5,100
Guest Services Capacity	5,400	6,200	6,200	6,200
Lift and Terrain Capacity	3,200	6,100	5,600	5,100
Lifts				
Total Number of Lifts	8	13	11	11
Trails				
Total Number of Trails	69	85	78	76
Trail Distribution by Ability Level				
Beginner and Novice (acres)	99	99	99	99
Intermediate (acres)	227	245	245	227
Expert (acres)	81	159	114	126
Total (acres)	407	503	459	452
Roads				
Total miles within study area	15.9	17.7	17.0	17.1
Total miles on NFS lands	8.6	10.0	9.4	9.5
Food Service				
Total Number of Seats	1,430	1,610	1,610	1,610

^aThe SUP states that the permitted area is 1,042 acres in size. Based on analysis of the SUP area using GIS software, the SUP area is 1,122 acres in size. The updated GIS area of 1,122 acres was used in calculations for all proposed project elements.

Table 3
Summary Comparison of Environmental Consequences within the Study Area

Parameter	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Geology and Soil Resources				
<i>Impacts to Soil Resources</i>				
Temporary Soil Impacts (ac.)	0.0	+57.3	+50.0	+19.5
Permanent Soil Impacts (ac.)	62.0	+7.0	+5.3	+5.4
Total Soil Impacts (ac.)	62.0	+64.3	+55.3	+24.9
<i>Sediment Yield to Streams</i>				
SF Brackett (tons/yr.)	89.8	+1.6	+1.6	+0.0
Upper Bridger (tons/yr.)	161.2	+3.5	+3.5	+2.4
Maynard (tons/yr.)	63.7	+2.5	+2.5	+1.3
Slushman (tons/yr.)	100.0	+1.5	+0.0	+1.5
Totals (tons/yr.)	414.7	+9.1	+7.6	+5.2
Water Resources				
<i>Road Characteristics</i>				
Road Network (mi.)	15.9	+1.8	+1.0	+1.1
Road Network Density (mi/mi ²)	4.0	+0.4	+0.3	+0.3
Perennial Stream Crossings	5	+1	0	+1
Intermittent Stream Crossings	24	0	0	0
<i>Wetland Impacts</i>				
Impacts from Grading(ac.)	0.0	0	0	0
Impacts from Clearing (ac.)	0.0	-0.48	-0.48	0
Total (acres)	0.0	-0.48	-0.48	0
Vegetation (Forest Cover)				
Old Growth Forest Impacts (ac.)	182.9	-17.1	-17.1	-0.1
Mature Forest Impacts (ac.)	603.0	-26.1	-23.1	-7.6
Immature Forest Impacts (ac.)	184.6	-2.6	-0.5	-2.1
Total Forest Cover Impacts (ac.)	970.5	-45.8	-41.3	-9.8
Non-forest Cover Impacts	1,542.7	-13.2	-10.9	-9.5
Total Vegetation Impacts (ac.)	2,513.2^a	-59.0	-51.6	-19.3
Wildlife				
<i>Impacts to T & E Species</i>				
Gray wolf	No Effect	No Effect	No Effect	No Effect
Bald Eagle	No Effect	No Effect	No Effect	No Effect
Grizzly bear	No Effect	No Effect	No Effect	No Effect
Canada lynx	No Effect	Likely to adversely affect lynx habitat.	Likely to adversely affect lynx habitat.	May affect, not likely to adversely affect individuals.
<i>Impacts to R1 Sensitive Species</i>	No effect	May impact individuals of certain species.	May impact individuals of certain species.	May impact individuals of certain species.
<i>Impacts to Game Species</i>	No effect	May impact individuals of certain species.	May impact individuals of certain species.	May impact individuals of certain species.

Parameter	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Fisheries				
Impacts to Special-Status and T&E Listed Species	No Effect	No Effect	No Effect	No Effect
Inventoried Roadless Areas				
Impacts to IRAs	No Change	New SUP would include 101 acres of the IRA. No new roads would be built, 1.4 acres of trees would be cleared, and 0.7 acres of grading would take place in the IRA.	No Change	New SUP would include 101 acres of the IRA. No new roads would be built, 1.4 acres of trees would be cleared, and 0.7 acres of grading would take place in the IRA.
Impacts to Wilderness Characteristics	No Change	Lift & trails would reduce natural appearance of area. Level of solitude & remoteness would be diminished.	No Change	Lift & trails would reduce natural appearance of area. Level of solitude & remoteness would be diminished.
Air Quality				
	Compliance with state and Federal regulations.	Continued compliance with state and Federal regulations.	Continued compliance with state and Federal regulations.	Continued compliance with state and Federal regulations.
Visual Resources				
	Consistent with the VQO of Partial Retention assigned to the SUP area as viewed from BCR.	Expansion of SUP boundary to the north and change from MA 12 to MA 2 in this area would result in a change of VQO designation from Retention to Partial Retention. Consistent with assigned VQO when viewed from BCR.	Expansion of SUP boundary to the north and change from MA 12 to MA 2 in this area would result in a change of VQO designation from Retention to Partial Retention. Consistent with assigned VQO when viewed from BCR.	Would remain consistent with the VQO of Partial Retention assigned to the SUP area as viewed from BCR.
Cultural Resources				
	No impacts to NHRP-eligible resources.	No impacts to NHRP-eligible resources.	No impacts to NHRP-eligible resources.	No impacts to NHRP-eligible resources.
Socio-Economic Resources				
Environmental Justice	No disproportionate impacts to minority or low-income populations.	No disproportionate impacts to minority or low-income populations.	No disproportionate impacts to minority or low-income populations.	No disproportionate impacts to minority or low-income populations.

^a Total vegetation cover does not equal the Study Area size because there are approximately 64 acres of open water and developed land that are not vegetated within this area.

Mitigation Measures

NEPA and CEQ regulations require identification of all relevant, reasonable mitigation measures that could reduce the impacts of the project, even if those measures are outside the jurisdiction of the Forest Service. Therefore, the following list of mitigation measures are proposed for all of the action alternatives (i.e., alternatives 2, 3, and 4) to minimize and/or avoid impacts to resources or to enhance resource functions. These mitigation measures are specific to this project proposal and would enable implementation of project elements to meet the purpose and need in Chapter 1, while addressing resource issues. These mitigation measures would be incorporated into the project design and be included as permit or contract requirements. Local governments and state and federal agencies may require additional mitigation measures as conditions of permits.

Table 4
Mitigation Measures

Reference Code	Mitigation Measure Description
Vegetation Management	
VM-1	Machine harvest or ground based yarding of trees will not occur on slopes greater than 35% unless the soil is frozen and/or covered by more than six inches of snow.
VM-2	Any unplanned skid trails or roads will be approved by the Forest Service prior to construction.
VM-3	To the extent possible, avoid placing any heavy machinery in wetlands. If heavy machinery needs to operate on wetland sites with saturated soils or standing water, provide pads (such as plywood) under the machinery that would be capable of supporting it from sinking into the soil surface.
VM-4	Where tree clearing in wetlands is unavoidable, the shrub component understory will be maintained in order to provide root systems necessary for stability and sediment filtration. Mechanical trimming of shrubs for skier safety would be allowed to the degree that their vigor and survival are maintained.
VM-5	Pre-project surveys will be conducted in and adjacent to areas to be disturbed for any new plant species added to the Forest Service Sensitive Plant Species list after the publication of this document as directed by a Forest Service biologist.
VM-6	Minimize the amount of vegetation manipulation in sensitive areas such as wetlands, stream environments, and important wildlife habitat features. Ski trails should avoid wetlands or cross as little wetlands as possible.
Riparian Area Protection	
RP-1	No tree clearing for ski trail construction is proposed in SMZ under Alternative 2, however one road crossing is proposed. The road will cross the stream as close to perpendicular to the stream as possible. A 310 permit is required from the Gallatin Soil Conservation District for culverts installation in perennial streams.
Revegetation	
RV-1	All disturbed areas that have been regraded and re-topsoiled will be revegetated as soon as possible. All grass seed shall be free from noxious weeds. Seed shall be delivered to the site in sealed containers (bags) with the dealer's guaranteed analysis and blue tagged certification.

Reference Code	Mitigation Measure Description
RV-2	Revegetated areas will be monitored at least every year by Bridger Bowl until the fifth year to ensure that monitoring performance standards are met. Monitoring will include both qualitative and quantitative approaches to assess the success of all runoff and erosion control measures and revegetation efforts. In addition, monitoring will take place after each spring during the peak of the snowmelt cycle (see Appendix D for detailed monitoring guidelines).
Streambank Protection	
SP-1	Human created debris accumulations will be removed from streams to prevent reductions in stream channel stability and capability.
SP-2	Fertilizer application will be minimized in stream management zones (i.e., road or trail crossings). Manufacturer recommendations will be followed for minimum distances from water.
SP-3	Log landing and decking areas will be located out of the stream management zones.
Wildlife	
W-1	Helicopters may not fly above or land on the ridge from September 1 through October 31 to avoid disturbance to migrating raptors unless approved by the Bozeman District Ranger.
W-2	Wolverines and other scavengers may be attracted to human food sources such as garbage, which can result in mortality due to control of nuisance animals. Sanitation measures will be implemented by Bridger Bowl to prevent unwanted wildlife visitations to ski area facilities.
W-3	Due to the change in Management Area designation in the Bradley Meadows area from MA 12 to MA 2, the remaining portion of Section 13 will be designated MA 12 to maintain habitat integrity.
W-4	South Fork Brackett Creek Drainage will be precluded from motorized use to maintain habitat security.
W-5	If construction activities within and adjacent to streams and wetlands are scheduled to occur between June 1 – August 15, pre-construction surveys will be performed by a Forest Service approved wildlife biologist to determine if the streams and wetlands are being used by Boreal toads for breeding and rearing. If Boreal toads are observed appropriate BMPs will be developed by the Forest Service to minimize the potential for construction impacts during the June 1 – August 15 timeframe.
Cultural Resources	
CR-1	The project contractors are required to temporarily halt ground disturbing activities and notify the District Ranger in the event that subsurface cultural evidence or historical sites are encountered during project construction. An archaeologist will determine the significance of the materials and specify mitigation measures.
Air Quality	
AQ-1	All grading areas, including roadways, buildings, and lift terminal areas, will be sufficiently watered to prevent excessive amounts of dust. In the absence of natural precipitation, watering of these areas will occur at least daily with complete coverage.

ADDITIONAL MATERIALS INCLUDED

A list of preparers (Chapter 5) and a list of agencies and other governments involved with the SDEIS (Chapter 6) can be found in the SDEIS. References (Chapter 7), a glossary (Chapter 8), an index (Chapter 9) and four appendices (Appendices A-D) are also included in order to assist the reader in understanding the analysis in the SDEIS.

IDENTIFICATION OF THE PREFERRED ALTERNATIVE

At this time, considering the environmental impacts to public lands and the opportunities for use of those lands that would benefit the most people over the longest term, the Forest Supervisor prefers Alternative 2. Following review of public and agency comments on this EIS, the Forest Supervisor will make a final determination as to which alternative best serves the public interest on National Forest System lands. Modification of the preferred alternative may occur.

OPPORTUNITY TO COMMENT

Comments are encouraged on this EIS and should be provided during the review period of the draft EIS. Comments for the draft EIS shall be accepted for 60 days following the date of publication of the Notice of Availability (NOA) in the Federal Register pursuant to 40 CFR parts 1500-1508 (June 4, 2003). The 60-day comment period will begin on the first day after publication of the NOA.

Comments will be reviewed and addressed prior to making any decision. Comments on the draft EIS should be specific and should address the adequacy of the statement and the merits of the alternatives discussed (40 CFR 1503.3).

Send Written Comments to:

Bozeman Ranger District
3710 Fallon St., Suite C
Bozeman, MT 59718
phone: (406) 522-2520

Written comments may also be hand delivered during office business hours between 8:00 a.m. and 4:30 p.m. - Monday through Friday, excluding federal holidays.

Oral comments must be provided at the Responsible Official's office during normal business hours via telephone (406) 522-2520, in person, or at an official agency function (i.e., public meeting) that is designed to elicit public comments.

RESPONSIBLE OFFICIAL AND DECISION TO BE MADE

This EIS is not a decision document. Its primary purpose is to disclose the environmental consequences that are anticipated to occur through implementation of the alternatives under consideration.

The final decision will be documented in a ROD issued by Becki Heath, Forest Supervisor for the Gallatin National Forest. The ROD will be issued together with the FEIS and will identify the Forest Supervisor's Selected Alternative as well as the environmentally preferable alternative. The decision contained in the ROD will be subject to appeal by the Regional Forester under the appeal regulations described in 36 CFR 215 (June 4, 2003). Decisions made in the ROD for this NEPA document will be valid for the next five to ten years; however, the

Selected Alternative, as identified in the ROD, will provide the framework that will guide development of Bridger Bowl for the life of the SUP.

In addition to determining which alternative to select, the Forest Supervisor will also determine which mitigation measures to require. The Forest Supervisor may also require additional mitigation measures beyond those specific in Table 3.

In compliance with Forest Service Handbook 1909.15 chapter 18, the Forest Service will continually review the relevancy of the analysis and subsequent decision for new and changed conditions as any approved projects are advanced for implementation.