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Department of  
Agriculture

Forest  
Service

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# Environmental Assessment

## Galena Summit Communication Project

**Sawtooth National Recreation Area  
Sawtooth National Forest  
Blaine County, Idaho**

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## **List of Acronyms**

BA/BE	Biological Assessment/Biological Evaluation
EA	Environmental Assessment
EIS	Environmental Impact Statement
FS	Forest Service
FSR	Forest Service Road
MIS	Management Indicator Species
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NHRP	National Register of Historic Places
NRA	National Recreation Area
RFC	Request for Comments
SHPO	State Historic Preservation Office
SNF	Sawtooth National Forest
SUP	Special Use Permit
TECP	Threatened, Endangered, Candidate, or Proposed Species
USFS	United States Forest Service
USFWS	US Fish and Wildlife Service
VQO	Visual Quality Objectives

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# CHAPTER 1. PURPOSE AND NEED FOR ACTION

This Chapter identifies the Purpose and Need for the Proposed Action, the scope of the Proposed Action, and the Decisions to be Made. Chapter 1 also describes the regulatory framework, the scoping process, and issues identified concerning the Proposed Action and the No Action Alternative.

## 1.0 Background

Sawtooth Telephone has operated a communications site on Galena Summit under special use permit for 30 years. This site, which originally included a microwave facility and communication building, is located off of Forest Service road 70405 within the Sawtooth National Recreation Area (NRA). The microwave has been removed, but the building remains in use. While this site has been operated as a communication site for many years, it has never been formally designated as such.

In 2003, the Forest received a proposal from Idaho Tower Company to construct a wireless telecommunications facility (cell tower and support building) on Galena Summit near the existing Sawtooth Telephone facility. The public was asked to comment on the proposal in 2004. At the time of the 2004 public comment period, the Forest Service was considering soliciting bids from prospective companies to provide cellular coverage in the Sawtooth Valley and Stanley Basin. Ultimately, the Forest Service did not issue a prospectus to advertise for proposals, instead deciding to accept the Idaho Tower Company application.

The proposed wireless telecommunications facility is located within the Sawtooth NRA. On August 22, 1972, Congress passed Public Law 92-400 (PL 92-400) establishing the Sawtooth NRA. The intent of establishing the Sawtooth NRA was to protect the area's primary values of fish and wildlife resources, and the natural, scenic, pastoral, and historical values, and recreation attributes. Under PL 92-400, special uses such as a cell tower and building are recognized as valid uses so long as the use does not cause substantial impairment of the Sawtooth NRA primary values.

The documents cited in this EA and additional project documentation, including resource specialist reports and detailed analyses of project-area resources, are on file in the project record at the Sawtooth National Forest Supervisor's Office. The findings in the resource specialist reports are summarized in this EA.

## 1.1 Proposed Action

The Sawtooth National Forest proposes to issue a twenty-year Special Use Communication Lease to Idaho Tower Company for the construction and maintenance of a new wireless communication facility approximately ½ mile east of Galena Summit. The wireless communication facility would consist of a 90 ft. self supporting stealth tower resembling an evergreen tree, with antennas for public emergency services and up to four commercial carriers.

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The facility would also include a one story equipment building with a forest cabin façade. Multiple wireless communications carriers would co-locate, using the Idaho Tower Company tower and equipment building for their equipment. Public emergency services would also be allowed to place equipment in the equipment building. Idaho Tower Company would be the Facility Manager.

The cell carriers would provide coverage extending from Senate Creek near Galena Lodge north along Highway 75 across the Sawtooth Valley to near Pettit Lake. The quality of the coverage would vary depending on the terrain and vegetation. Electrical power would be supplied to the building by extending an underground distribution line from the existing Sawtooth Telephone communication building. Construction activities would occur over a three month period between May and October.

The Forest also proposes to formally designate the existing Sawtooth Telephone communication facility location on Galena Summit (Lot 1) and the new Idaho Tower Wireless Communication Facility site (Lot 2) as the Galena Summit Communication Site. The Communication Site Plan developed as part of the formal designation would limit development of the site to the existing Sawtooth Telephone facility and the proposed Idaho Tower Company tower and equipment building.

## **1.2 Purpose and Need**

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The Forest Service has been given direction from Congress and the President to facilitate implementation of the Nation's strategy for wireless communications. On August 10, 1995, President Clinton released a memorandum entitled "Facilitating Access to Federal Property for the Siting of Mobile Services Antennas." In his memorandum, President Clinton stated that:

"Upon request, and to the extent permitted by law and where practicable, executive departments and agencies shall make available, Federal Government buildings and lands for the siting of mobile service antennas."

On February 8, 1996, the Telecommunications Act of 1996 was enacted, giving further direction to federal agencies. In response to the memorandum and the Telecommunications Act, the General Services Administration released a bulletin listed in the Federal Register on June 16, 1997, titled "Placement of Commercial Antennas on Federal Property." This bulletin provides general guidelines and processes for implementation of President Clinton's memorandum. Regarding granting of siting requests, the bulletin states:

"Requests for the use of property, right-of-way and easements by duly authorized telecommunications service providers should be granted unless there are unavoidable conflicts with the departments or agencies mission, or current or planned use of the property or access to that property."

The 2003 Sawtooth National Forest Land and Resource Management Plan (Forest Plan) directs us to provide for communication site designations and developments that meet public needs and are consistent with direction for National Forest resources (Forest Plan, p. III-53, LSOB10).

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The Forest Plan directs us to work with utilities and others to identify potential areas for additional designated utility and communication facilities. Cell phone coverage along Highway 75 within the SNRA and in some of the unincorporated communities such as Sawtooth City is, for the most part, unreliable or unavailable. The proposed facility would provide for improved public safety by improving cell phone communication in these areas, and allowing local emergency services agencies the opportunity to install their equipment on the tower.

The existing Sawtooth Telephone Communications building is a stand-alone communications facility. If the Idaho Tower Wireless Communication Facility is approved, there will be a need to formally designate the existing communication site on Galena Summit. Forest Service Handbook 2709.11 direction states:

90.3 – Policy

1. Communications sites shall be designated in the applicable Forest land and resource management plan, except for single uses that involve minor development, such as personal receive-only antennas, resource monitoring equipment, temporary uses, and, in certain situations, a stand-alone communications facility.

## 1.3 Decision to be Made

The proposed Galena Summit Communication Site is located on National Forest system lands administered by the Sawtooth National Forest. The responsible official is the Sawtooth National Forest Supervisor, Jane Kollmeyer.

The decisions to be made are:

1. Whether or not to grant a 20-year Special Use Communication Lease (SUP) for the construction, operation and maintenance of a wireless communication facility, as described under the Proposed Action; and
2. Whether or not to formally designate the existing communication facility and/or the proposed wireless communication facility as the ‘Galena Summit Communication Site, and if so under what conditions.

The Forest Supervisor must also decide if authorization of the proposed wireless communication facility would result in substantial impairment of the primary SNRA values by determining if the applicable Forest Plan standards will be met. The determination of substantial impairment will be documented in the Decision Notice and Finding of No Significant Impact.

## 1.4 Public Involvement

Initial scoping for the proposed tower occurred in September 2004 and 147 comments were received. The Quarterly Schedule of Proposed Actions (SOPA) for the Sawtooth has shown the project since 2004.

A formal 30-day Notice and Comment period for the project was published on April 19, 2007 in the Challis Messenger (Challis, ID) and the Times-News (Twin Falls, ID). At the same time,



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notice was also sent to all the scoping responders. A press release was sent out to the media, with a news article published in the Idaho Mountain Express on April 20, 2007. A total of 93 comment letters/responses were received during the formal 30-day comment period.

The comments were analyzed and are summarized in the “Response to Comments” document which can be found in the project record.

## **1.5 Issue Identification**

Issues for the Proposed Action were identified by the Interdisciplinary Team and through public comments. The following issues were determined to be within the scope of the Project decision and are discussed in Chapter 3.

### **Issue 1: Visual Resources**

The installation of a communications tower and building could impact the quality of the visual environment. Concerns were expressed that the tower, although designed to look like a tree, would rise 40’ or more above the existing tree line and therefore would be visually obtrusive and impactive to the scenic quality of the area. Many felt that the proposed tower would be visible from State Highway 75, a State Scenic Byway. Backcountry skiers expressed concerns that the proposed facility would be highly visible from the skin track on the summit and would pose a serious visual intrusion.

On the other hand, some commentors felt that the tower would blend well enough. They felt, given its design to resemble a tree, most people would not even notice it was there. They expressed that they felt the location proposed is the least visually obtrusive option for location of a wireless facility.

### **Issue 2: Wildlife Resources**

Installation of the proposed facility could impact wildlife, including ESA listed species, in and migrating through the project area. Concerns were expressed that winter access into the Project area may not be consistent with Forest Plan direction related to groomed or designated over-snow routes within lynx habitat. Forest Plan direction (TES Standard 34) does not allow a net increase in groomed or designated over-snow routes within lynx habitat.

Concerns were also expressed that installation and operation of a cell tower may contribute to injury or mortality of bats and/or migratory birds as a result of collisions with the tower and associated equipment.

### **Issue 3: Wilderness**

The Sawtooth Wilderness is in the vicinity of the proposed project. While there is no intent to provide cellular coverage into the Wilderness, limited coverage is anticipated, especially at higher elevations including ridgetops and high cirques. Concerns were expressed that this “bleed over” of cellular coverage is inconsistent with Public Law (PL) 88-577, the Act establishing the Sawtooth Wilderness, and may compromise the wilderness area’s opportunities for primitive recreation and solitude.

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#### **Issue 4: Recreation**

The proposed project is located atop Galena Summit, within the boundaries of the Sawtooth NRA. This area is a popular recreation destination, providing for dispersed camping, picnicking, sightseeing and mountain biking in the summer, and high quality backcountry skiing in the winter. There is a concern that the presence of a cell tower and equipment building could affect the recreational experience on Galena Summit, especially for winter users.

#### **Issue 5: Safety**

##### **5a: Driving and Cell Phone Use**

The proposed area of cell phone coverage includes State Highway 75 which is located on a high mountain pass (Galena Summit) with steep, windy switchbacks. There is a concern that by making cell phone service available, motorists who choose to use their cell phones while operating a vehicle would be more likely to get into an accident serious enough to injure themselves, other drivers, and/or bicyclists.

##### **5b: Cell Phones Provide False Security**

There is a concern that cell service availability could lead to a false sense of security for some visitors who may rely on their cell phone rather than being prepared when traveling in the backcountry. This may result in increased backcountry emergencies, and thus, increased Search and Rescue missions.

##### **5c: Emergency notification during an incident**

Cell service availability may provide quicker response times for emergency services through initial notification of accidents to locating accident sites. Because of the high number of visitors and limited communication options within the Sawtooth NRA, the availability of wireless communications would be a benefit in the event of accidents, search and rescues, and wildfire. Emergency responders may be able to use cell phones to communicate with each other on an incident. It could also result in better communications overall for the traveling public, outdoor users and valley residents.

## **1.6 Relationship to the Sawtooth Forest Land & Resource Management Plan**

This environmental analysis is consistent with direction established in the 2003 Forest Plan and the Final Environmental Impact Statement prepared in conjunction with the plan. Information from the Forest Plan and the Final EIS have been referenced and incorporated into this document. The Forest Plan Consistency Checklist, contained in the project's planning record, lists applicable standards and guidelines from the 2003 Forest Plan and discloses how the Galena Summit Communication Project complies with those standards and guidelines.

The Forest Plan provides long-term management direction for the Forest and contains management standards and guidelines used in project planning designed to help provide progression toward forest-wide multiple-use goals and objectives. Management areas (MAs) were established within the National Forest to facilitate a greater "sense of place" and were based on similar management themes. Each MA has specific direction (i.e., goals, objectives,

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standards, and guidelines) that supplement forest-wide direction listed in the Forest Plan. The Galena Summit Communication Project area is located on the boundary of two management areas; MA02 Upper Salmon River Valley and MA04 Big Wood River (see Figure 1 below). Goals, objectives, standards, and guidelines for MA02 and MA04 are described in the Sawtooth National Forest Plan (USDA, Forest Service, 2003a, p. III-100 – III-123 for MA02 and III-144 – III-163 for MA04). Chapter 3 and the project record provide a comprehensive list of the applicable Forest Plan direction and how the proposed action and alternative does or does not meet that direction. Some of the more key forest-wide and MA direction are summarized below:

### 1.6.1 Forest Plan Goals, Objectives, Standard and Guides

#### Lands and Special Uses

- **LSGO04** - Proposed special uses of National Forest System lands—such as hydroelectric development, communication sites, water developments, and utility corridors—are considered that meet public needs, are consistent with direction for other National Forest resources, and cannot be accommodated off the National Forest.
- **LSGO05** – Special use authorizations are issued for uses that:
  - a) Serve the public,
  - b) Promote public health and safety,
  - c) Protect the environment, and/or
  - d) Are legally mandated.
- **LSOB10** - Provide for communication site designations and developments that meet public needs and are consistent with direction for National Forest resources.

#### Visual Resources

- **SCGO01** - Manage the Forest’s scenic resources to maintain the recreation and visual resource values, while meeting other resource needs.
- **SCST01** - All projects shall be designed to meet the adopted Visual Quality Objectives (VQOs) as displayed on the Forest VQO map.

#### Sawtooth NRA

- **SNGO02** - Manage and utilize natural resources on federally owned lands (such as timber, grazing, and mineral resources) insofar as these actions will not substantially impair achievement of the purposes for which the SNRA was established by Congress; specifically the maintenance of scenic, natural, historic, pastoral, fish, wildlife, and recreational values.
- **SNOB04** - Provide for consumptive uses of resources including removal of trees, grazing and extraction of minerals so long as these uses do not substantially impair the recreational and associated values for which the SNRA was established.

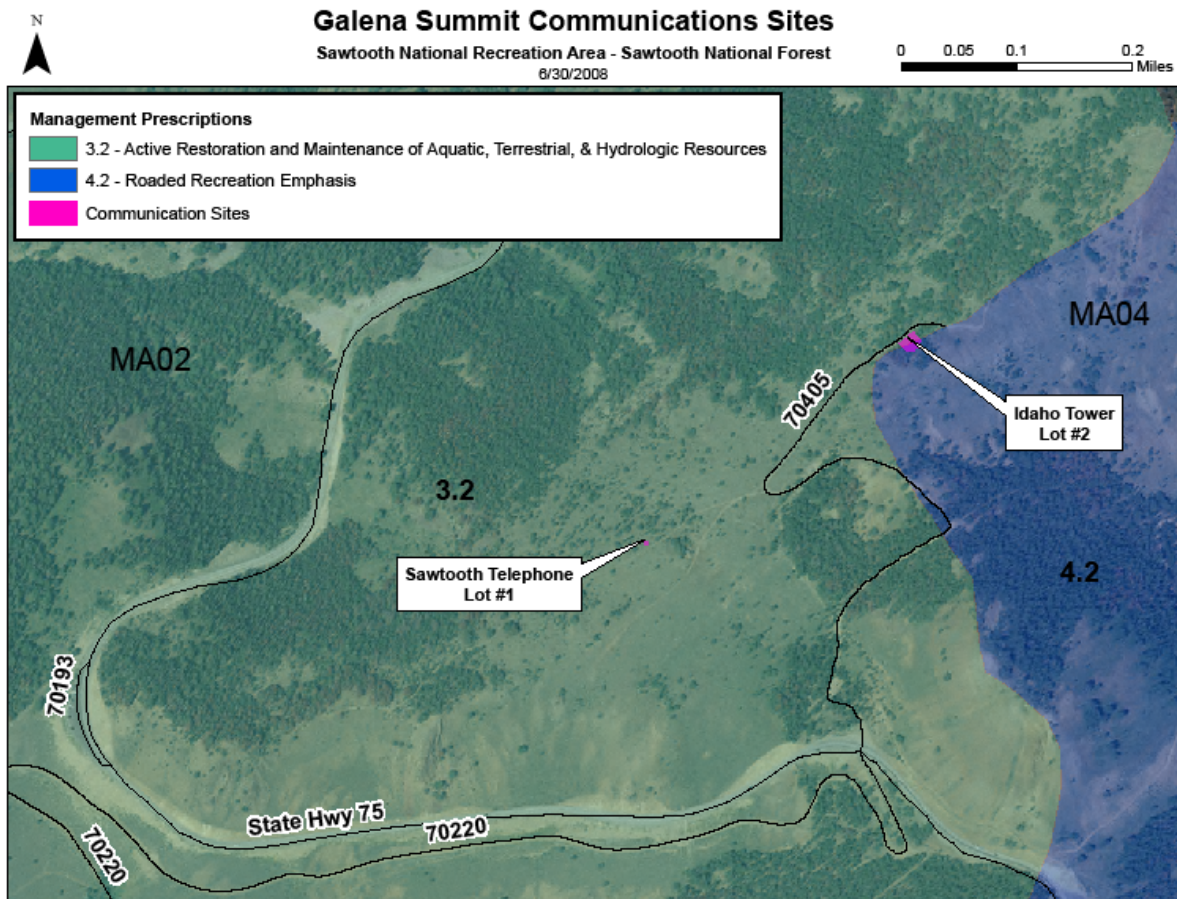
Management Area 02 and 04 direction:

- **Standard 0202 and 0402** - Within the SNRA, management, utilization, and disposal of natural resources on federally owned lands (such as timber, grazing, and mineral resources) shall be allowed only insofar as their utilization does not substantially impair achievement of the purposes for which the recreation area was established. “Substantial Impairment” is defined as that level of disturbance of the values of the SNRA that is

incompatible with the standards and guidelines of the Forest Plan (contained in this document). The proposed activities shall be evaluated as to: 1) the period of impact; 2) the area affected; and 3) the importance of the impact on the SNRA values. Use process guidance in Appendix I to assist in determining compliance with this standard.

- **Guideline 02128 and 0495** - On National Forest System lands, development or uses should meet inventoried VQOs wherever feasible. Where the inventoried VQO of Preservation, Retention, or Partial Retention cannot be met, a reduction of one VQO constitutes “impairment”. Any activity that produces discordant elements in excess of the next lower VQO may constitute substantial impairment. This will be determined through a comparative evaluation of the dominant elements of form, line, texture, color and variable factors, such as distance and scale of the activity on the landscape. A reduction of two VQOs constitutes “substantial impairment”. Specific projects or uses may deviate from the objectives if recreation or other SNRA values are enhanced. Mining operations may deviate if mineral objectives cannot otherwise be met. Use landscape architect guidance for all projects where deviation might occur.

**Figure 1:** Management Areas for the Galena Summit Communication Site Project Area



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### **1.6.2 Management Prescription Categories**

The Forest Plan directs activities within the various management areas through management prescription categories (MPCs). MPCs are broad categories of management prescriptions that indicate the general management emphasis prescribed for a given area. (See Figure 1) As previously described, the Galena Communication Project area is split between two MPCs, MPC 3.2-Active Restoration and Maintenance of Aquatic, Terrestrial and Hydrologic Resources and MPC 4.2 – Roaded Recreation Emphasis.

The objective of MPC 3.2 is to actively restore or maintain conditions for TEPCS fish, wildlife, and botanical species, or 303(d) impaired water bodies through a combination of management activities and natural processes. MPC 4.2 was designed to provide for a wide range of recreational activities and developments including both motorized and non-motorized recreation opportunities. Multiple uses such as timber harvest and grazing are allowed to the extent that they do not compromise recreation resource objectives.

### **1.6.3 Appendix I – Sawtooth National Recreation Area Act**

Appendix I of the Sawtooth Forest Plan (Vol. 2) provides process guidance for determining substantial impairment of each of the key values identified in Public Law 92-400 (appendix I, p. I-15 – I-25). Each key value has a general description of the desired condition; specific standards to be used as measures of substantial impairment; and the scope and scale at which to apply those standards. The process in Appendix I will be used to determine compatibility of the proposed action with PL 92-400. An Appendix I worksheet will be completed for this project and made part of the project record. The determination of substantial impairment will be documented in the Decision Notice and Finding of No Significant Impact.

## **1.7 Federal Licenses and Permit**

The wireless communications service is a category regulated by the Federal Communications Commission (FCC). Wireless communications services include cellular, personal communications services (PCS) and enhanced specialized mobile radio (ESMR) technology. The FCC regulates this service through issuance of licenses. The FCC license assigns frequencies and geographic areas to service providers (carriers).

The applicant must have the appropriate authorization from the FCC or the National Telecommunications and Information Administration Committee prior to any approval of the project by the USFS.

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## **CHAPTER 2. ALTERNATIVES INCLUDING THE PROPOSED ACTION**

This chapter describes and compares the alternatives considered for the proposed Galena Summit Communication Project. This chapter presents a description of each alternative considered. This chapter also presents the alternatives in comparative form, sharply defining the differences between each alternative and providing a clear basis for choice among options by the decision maker and the public. Some of the information used to compare the alternatives is based upon the design objectives of the alternative and some of the information is based upon the environmental, social, and economic effects of implementing each alternative. The process of formulating alternatives began with the scoping process presented in Chapter 1.

### **2.1 Description of Alternatives**

#### **Alternative A: No Action**

Under the No Action Alternative, a special use permit for the construction and maintenance of a wireless communication facility would not be granted and the proposed facility would not be constructed. The existing Sawtooth Telephone Company communication facility would continue to operate under the terms and conditions of its current special use permit. Neither the site of the existing facility nor the site of the proposed facility would be formally designated as a communication site.

#### **Alternative B: Proposed Action**

Under the proposed action, the Sawtooth National Forest would issue a 20 year special use permit to Idaho Tower Company to install and operate a wireless communication facility on Galena Summit within the Sawtooth NRA. The Forest would also formally designate the communication site. More specifically, the proposal includes the following actions:

#### **Galena Summit Communication Site Designation**

The Galena Summit Communication Site would be formally designated in accordance with the provisions of FSH 2709.11, Chapter 90.3. The site, located approximately ½ mile east of Galena Summit off of Highway 75, on Forest Road 70405, T6N, R15E, Section 6, would include 2 lots, approximately ¼ acre each. One lot is already developed and occupied by Sawtooth Telephone (Midvale). The proposed wireless communication facility would occupy the other lot. See Figure 2 below for configuration and location of the Lots. The Communication Site Plan would limit development at the site to the existing facility and the proposed wireless facility. The Communication Site Plan would include the provision that no additional expansion of the site would be allowed.



**Figure 2:** Aerial photo of Communication Site Lots



## Wireless Communication Facility

**Cell Tower and Associated Building:** This part of the project would involve issuance of a special use communication lease authorizing construction, operation and maintenance of a 90' stealth monopine tower. The tower would accommodate emergency responder antennas and up to 4 commercial carriers. A 22' x 44' stick frame equipment building, approximately 14' tall at the pitch would also be constructed at the site. The proposed tower and equipment building would be located approximately ½ mile east of Galena Summit off of Highway 75 (see Figure 2 above). The building would utilize wood composite siding with architectural shingles for the roof. An appropriately sized generator and liquid propane fuel tank will be installed for emergency power outages. Tower and building specifications include the following:

- The communications tower footprint would consist of a cement pad measuring approximately 14' x 14'. About 8' X 8' will be 2-3" above ground.
- A 90' wireless, self supporting stealth communication tower designed to resemble an evergreen tree would be installed on the cement pad (see photo 1 below).

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- The base diameter of the pine tree pole will be 53”, tapering to 26” at the top. Pine tree branches would extend from the pole, proportionately similar to real pine trees of the same height.
  - The stealth mono pine tower structure, simulated branches, supports, and antenna arrays will be painted or coated with non-reflective paint or coating.
  - Color and hues of tower structure and appendages to be natural earth tones to blend with surrounding vegetation and tree boles.
  - The building would house electronic communication equipment for the carriers. The completed building would measure about 44’x 22’ and would have a forest cabin façade.
  - The building would have a simulated wood finish. Color and hue would be of natural earth tones to blend with the surrounding landscape.
  - The Forest Service will pre-approve the architectural drawings of the building and all materials to insure that they adhere to the Sawtooth NRA’s western, ranch style character.
  - As necessary, snow removal away from the door will occur to provide for winter access to the building.



**Photo 1: Example of a Stealth Monopine Tower, Jackson Ski Area, Jackson, WY.** Photo courtesy USFS

**Access:** Construction personnel would access the Project Area via Hwy 75 and Forest Road #70405, just east of Galena Summit. An existing road currently accesses the proposed tower site (see photo 2). No new roads are needed for construction of the tower or equipment building. ITC may need to make temporary repairs to the road prior to initiation of construction to allow



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heavy equipment access into the project area. Should any damage to Road 70405 occur during construction, the applicant will repair the road to Forest Service requirements. Permit holders on Galena Summit could be required to enter into a collection agreement to collect funds for routine road maintenance to avoid resource damage. Winter access to the site would be non-motorized, though motorized access could be granted by the Sawtooth Forest on a case-by-case basis. It is anticipated that winter motorized access to the site may occur one to three times per winter.



**Photo 2: Galena Summit at junction of FSR 70405 and non-system road to Sawtooth Telephone site. Continue east to proposed tower and facility site.**

**Construction:** Construction of the cell tower and associated building will take approximately 90 days. This includes time to pour concrete, install the tower and construct the equipment building. If construction begins prior to August 15<sup>th</sup>, the applicant will need to provide a survey from an approved, qualified biologist for the existence of nesting birds in the vicinity. If nesting birds are found, construction will be delayed until August 15<sup>th</sup> when the fledglings have left the area.

A staging area about 100' x 100' will be needed during construction. This area will only be used when the cement truck and other heavy equipment are on site. The majority of the time there will only be a tool truck with laborers. The staging area will be designated by the Forest Service prior to mobilization and will be located along the existing roadway. The boundaries of this staging area will be marked and established (e.g. construction fence) to prevent use outside the designated area. When construction activities are complete, the staging area will be rehabilitated by: 1) breaking compaction, 2) applying an approved seed mix, and 3) scattering sufficient forest debris to provide productive site conditions and prevent continued use by vehicles. A smaller

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second staging area closer to the construction site may be needed for smaller vehicles only (e.g. utility truck). When construction is completed, the second staging area, if needed, would be rehabilitated following the same provisions as required for the larger staging area.

Power line trenches will be backfilled and re-compacted, and road drainage established sufficient to prevent excessive scour during subsequent runoff seasons to this disturbed strip.

### ***Environmental Protection Measures for the Proposed Action***

The following environmental protection measures were designed to reduce damage to existing natural resources and would be included in the terms and conditions of the communication lease and communication site plan.

***General*** –Temporary fencing would be used, as needed, to precisely define work zones and equipment turn-arounds. Such fencing would be installed prior to the start of construction activities and would help to ensure that disturbance is minimized.

***Hazardous Materials*** – Prior to construction, a Spill Prevention and Control Plan would be submitted to the USFS. No toxic materials including fuel or equipment servicing areas, including refueling stations, would be situated within 300 feet of any streams during construction activities. If fuel/oil or other hazardous material spill occurs, the Forest would be contacted immediately and actions would be taken to prevent the spill material from entering live waters. Additionally, soil remediation would be conducted including the removal of contaminated soils to an approved bioremediation facility. Soil samples would be taken to verify the success of the site remediation. The construction contractor would be required to follow any other local, state or federal regulations related to the use, handling, storing, transporting, and disposing of hazardous materials.

### ***Botanical Resources***

- All areas disturbed during project implementation would be restored to their natural grade.
- Weed free soil and fill from the area would be used during construction and restoration. If soil or gravel is not available on site, a weed free source would be identified prior to implementation. A Forest Service botanist will be contacted by the project leader for inspection of the source.
- To protect the integrity of native plant communities, restoration seeding and/or landscaping will utilize native seed and plant species. A Forest Service botanist will be contacted by the project leader for an appropriate species list prior to seeding or planting.

### ***Noxious Weeds***

- The project leader will coordinate with the Sawtooth NRA weed manager and/or Forest Botanist to identify new populations of noxious weeds within and adjacent to the project areas. Existing noxious weed populations within the project area would be treated under the Sawtooth National Recreation Area's noxious weed program prior to project implementation.
- No activities associated with project implementation would occur in known noxious weed populations.

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- If noxious weeds are identified during oversight monitoring, topsoil would be treated under the Sawtooth NRA's noxious weed program with a Forest Service approved herbicide appropriate for conditions.
  - All earth disturbing equipment used on National Forest System lands shall be cleaned of all plant materials, dirt and material that may carry noxious weed seeds prior to entering the forest. All contaminated waste water would be disposed of properly after washing.
  - Any improvements to the road will be kept to a minimum to avoid an influx of noxious weed activity from increased traffic.
  - The proposed project area and adjacent areas would be monitored for noxious weeds for the life of the wireless communication facility. All noxious weeds would be treated for eradication.

**Cultural Resources** – If during any project activities, cultural, historical or prehistoric resources are discovered, the USFS Authorized Officer would be notified immediately and all work in the area would cease. An inspection by a professionally trained archaeologist would be conducted and a mitigation plan developed, if necessary, in consultation with the Idaho State Historic Preservation Office (SHPO). Special Use Clause X17 (Archaeological-Paleontological Discoveries) or an equivalent would be included in all authorizations that require construction activity of any kind.

**Wilderness** – Mitigation for identified impacts to the Sawtooth Wilderness would include providing printed and verbal information to users about cell phone etiquette in the wilderness: Consideration of other visitors, including use of phones out of site and sound and the use of the “manner mode” setting instead of a ring tone.

### **Wildlife**

- Unless no other option exists, whitebark pine trees will not be removed during the construction of the tower and equipment building. A Sawtooth biologist, botanist, or forester will be on site during all tree removal to identify tree species and ensure that whitebark pines are protected. If it is determined that whitebark pine must be removed to accommodate the tower or building, the District Ranger will be contacted for approval prior to any removal of whitebark pine trees.
- Winter access to the site would be non-motorized, though motorized access could be granted by the Sawtooth NRA on a case-by-case basis. It is anticipated that this may occur up to three times per winter.
- In order to comply with the Migratory Bird Treaty Act and Executive Order 13186 the proponent will monitor bird mortality at the Galena Summit cell tower annually in coordination with Sawtooth National Recreation Area biologists.

**Visuals** – To reduce visibility and presence, no lights would be allowed on the building or tower.

**Road** – The access road may be temporarily closed during extreme water runoff to prevent further soil disturbance and road erosion. Some improved drainage (water bars, ditches, minor fill, grading out ruts) on the existing roadway may be constructed.

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The access road will not be used by communication site permit holders under conditions of high soil moisture when road damage and soil erosion are likely (e.g. spring and following seasonal rain storms).

**Timber** – Due to beetle infestation denuding the area of trees needed for screening and wildlife habitat, fuelwood removal would be restricted in the area to retain affected and unaffected trees.

## 2.3 Alternatives Eliminated from Detailed Study

**Alternative C:** This alternative would be identical to Alternative B with the exception of the 90' stealth mono pine tower. Instead of a single 90' tower, this alternative would utilize a 70' stealth mono pine tower to bring the tower more in line with the existing tree line. However, because antennas lose signal strength if they are surrounded by physical impediments such as leaves and tree branches, the shorter tower would still rise approximately 20' above the existing tree line.

**Rationale for Elimination from Further Study:** Radio Frequency engineering studies have shown that given current technology, the lowest location that would provide quality wireless coverage is at 70'. Also, depending on antennas and signal frequencies, there needs to be an average vertical antenna separation of ten feet.

Due to the stealth monopine design, the top 10' of the tower cannot hold antennas. Given that the highest location that an antenna could be located on the monopine design tower would be at 60', the installation of a 70' tower would not meet the intent of co-locating multiple carriers on one tower, nor would it meet the intent of providing quality coverage for even one carrier given current technology. Therefore, this alternative was not carried forward for further analysis.

**Alternative D:** This alternative is identical to Alternative C but would involve installation of two, 70' towers rather than one to allow for additional users.

**Rationale for Elimination from Further Study:** While this alternative would allow for an additional user, because of the engineering restrictions described in Alternative C above, this alternative would not meet the intent of providing quality coverage with current technology. Additionally, this alternative would result in a larger area of ground disturbance and with a higher probability for the need to remove trees. Therefore, this alternative was not carried forward for further analysis.

## 2.4 Comparison of Alternatives

This section provides a summary of the effects of implementing each alternative. Information in the table is focused on activities and effects where different levels of effects or outputs can be distinguished quantitatively or qualitatively among alternatives. For all resources, formal designation of the Galena Communication Site, in and of itself, would not result in any effects.

**Table 1.** Comparison of the Effects of the Alternatives According to the Issues

	<b>No Action Alternative 1</b>	<b>Proposed Action Alternative 2</b>
<b>Visual Resources</b>	<p>Existing visual conditions would be maintained and VQOs met.</p> <p>A non-significant Forest Plan amendment will be adopted that will classify FR 70405 roughly ¼ to ½ mile from the cross-country ski trail as a sensitive viewing corridor and will change the VQO to Retention as mapped in Figure 3. The Retention boundary follows groups of vegetation that should be protected within the Retention area to the north and to the south of the ski trail.</p>	<p>Visual conditions would be altered in both the short and long term. The existing VQO of Partial Retention from Highway 75, a.k.a. the Sawtooth National Scenic Byway, and the Alturas Lake Recreation Area would be met.</p> <p>The existing VQO of Partial Retention would not be met from FR 70405, nor would the appropriate VQO of Retention be met from that road (see Visual Resource discussion in Chapter 3 of this document). Installation of the 90’ tower would result in Substantial Impairment of Sawtooth NRA Scenic Values.</p> <p>A non-significant Forest Plan amendment will be adopted that would classify FR 70405 as a sensitive viewing corridor and would change the VQO to Retention as mapped in Figure 3; roughly ¼ to ½ mile from the cross-country ski trail. The Retention boundary follows groups of vegetation that should be protected within the Retention area to the north and to the south of the ski trail.</p>
<b>Wilderness</b>	<p>Bleed over of cellular coverage in the Sawtooth Wilderness would continue on ridgetops and high cirque basins.</p>	<p>Bleed over of cellular coverage in the Sawtooth Wilderness would continue to occur primarily on ridgetops and high cirque basins but the coverage may begin at lower elevations in these areas than is currently occurring.</p>
<b>Recreation</b>	<p>Current uses would continue. No change in recreation use or experience would occur</p>	<p>One dispersed camp site would be lost as a result of project construction.</p> <p>Some users, particularly winter users, may experience a reduction in quality of experience due to the presence of the tower facility.</p>

	<b>No Action Alternative 1</b>	<b>Proposed Action Alternative 2</b>
<b>Wildlife Resources Including Special Status Species</b>	There would be no loss of habitat, no increased potential for collision related mortality, and no increased risk as a result of exposure to radio frequencies.	Installation of the Proposed Idaho Tower Company facility would result in: <ul style="list-style-type: none"> <li>• Loss of approximately 0.25 acres of potential habitat for snowshoe hare, Canada Lynx, bats, boreal owl, three-toed woodpecker, pileated woodpecker and migratory as a result of vegetation removal.</li> <li>• Low probability for injury or death of pileated woodpecker, migratory birds and bats as a result of tower collisions based on the characteristics of the tower (90', unlit, no guy wires),.</li> <li>• Potential for exposure to radio frequencies to Calliope hummingbird, olive-sided flycatcher, Clark's nutcracker, mountain bluebird, Brewer's sparrow, Cassin's finch, black rosy-finches and boreal owl roosting or breeding near the tower resulting in possible displacement or mortality, or decrease in productivity due to embryo deformities.</li> </ul>
<b>Safety – Driving/Cell Phone Use</b>	There would be no impacts over the existing conditions	Accident rates should correlate to state-wide statistics for distracted driving due to cell phone use.
<b>Safety – Perceived Security</b>	There would be no impacts over the existing conditions	Cell phone coverage could lead to a false sense of security to some visitors who may rely on their cell phone rather than preparation or judgment for safety and security. It is unclear if this would measurably increase the current rate of search and rescue missions. There also could be some increase in the number of emergency calls received by the respective agencies that may be legitimate and result in quicker responses.

	<b>No Action Alternative 1</b>	<b>Proposed Action Alternative 2</b>
<b>Safety – Enhanced Emergency Response</b>	There would be no impacts over the existing conditions	The availability of cell coverage could result in more rapid notification of authorities of emergencies and improve emergency response times. Emergency service responders may have the ability to converse with each other using cell phones. Emergency services radios would also be enhanced. Improved communications by use of cell phones may reduce the need for unnecessary Search and Rescue action. By having cell phone service available in the project area, a phone with a GPS chip would allow the dispatcher to map a location for the caller and send emergency services.

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## CHAPTER 3. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This chapter summarizes the physical, biological, and social environment of the project area and the effects of implementing the alternatives on that environment. This chapter also presents the scientific and analytical basis for the comparison of alternatives presented in Chapter 2.

### 3.1 Description of the Project Area

The project area is located approximately ½ mile east of Galena Summit off of Highway 75 at an elevation of approximately 8880 feet. Galena Summit lies between the Boulder and Smoky Mountain ranges and divides the Big Wood River and Salmon River watersheds. The project area is dominated by lodgepole pine, whitebark pine and subalpine fir. As recorded at Stanley, precipitation averages 15 inches per year. Average daily summer (July) high and winter (January) low temperatures measure 78 and -2, respectively.

The project area also falls within the boundaries of the Sawtooth NRA. The Sawtooth NRA is managed as a “showcase of National Forest management” for quality recreation and all resources, services, and facilities. The mission of the NRA is to fully implement Public Law 92-400, “... to assure the preservation and protection of the natural, scenic, historic, pastoral, and fish and wildlife values and to provide for the enhancement of the recreation values associated therewith...”. Forest Plan management area direction specific to the Sawtooth NRA includes the following:

- Manage both federal and private lands to ensure the preservation and protection of the natural, scenic, historic, pastoral, and fish and wildlife values and to provide for the enhancement of the associated recreational values in accordance with Public Law 92-400.
- Management, utilization, and disposal of natural resources on federally owned lands (including Special Use Authorizations) shall be allowed only insofar as their utilization does not substantially impair achievement of the purposes for which the recreation area was established. “Substantial impairment” is defined as that level of disturbance of the values of the Sawtooth National Recreation Area, which is incompatible with the standards and guidelines of the Forest Plan. The proposed activities shall be evaluated as to: 1) the period of impact; 2) the area affected; and 3) the importance of the impact on the Sawtooth NRA values.

### 3.2 Visual Resources

#### 3.2a. Affected Environment

The Visual Management System is a management tool that determines scenic values and establishes allowable levels of human-caused change to the scenic environment. This system is used to plan project activities in order to keep visual impacts within levels of acceptable change. Management of the scenic environment using the Visual Management System requires the determination of Visual Quality Objectives (VQOs) for all areas within the National Forests. VQOs provide the scenic yardstick used to gauge the effects of activities.



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The current VQOs for the Sawtooth National Forest were mapped in the early 1980's and were reviewed during the Forest Plan Revision process. No modifications to the Forest VQOs have been made since the original mapping effort. The Sawtooth National Forest VQO map for this area identifies most of the Galena Summit landform as having a 'Partial Retention' VQO. This objective provides for *management activities which remain visually subordinate* to the characteristic landscape. Activities may repeat form, line, color or texture common to the characteristic landscape but changes in their qualities of size, amount, intensity, direction, pattern, etc., remain visually subordinate. There is also a small area (less than 10 acres) just down slope to the southwest of the proposed tower site that is mapped with a Modification VQO. This is the area immediately surrounding the Sawtooth Telephone communication site. The Modification VQO provides that *management activities may visually dominate the original characteristic landscape*. Activities should borrow naturally established form, line, color, and texture so completely and at such scale that its visual characteristics are compatible with the natural surroundings.



**Photo 3: Existing Sawtooth Telephone Company communication facility on Galena.**

The Sawtooth Telephone site is accessed by a gravel road, FR 70405. This road is currently used by about 10 vehicles per day in the snow-free season, primarily by people driving for pleasure, using the ridge road to access scenic views of the Sawtooth Valley or as a 'trailhead' to access untrailed dispersed recreation further out on the ridge. The Sawtooth Telephone site had been previously occupied by a large microwave reflector which was painted an unobtrusive color, and was visually screened from highway 75 by vegetation. The microwave reflector was removed in 2006. The only improvements currently occupying the ridge area are a low profile brick support building and a short tower operated under special use permit by Sawtooth Telephone (see photo 3 above). The building and tower are not visible from Highway 75 as they are completely

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screened by topography and vegetation. The building is visible from FR 70405. During the winter, as many as 3,500 backcountry skiers utilize FR 70405. The Sawtooth Telephone building is visible to those users, but is not visually dominant because it is covered by snow.

The current uses of the proposed tower site and the surrounding summit area are meeting the VQOs of Partial Retention and Modification.

### **Areas of Visual Concern**

**Sawtooth National Scenic Byway** – In 1991, State Highway 75 was federally designated as the 100<sup>th</sup> national scenic byway - the Sawtooth National Scenic Byway. The National Scenic Byways Program recognizes highways that are outstanding examples of our nation's beauty, history, culture, and recreational experience. This designation is an indicator that scenic resources along this route are especially attractive and important to the public. State Highway 75 is the most heavily used, visually sensitive travel route potentially affected by the proposed cell tower. The landform on which the tower would be located is visible as background and middleground from portions of this Highway (Photo 4).



Proposed Galena 90' monopine  
View from Hwy 75 heading south toward Galena Summit

**Photo 4:** Identified tower on ridgeline

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**Alturas Lake Recreation Complex** – Alturas Lake Recreation Complex is a popular recreation destination for many visitors to the Sawtooth NRA. Less crowded than the Redfish Lake complex, it offers three Campgrounds, one picnic area, two boating access sites, and three Organization camps along Alturas Lake and Perkins Lake. Scenery is of high quality with views of the Sawtooth Mountains to the west and north, and the White Cloud Mountains to the east. The Alturas Lake developed recreation sites and the access roads are sensitive viewing locations. The Galena summit landform is not visible from Alturas Lake and the associated recreation developments due to landform screening (Project Record, Visibility Modeling from Galena Tower). However, a short segment (< 1 mile) of the heavily used main access road into the Alturas Lake recreation complex (Forest road 205), and other less heavily used roads (Forest Roads 207, 441, and 440) in the vicinity of the intersection with Highway 75, have views to the Galena landform. The viewing distance from these routes is approximately 8 miles to the tower location.

**FR 70405 Skin Track** – During the winter months, access road FR 70405, referred to as the skin track in winter, receives heavy backcountry use in the form of skiing, snowshoeing and snowboarding. The area is known for its good snow conditions, access to large amounts of terrain and pristine scenic vistas. Although the skin track does pass within 200 feet of the existing Sawtooth Telephone facility, the facility is not obvious to winter backcountry users as it is screened by vegetation and typically covered in snow. The proposed tower site is in the immediate foreground of users of that route. The road approaches within fifty feet of the proposed tower.

FR 70405 was not identified as a sensitive travel route when VQOs were mapped and inventoried in the 1980's. Since that time, the route has experienced an increase in importance for recreation use. It is now estimated that winter use of the road exceeds 3500 users per season. The *Visual Management System for the Sawtooth National Forest*<sup>1</sup> (p 18), states that use on “trails, snowmobile routes, and cross-country ski routes with greater than 500 users per season” are considered high Use Volume travel routes that should be considered for inclusion as sensitive view corridors. Given the increase in use since the original inventory and the direction in the Visual Management System for the SNF, it was determined that we needed to reanalyze the seen areas and sensitivity levels in this portion of the landscape as part of this analysis. The analysis has been completed and shows that FR 70405 warrants management as a sensitivity level 1 travel route with a VQO of Retention. Documentation of the full analysis can be found in the project record.

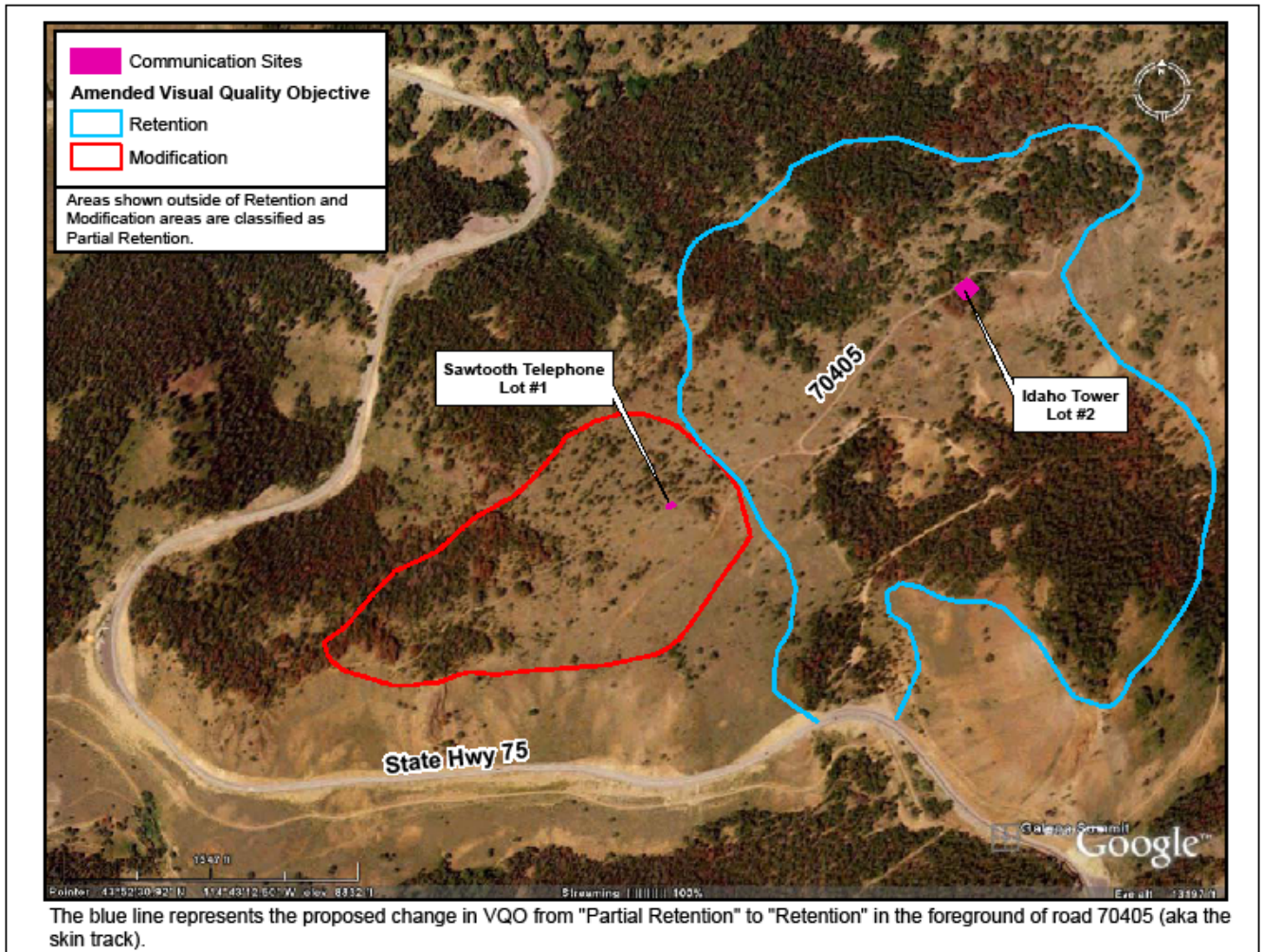
Figure 3 below shows the Retention VQO corridor that resulted from this analysis. Photo #5 (p.26) shows a simulation of the proposed Monopine tower off of FR 70405.

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<sup>1</sup> An assumption that is inherent in the application of the VRM system is that VQO may be modified over time as uses and conditions on the ground change, these changes may be necessary due to changes in recreational use patterns, and/or changes in the landscape such as fire or insect epidemics. It is expected that during any project level assessment that modifications may be made to the mapped inventory data to best reflect on-the-ground conditions (*Visual Management System for the Sawtooth National Forest*, p. 31, circa 1986).



**Figure 3:** Aerial Photograph showing VQOs for the Project Area.



**Sawtooth Forest Plan Direction Applicable to Visual Resources:**

- **SCST01** -All projects shall be designed to meet the adopted Visual Quality Objectives (VQOs) as displayed on the Forest VQO map.
- **SCST02**- Allow for short-term reductions in VQOs to accommodate Burned Area Emergency Rehabilitation (BAER) projects, emergency needs for protection of investments, and public safety needs. When reducing VQOs, attempt to meet the next-highest objective at the closest viewer distance or most relevant distance given the probable sensitive viewer.
- **SCGU01** - Definitions of VQOs are those used in the Visual Management System, Agricultural Handbook Number 462. VQO abbreviations are given in the table, below. See glossary definitions for more explanation of VQOs and distance zones used below.

Visual Quality Objectives		Distance Zones	
P	Preservation	fg	Foreground
R	Retention	mg	Middleground
PR	Partial Retention	bg	Background
M	Modification		
MM	Maximum Modification		

- **SCGU02** - Duration of visual impacts from ground disturbing and vegetation removal activities to allow for herbaceous vegetative recovery of ground cover may extend to three years in fgR, fgPR, mgR, and mgPR. Consider timely initiation of reseeded in areas where natural recovery is questionable.
- **SCGU13** - When a structure or facility is created for other than public use, the materials, color, and location should be chosen to reduce visual contrast of the structure.
- **SCGU14** - The use of natural or neutral colors and non-reflective surfaces should be considered for structures. An exception to this would be when the function of the structure is to be seen.
- **SCGU15** - Natural or neutral colors should be used in to help structures blend with the landscape.

### **Sawtooth National Recreation Area Scenic Values**

The enabling legislation provided clear direction: PL 92-400 establishes the Area to “Assure the preservation and protection of the natural, scenic, historic, pastoral, and fish and wildlife values and to provide for the enhancement of the recreational values associated therewith”. The priorities for management of the Sawtooth NRA include: “the conservation and development of scenic, natural, historic, pastoral, wildlife and other values contributing to and available for public recreation and enjoyment ... and ... the management, utilization, and disposal of natural resources ... insofar as their utilization will not substantially impair the purposes for which the recreation area is established”...

With that in mind the two Management Areas (MA) in the Forest plan within which the cell tower project lie (MA’s 02 and 04) include the following direction:

**Guidelines 02128 and 0495** - On National Forest System lands, development or uses should meet inventoried VQOs wherever feasible. Where the inventoried VQO of Preservation, Retention, or Partial Retention cannot be met, a reduction of one VQO constitutes “impairment”. Any activity that produces discordant elements in excess of the next lower VQO may constitute substantial impairment. This will be determined through a comparative evaluation of the dominant elements of form, line, texture, color and variable factors, such as distance and scale of the activity on the landscape. A reduction of two VQOs constitutes “substantial impairment”.

### **3.2b. Environmental Consequences:**

Effects on Visual Quality Objectives are assessed by analyzing the visibility and dominance of landscape alterations from identified sensitive travel ways, recreation sites, or other use areas.

#### **Alternative A (No Action)**

Under the No Action alternative, the Galena Summit Communication Site would not be designated and a new wireless communication facility would not be built. There would be no change in the visual conditions.

A non-significant Forest Plan amendment would be completed under this alternative which would modify the VQO mapping in the area to add a Retention Corridor in the Foreground of FR 70405, as shown in Figure 3 (p.23).

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All VQOs from the identified areas of visual concern: Partial Retention from State Highway 75, the Sawtooth Scenic Byway; Partial Retention from Forest Roads 205, 207, 440, and 441 in the Alturas Lake and Cabin Creek recreation complex; and Retention from Forest Road 70405 are met under this alternative. All the applicable Forest Plan Standards and Guidelines are met under this alternative and the intent of PL 92-400, the Sawtooth NRA enabling legislation is met by this alternative.

### **Alternative B (Proposed Action)**

Under the Proposed Action, the Galena Summit Communication Site would be designated and a new wireless communication facility, consisting of a 90' tall Stealth Monopine cell tower and support building would be built on the ridge above the existing Sawtooth Telephone communication site.

A non-significant Forest Plan amendment would be completed under this alternative which would modify the VQO mapping in the area to add a Retention Corridor in the Foreground of FR 70405, as shown in Figure 3. VQOs from the identified areas of visual concern: Partial Retention from State Highway 75, the Sawtooth Scenic Byway; Partial Retention from Forest Roads 205, 207, 440, and 441 in the Alturas Lake and Cabin Creek recreation complex are met under this alternative. Neither the appropriate modified VQO of Retention nor the mapped VQO of Partial Retention would be met from Forest Road 70405.

#### **Sawtooth Scenic Byway**

The tower would not be visible from Highway 75 from the east. The Galena summit landform on which the tower is to be located is visible to travelers approaching from the northwest at two different locations, one location within the middleground for approximately 1/2 mile and the other from the background for a distance of approximately 6.5 miles.

From Highway 75, the closest potential viewing distance is in the middleground at a distance approximately 1 mile west of the tower, for a view duration/distance of approximately 1/2 mile. Since this location is the closest the tower would be seen from the highway, the associated visual effects represent the greatest magnitude of potential visual effect. Simulation of the tower structure from this location shows that the tower would be barely perceptible and would not dominate the landscape (Photo 4). The modified tower replicates elements of a natural tree which breaks up the traditional unnatural linear structural lines of a cellular tower. The simulated pine tree branches provide a textural breakup of the tower structure. Non-reflective paint or coating and natural earth tone colors also will assist in reducing contrast of the structure. Towers using similar techniques have reduced visual contrast in forested settings at other locations. It is anticipated that the tower would generally appear as a natural element in the landscape and only the height above the surrounding trees would potentially draw any attention.

The landform on which the tower is to be located is also visible further to the west along Highway 75 at a distance extending from approximately 2.4 miles west of the tower (Frenchman Creek) to the Alturas Lake Road junction, a road distance of approximately 6.5 miles. At these distances from the tower location, the visibility to the casual forest observer would range from not perceptible at the furthest distance, to slightly noticeable closer to the tower location. At distances beyond 3-4 miles from the tower location along this highway, it is anticipated that the tower would not be perceptible to the casual forest observer. In all cases, at these viewing

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distances it is anticipated that the tower would appear as a natural element in the landscape. The Partial Retention visual quality objective would be met. The planned building structure would not be visible from Highway 75 or from the valley floor. (Photo 4, pg. 26)

### **Alturas Lake Recreation Area**

Although the Galena summit landform is not visible from Alturas Lake and the associated recreation developments due to landform screening (Project Record, Visibility Modeling from Galena Tower), the project area is visible from a short segment (< 1 mile) of the Alturas road (Forest Road 205) and other, less heavily used roads (Forest Roads 207, 441, and 440). Views from these segments of road have the potential to be affected by the tower because it would be sky-lighted along the ridgeline. However, given that the viewing distance from these routes is approximately 8 miles to the tower location, it is anticipated that the tower structure would be imperceptible and would not be noticeable as an unnatural occurrence in the landscape. The visual quality objective of Partial Retention would be met.

### **Forest Road 70405, the ‘skin track’**

This road provides the closest views of the tower and structure location. The road approaches within approximately 50 feet of the tower and structure location, the tower and structure would be highly visible where immediately adjacent the tower location. A visual simulation of the tower visibility from this road at a distance of approximately ¼ mile shows how the tower would appear (Photo 5).

**Photo 5: Photo simulation of proposed monopine based on actual photo of 90’ weather balloon.**



Proposed Galena 90' monopine  
1/4 mile from site



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The degree to which the visibility of the cell tower from the skin track dominates the landscape is the critical issue. The VQO Matrix clearly shows that the Retention VQO is the correct management direction given the significance of the trail and the distinctive landforms and vegetation as seen from the trail. The cell tower would not meet the immediate reduction in form, line, color, or texture contrast as seen from the trail that is required under the Retention VQO. The duration of visual impact would continue in the long term, and could not be mitigated by such means as hand planting of large vegetation stock, or even painting the structure to blend with the characteristic landscape.

The proposed cell tower would create visual dominance and also a discordant element within a foreground view that will result in lowering the VQO to Modification of the characteristic landscape. This is two levels below the recommended VQO of Retention. Neither the appropriate modified VQO of Retention nor the mapped VQO of Partial Retention would be met from FR 70405.

The following Forest Plan Standards and Guidelines are not fully met under this alternative:

- **Objective SCOB01** - Manage the Forest's scenic resources to maintain the recreation and visual resource values, while meeting other resource needs.

Because the visual analysis shows that the results of building the tower and building would cause the visual quality objective from Forest Road 70405 to be reduced to a condition of Modification, the scenic resources would not be maintained with the implementation of this proposal.

- **Standard SCST01** -All projects shall be designed to meet the adopted Visual Quality Objectives (VQOs) as displayed on the Forest VQO map.

The design will not meet the mapped Partial Retention VQO nor will it meet the amended Retention VQO from Forest Road 70405. The proposal does not meet this Standard.

- **Standard SCST02**- Allow for short-term reductions in VQOs to accommodate Burned Area Emergency Rehabilitation (BAER) projects, emergency needs for protection of investments, and public safety needs. When reducing VQOs, attempt to meet the next-highest objective at the closest viewer distance or most relevant distance given the probable sensitive viewer.

Implementation of this proposal will not result a short-term reduction of VQO, but instead would, for all intents, result in a permanent reduction in the VQO from Retention to Modification VQO from FR 70405. The proposal does not meet this Standard.

**The intent of PL 92-400, the Sawtooth NRA enabling legislation is not met by this alternative:**

The implementation of Alternative B would result in Substantial Impairment of the Scenic Values of the Sawtooth NRA.



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### **Measure of Substantial Impairment - Scenic Value**

The threshold against which substantial impairment to scenic values will be evaluated is incorporated into the Sawtooth Forest Plan through standards related to the Visual Management System (or the Scenery Management System when it is available). Violation of any of these standards, individually or cumulatively, may represent substantial impairment of the scenic values.

The analysis for visual resources forms the basis for determining if there is Substantial Impairment to the scenic values of the Sawtooth NRA. Determination of substantial impairment is directly linked to the analysis of the projects consistency with the assigned visual quality objective.

The cell tower would create visual dominance and also a discordant element within a foreground view as to cause a lowering of the VQO to “Modification” of the characteristic landscape. This is two levels below the recommended VQO of “Retention”, and would constitute “Substantial Impairment” of the Visual Resource, within the Sawtooth NRA.

*(Sawtooth National Forest LRMP, Volume 2, Appendix I, p. I-18).*

## **3.3 Wildlife**

### **3.3a. Affected Environment:**

As previously described, the project area is a pass, or low point, between the Boulder and Smoky Mountain ranges and between the Big Wood River and Salmon River watersheds. Due to its juxtaposition on the landscape, the project area is considered a migration and travel route for many species of birds and mammals. A road currently accesses the area in the summer, and the proposed cell tower site is within an existing dispersed campsite. The area is closed to motorized use in the winter as described in the Sawtooth National Forest Travel Plan.

The Sawtooth NRA provides habitat for one Endangered Species Act (ESA) listed species, eighteen Forest Service sensitive species, two management indicator species, and several migratory birds. Habitat needs and status of those species with habitat in the project area are discussed below.

#### **A. Endangered Species Act Listed Species**

Forest Plan Guideline TEGU02 requires that, for proposed actions that may affect potential habitat of TEPC species, potential habitat be identified and species presence within or near the project area determined. Canada lynx is currently the only species listed under the ESA with habitat in the project area.

#### **Canada Lynx (*Lynx canadensis*)**

Canada lynx are found in boreal forests and are closely associated with the snowshoe hare, their primary prey. In southern boreal forests, lynx are found in subalpine fir, Engelmann spruce, and lodgepole pine forests. Average home range sizes in southern boreal forest (which includes the north end of the Sawtooth National Forest) for males is approximately 58 square miles and 28 square miles for females. Ranges increase in size during periods of low prey availability (Aubry

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et al. 1999). Lynx diets are dominated by snowshoe hare however, in southern boreal forests alternate prey, especially red squirrels, as well as other small mammals and grouse, are important to lynx diets (Aubrey et al. 1999). Snowshoe hare prefer diverse, early successional forests with stands of conifers for cover and shrubby understories (Monthey 1986; Koehler and Aubry 1994). Lynx usually concentrate their foraging in areas where hare numbers are high, but they also require late successional forests with downed logs and windfalls to provide cover for denning sites, escape, and protection from severe weather (McCord and Cardoza 1982). Mating generally occurs in March and April and kittens are born late May to early June.

No lynx populations have been documented recently within the Sawtooth NRA. From 1999 – 2001 the National Lynx Detection Protocol was conducted within the Sawtooth NRA in the Sawtooth Valley and Stanley Basin. All hair samples collected from this survey were determined to be negative for lynx hair. The most recent confirmed sightings of lynx tracks in the Sawtooth NRA occurred during the winter of 1997 near the Fishhook Creek drainage and in the Alturas Lake Creek drainage. Trapping records from the 1960's and 1970's show that lynx occurred throughout the Salmon River watershed on the Sawtooth NRA.

The project area is located in the Upper Salmon-Beaver Lynx Analysis Units (LAU) within the Sawtooth Valley Biological Assessment area and in the Upper Big Wood LAU in the Wood River Biological Assessment area. Watershed biological assessments of the effects of ongoing projects to Canada lynx were completed in February 2003. As part of these analyses, baseline conditions for each LAU were described and evaluated as to their ability to conserve lynx. The baseline matrix describing existing conditions of lynx habitat within the LAU, can be found in the Biological Assessment of Effects of Ongoing Federal Actions for Sawtooth Valley and the Biological Assessment of Effects of Ongoing Federal Actions for the Wood River, which are on file at the Sawtooth NRA headquarters office and at the Boise Field Office of the U.S. Fish and Wildlife Service.

The Forest Plan includes the following direction applicable to listed species and particularly, lynx:

**TEST06** - Management actions shall be designed to avoid or minimize adverse effects to listed species and their habitats. For listed fish species, use Appendix B for determining compliance with this standard.

**TEST15** - Unless a broad-scale assessment has been completed that substantiates different historical levels of unsuitable habitat, limit disturbance within each LAU as follows: If more than 30 percent of lynx habitat within a LAU is currently in unsuitable condition, no additional habitat may be changed to unsuitable habitat as a result of vegetative management projects. Fire use, or fire hazard reduction and associated vegetation management activities within the wildland urban interface watersheds, that develop or maintain fuel profiles needed to reduce the risk of wildfire threats to the wildland urban interface areas, are NOT bound by this standard.

**TEST34** - Allow no net increase in groomed or designated over-the-snow routes or play areas, outside of baseline areas of consistent snow compaction, by LAU or in combination with immediately adjacent LAUs unless the Biological Assessment demonstrates the grooming or designation serves to consolidate use and improve lynx habitat. This does not apply within permitted ski area boundaries, to winter logging, and access to private inholdings. Also, permits, authorizations or agreements could expand into baseline routes and baseline areas of existing

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snow compaction, and grooming could expand to routes of existing snow compaction and routes that have been designated but not groomed in the past and still comply with this standard.

## **B. Region Four Sensitive Species**

### **Gray Wolf (*Canis lupus*)**

The Gray Wolf, which was listed as a threatened species under the ESA in 1974, was proposed for delisting from the ESA threatened species list in the Federal Register on February 27, 2008. Gray wolf was officially delisted in March 2008 and is now treated as a Forest Service sensitive species.

Wolf habitat has been defined as any place with an adequate, year-round supply of ungulate prey and freedom from excessive human persecution (Fritts et al. 1993, Mech 1970). The size of a pack's home range depends mainly on pack size, weather, and prey abundance and distribution. The basis of a wolf population is the pack, which Mech (1970) defined as a cohesive group of two or more individual wolves traveling, hunting, and resting together throughout the year. Packs generally consist of two breeding adults, pups, yearlings, and/or extra adults. In most documented cases, wolf packs require large home ranges. Territories of 80 square miles have been reported in Minnesota to over 660 square miles in Alberta (U.S. Fish and Wildlife Service 1994).

In January of 1995, the U.S. Fish and Wildlife Service reintroduced 15 wolves into Central Idaho. An additional 20 wolves were released in January of 1996. Subsequent to the releases, several packs have established and successfully denned within the Sawtooth NRA. Several control actions have taken place over the years since pack establishment in response to livestock depredations in and adjacent to the Sawtooth NRA. These actions have generally resulted in the disbanding of the targeted pack with new packs forming in the vacant territories fairly rapidly. Currently, seven packs (conservative estimate) are known to be present with all or portions of their territories on the Sawtooth NRA. These packs represent a population increase within the Sawtooth NRA since 1995, when no packs were known to occur. The project area is likely within the territory of one of these packs (Galena Pack). Habitat for wolves exists within the proposed project area. Mule deer and elk use the project area and vicinity spring through fall.

### **Spotted Bat (*Euderma maculatum*)**

Spotted bats forage nocturnally in open forests (especially in ponderosa pine stands), marshy areas, open pastures, and upland sagebrush and juniper stands. They forage on large, flying insects, especially moths. Roost sites have been observed in rock crevices and cliff faces (Watkins 1977, Wai-Ping and Fenton 1989, Rodhouse et al. 2005). Spotted bats hibernate during the winter and emerge in spring, generally March or April depending on daytime temperatures during those months. Some individuals may be migratory both altitudinally and latitudinally (NatureServe 2007).

Population trend for this species is unknown within the Sawtooth NRA. There are no documented sightings of the spotted bat and no surveys have been conducted within the project area, though foraging habitat is present. Spotted bats have been detected on the Middle Fork of the Salmon River, north of the Sawtooth NRA.

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### **Townsend's Big-eared Bat** (*Corynorhinus townsendii*)

Townsend's big-eared bats are nocturnal insectivores feeding primarily on moths along forest edges, roads, or open areas within the forest. They roost in crevices of rocky outcrops, caves, old mines or buildings (Kunz and Martin 1982, Christy and West 1993). Unlike many species that seek refuge in crevices, Townsend's big-eared bats form highly visible clusters on open surfaces making them extremely vulnerable to disturbance (Christy and West 1993). Townsend's big-eared bats hibernate during the winter and emerge in spring, generally March or April, depending on daytime temperatures during those months. Townsend's big-eared bats are considered non-migratory (NatureServe 2007) however they may make short-distance movements between hibernacula and foraging areas (Dobkin et al. 1995).

Population trend for this species is unknown within the Sawtooth NRA. There are no documented sightings of Townsend's big-eared bats within the project area, though habitat is present. Townsend's big-eared bats have been found in the Warm Springs drainage on the Ketchum Ranger District.

### **Wolverine** (*Gulo gulo*)

Home range sizes of wolverines are highly influenced by prey remains and other food sources. Individual animals generally have very large ranges and can cover large distances in very little time. In central Idaho, home ranges average 582 square miles for males and 148 square miles for females and these home ranges may overlap. They use several habitats and have been located in low-elevation, forested drainage bottoms to high-elevation, sparsely-timbered cirque basins. A study conducted in central Idaho found two natal den sites located in subalpine cirque areas on north-facing slopes suggesting that this type of habitat is critical to wolverines in central Idaho (Copeland 1996). Wolverines are primarily scavengers and forage on carcasses of ungulates such as elk, deer, mountain goats, and bighorn sheep. They may hunt for snowshoe hares, marmots, mice, voles, ground squirrels, and grouse but will also eat fruits, berries, and insects when other prey is unavailable (Hash 1987).

During winter, wolverines may avoid areas where winter recreation occurs (Krebs et al. 2007). Female wolverines are sensitive to disturbance during mid-February through May while they are searching for, establishing, and occupying their reproductive dens. During this time females are lactating and disturbance, which leads to increased energy expenditure, can be very detrimental. It is a critical time for females because they must maintain energy levels in order to properly nourish their kits during a time when food is scarce. During studies in Alaska and Idaho, females were documented moving kits after encounters with researchers (Magoun and Copeland 1998).

Population trend for this species is unknown within the Sawtooth NRA. A study of wolverines in central Idaho was conducted from 1992-1995 by the Idaho Department of Fish and Game. The study area contained much of the Sawtooth NRA. During this study, wolverines were documented in many locations in the Sawtooth NRA. No locations were recorded within the project area though there was a location within approximately 3.5 miles. The project area contains wolverine habitat but not reproductive denning characteristics.

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**Fisher** (*Martes pennanti*)

Fishers are found in mature to old-growth forests with high canopy closure and generally avoid large openings. They are associated with mesic forest conditions and forested riparian areas. Home range size of fisher in Idaho, based on a study in northern Idaho, was calculated to be 19,251 acres for males and 7,907 acres for females (Powell and Zielinski 1994). They eat small mammals, birds, fish, amphibians, insects, carrion, fruits, nuts, and berries (Douglas and Strickland 1987).

Population trend for this species is unknown within the Sawtooth NRA. No sightings of fisher have been reported within the proposed project area, though habitat exists. There are trapping records of fisher from the early 1980's west of the project area, on the west side of the Sawtooth Wilderness in the South Fork Payette and North Fork Boise drainages; one record in Stanley Basin; and a 2004 sighting approximately seven miles northwest of Stanley, Idaho. Merriam (1890) reported a member of his party trapping a fisher at Alturas Lake. Fisher are thought to still occur in the Alturas Lake area based on a remote camera photograph taken in the winter of 2007 near Alturas Lake (R. Garwood, pers. obs.). The project area is likely too high in elevation for fisher reproductive and foraging habitat, though animals may use the area as a travel route.

**Common Loon** (*Gavia immer*)

Common loons breed on large (usually greater than nine acres), clear lakes at elevations of 5,000 to 9,000 feet. A territory generally contains a secluded shoreline area that protects the nest from wave action and an area of shallow water with emergent vegetation within a protected cove or bay for chick rearing. Loons avoid lakes with high levels of human activity for breeding. During migration, loons will forage at staging lakes along their way. Fish are the primary prey, but loons will also eat amphibians, crustaceans, aquatic insects, and some vegetation (Ritter 1989).

Population trend for this species is unknown within the Sawtooth NRA. No confirmed breeding has occurred in the Sawtooth NRA. Loons use the morainal lakes within Sawtooth Valley and Stanley Basin during spring and fall migrations. The project area does not contain loon breeding habitat, however loons may migrate through the project area.

**Bald Eagle** (*Haliaeetus leucocephalus*)

Nesting requirements of bald eagles include suitable nest substrate (mainly tall, large diameter trees) with access to open water nearby. Winter habitat is variable, but generally requires open water for foraging or a reliable source of carrion with adequate perch trees nearby. Bald eagles require freedom from human disturbances year-round (Stalmaster 1987).

Population trend for this species is unknown within the Sawtooth NRA. Bald eagles frequently use the morainal lakes during spring and fall. During the summer of 2003 and 2004 adult bald eagles were frequently observed in the upper Sawtooth Valley along the Salmon River. Two breeding pairs of bald eagles have been confirmed on private land adjacent to the Sawtooth NRA since 2006, both located in northern Sawtooth Valley. The project area is within 20 miles of the closest known nest. Galena Summit is not likely breeding habitat but is a migration route for bald eagles (R. Garwood, pers. obs.).

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### **Northern Goshawk** (*Accipiter gentilis*)

Goshawk home ranges in mixed conifer forests have been described as 6,000 acres in size and comprised of a nest area (approximately 30 acres), a post fledging-family area or PFA (approximately 420 acres), and a foraging area (approximately 5,400 acres) (Reynolds et al. 1992). Nest areas generally have high tree canopy cover (50-60%) and a high density of large trees (average 20" dbh). However, data from nests on the Sawtooth NRA show that goshawks will successfully nest in smaller trees and lower canopy closure than has been generally reported (11 inch average dbh of nest tree, 23% average canopy closure of nest tree area). The PFA provides cover and prey for the fledglings while developing their flying and hunting skills. These areas should have canopy cover of greater than 50% with well-developed understories. Goshawks tend to use mature forests (and forest edges) for foraging, but also need other habitat elements which provide the necessary requirements for their prey such as snags, downed logs, small openings, and herbaceous and shrubby understories (Reynolds et al. 1992). Goshawks prey on a wide variety of forest-dwelling birds and mammals such as grouse, woodpeckers, squirrels, and rabbits. Goshawks do not necessarily migrate long distances, but may move off their breeding territories during winter in order to find food. They tend to move to lower elevations with less snow cover during the winter, and return to breeding territories in March or April.

Population trend for this species is unknown within the Sawtooth NRA. Based on surveys conducted on the north end of the Sawtooth National Forest over the past 10 years, the number of goshawk fledglings observed is on an increasing trend. The closest known goshawk territory is approximately 3 miles from the project area. The project area is likely too high in elevation for nesting habitat but contains foraging habitat. In addition, goshawks migrate over Galena Summit (R. Garwood, pers. obs.).

### **Peregrine Falcon** (*Falco peregrinus*)

Peregrine falcons require the presence of tall cliffs, approximately 150 feet in height, with adequate ledges for nesting and perching. An adequate prey base consisting of small to medium-sized birds within approximately 10 miles of the nest cliff is also needed. Peregrine falcons breed in a variety of habitats from coastal, to desert, to temperate forest (Johnsgard 1990).

Population trend for this species is unknown within the Sawtooth NRA. The discovery of three nesting territories within the past 12 years indicates an increasing trend within the Sawtooth NRA. The three territories known to occur on the Sawtooth NRA are all within the Sawtooth Wilderness. The closest known eyrie is approximately 12 miles from the project area. It does not contain breeding habitat though peregrine falcons likely migrate through the area.

### **Greater Sage-grouse** (*Centrocercus urophasianus*)

Sage-grouse depend on sagebrush for both successful nesting (Klebenow 1969, Musil 1989, Wakkinen 1990, Connelly et al. 1991, Connelly et al. 2000) and winter survival (Braun et al. 1977, Remington and Braun 1985, Welch et al. 1991). Sage-grouse require insects during their first summer of life in order to obtain sufficient protein to grow rapidly. During the late summer and early fall, females generally move to areas where succulent forbs are available (Klebenow 1969, Dunn and Braun 1986) in order to obtain sufficient food for brood rearing. Often this movement is to areas of higher elevation or wet meadows (Klebenow 1969, Wakkinen 1990).

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Riparian areas provide critical brood rearing habitat due to presence of forbs and insects (Wambolt et al. 2002, Connelly et al. 2000). They may also be found in grasslands and agricultural fields during this period, but are generally within a mile of sagebrush habitat.

Declines in sage-grouse populations have been documented range-wide, as high as 45-80%, since the 1950's (Braun 1998). Reasons for this decline are thought to be from cumulative factors, particularly the reduction of sagebrush habitat due to wildfire, changes in natural fire frequencies related to annual exotic grass invasions, agricultural and urban development, and mining. Other factors include habitat degradation from overgrazing, hydrological alterations affecting brood rearing habitat, fences, powerlines, and wind turbines. (Wambolt et al. 2002, Connelly et al. 2000, Braun 1998). Population trends of this species in the project area and on the Sawtooth Forest are unknown, though population data from IDFG show declines in sage-grouse numbers across the state. Additionally, Breeding Bird Survey Data for Idaho show a declining trend over the past 25 years, though the sample size for this species is small in Idaho (Sauer et al. 2006).

The population trend for sage-grouse within the SNRA is unknown, but thought to be stable to declining. A small, remnant population of greater sage-grouse is present within the Sawtooth Valley, north of the project area. An attempt to augment this population was made in 1986 and 1987 (Musil 1989) with minimal success. Observations of greater sage-grouse in the Sawtooth Valley have been made as recently as 2005 (R. Garwood, pers. obs. 2005). Sage-grouse habitat also occurs in the East Fork of the Salmon River. The project area does not contain breeding, brood-rearing, or winter habitat though grouse may migrate through the area.

#### **Great Gray Owl (*Strix nebulosa*)**

Great gray owls use mixed coniferous and hardwood forests usually bordering small openings or meadows. They do not build their own nests and must use existing nests built by other species, debris platforms, or tops of broken off snags. They forage in openings or meadows (Bull and Henjum 1990). Important aspects of foraging habitat include high prey density, perch availability, and forests that are open enough to allow the owls to move freely (Bull et al. 1988). Great gray owls forage on small mammals, particularly voles and pocket gophers. This species does not truly migrate but exhibits irregular irruptive behavior, moving to areas with low snow accumulation and high prey density during winter (Johnsgard 1988).

Population trend within the Sawtooth NRA for this species is unknown. Surveys for great gray owls have been conducted on the Sawtooth NRA in Stanley Basin with active nests observed within Stanley Basin in lodgepole pine adjacent to wet meadows. Four sightings on the Sawtooth NRA outside of Stanley Basin have been reported during the summer, but no breeding has been confirmed in these locations. Three sightings occurred in Sawtooth Valley and one occurred in the headwaters of French Creek on the east side of the Sawtooth NRA. The project area does not contain breeding habitat. Great gray owls may travel through the area during irruptive movements.

#### **Flammulated Owl (*Otus flammeolus*)**

Flammulated owls are known to occur in mature ponderosa pine and mature Douglas-fir forests with an abundance of snags or live trees with cavities for nesting. Flammulated owls eat mainly

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invertebrates such as moths, grasshoppers, and spiders. Prey is more abundant and accessible in open forest stands with grass and shrub understories (Johnsgard 1988). Roosting occurs in coniferous forest stands with dense vegetation (McCallum 1994). This species is truly migratory and does not arrive on its breeding territories until May in Central Idaho.

Population trend for this species is unknown within the Sawtooth NRA. A few surveys for flammulated owls have been conducted on the Sawtooth NRA and flammulated owls have been observed on the Sawtooth NRA in Douglas-fir dominated forests. The project area does not contain breeding habitat though flammulated owls likely migrate through the area.

### **Boreal Owl (*Aegolius funereus*)**

Boreal owls are known to occur in spruce-fir, Douglas-fir, and mixed conifer forests above 5,000 feet elevation. They are cavity-dependent and generally use old woodpecker cavities for their nest sites. They feed on forest dwelling small mammals such as voles, shrews, and flying squirrels (Johnsgard 1988, Hayward et al. 1993). Males arrive at potential breeding territories in late winter (mid-February) and begin calling to attract and pair with females by late February or early March. Calling may last into April.

Population trend within the Sawtooth NRA for this species is unknown. Owls have been detected in several locations on the Sawtooth NRA in mixed conifer forest, including within ½ mile of the project area (R. Spahr, pers. obs. 1992). The project area contains boreal owl habitat.

### **Three-toed Woodpecker (*Picoides dorsalis*)**

Three-toed woodpeckers are found in northern coniferous forests, primarily associated with mature forests with outbreaks of bark beetles. They forage mainly in dead trees and a large percentage of their diet is wood-boring insect larvae. They excavate cavities in snags or occasionally live trees (Short 1982). This species may make small movements off its breeding territory in the winter to find food, but is generally a resident. Breeding begins in May in Central Idaho.

The increased abundance of mountain pine beetle within and around the project area over the past eight years has resulted in a corresponding increase in three-toed woodpecker numbers. The project area contains three-toed woodpecker foraging habitat and three-toed woodpeckers have been observed foraging on Galena Summit near the project area (R. Garwood, pers. obs. 2005).

## **C. Management Indicator Species**

### **Pileated woodpecker (*Dryocopus pileatus*)**

Habitat factors of concern for this species include sufficient large trees, snags, and downed logs (US Forest Service 2003). Pileated woodpeckers use large diameter snags in relatively closed-canopy forests for nesting (Bull et al. 1986) and dense canopy cover for roosting (Bull et al. 1992). They also use larger diameter trees for foraging and will forage frequently on insects found in downed logs greater than 10" in diameter. In northeastern Oregon, pileated woodpecker home range size averages approximately 1000 acres (Bull and Holthausen 1993). On the Sawtooth Forest, this species has often been found nesting in mature aspen trees adjacent to



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coniferous forest. Pileated woodpeckers feed on insects, which inhabit trees, both live and dead. Carpenter ants and bark beetles are commonly foraged upon (Bull et al. 1986).

Population trend of this species within the project area is unknown, but habitat for pileated woodpeckers occurs in the project area. Point count surveys were conducted for woodpeckers in 2004, 2005, 2006, and 2007 along permanently established transects throughout the Sawtooth NRA. While no transects are located within the project area, three are within three miles. Pileated woodpeckers have been detected on one of these transects. Systematic surveys began just four years ago so trend data is weak for the Sawtooth Forest. The four year trend is roughly stable. Breeding Bird Survey Data for Idaho show a slight decreasing trend over the past 25 years (-1.2 %/year), though the sample size for this species is very small in Idaho. Populations of the Central Rockies Physiographic Region, which includes the Sawtooth NRA, show an increasing trend of 1.8 %/year (Sauer et al. 2006). The project area contains foraging habitat and woodpeckers may move through the area during seasonal movements post-breeding.

#### **Greater Sage-Grouse (*Centrocercus urophasianus*)**

See greater sage-grouse under Region Four sensitive Species.

The Forest Plan includes the following direction applicable to sensitive species and management indicator species:

- **WIST02** - Design and implement projects within occupied habitats of Sensitive species to help prevent them from becoming listed. Use Forest Service-approved portions of Conservation Strategies and Agreements, as appropriate, in the management of sensitive species habitat to keep management actions from contributing to a trend toward listing for these species.
- **WIST03** - Mitigate management actions within known nesting or denning sites of MIS or Sensitive species if those actions would disrupt the reproductive success of those sites during the nesting or denning period. Sites, periods, and mitigation measures shall be determined during project planning.
- **WIST04** - Mitigate management actions within known winter roosting sites or hibernacula (bats) of Sensitive species if those actions would measurably reduce the survival of wintering or roosting populations. Sites, periods, and mitigation measures will be determined during project planning.
- **WIGU05** - During site/project-scale analysis, habitat should be determined for MIS or Sensitive wildlife species within or near the project area. Surveys to determine presence should be conducted for those species with suitable habitat. Document the rationale for not conducting surveys for MIS or Sensitive species in the project record.
- **WIGU06** - Management actions in occupied sensitive species habitat should be modified or relocated if the effects of the actions would contribute to a trend toward ESA listing for these species.

#### **D. Migratory Birds**

The Migratory Bird Treaty Act prohibits taking of migratory birds, their parts, nests, eggs, and nestlings. Executive Order 13186, signed January 10, 2001, directs federal agencies to protect migratory birds by integrating bird conservation principals, measures, and practices into agency activities and to avoid or minimize, to the extent practicable, adverse impacts on migratory bird resources when conducting agency actions.

Additional direction comes from the Memorandum of Understanding (MOU) between USDA Forest Service and USDI Fish and Wildlife Service, signed January 17, 2001. The purpose of this MOU is to strengthen migratory bird conservation through enhanced collaboration between the Forest Service and Fish and Wildlife Service, in coordination with state, tribal and local governments. The MOU identifies specific activities for bird conservation, pursuant to EO 13186 including: Strive to protect, restore, enhance, and manage habitat of migratory birds, and prevent the further loss or degradation of remaining habitats on National Forest System lands. This includes: “Identifying management practices that impact populations of high priority migratory bird species, including nesting, migration, or over-wintering habitats, on National Forest System lands, and developing management objectives or recommendations that avoid or minimize these impacts.”

Most birds killed at towers in North America are neotropical, migratory songbirds which migrate between North America and Central/South America. The majority of species documented include warblers, sparrows (the two largest groups by species), thrushes, flycatchers and vireos (Shire et al. 2000). The proposed Galena Summit Cell Tower site is likely a bird migration corridor based on the fact that the area is a mountain pass and functions as a funnel through the mountains, both in terms of terrain and wind patterns. Species of birds of concern that breed or migrate through the area are listed in Table 2 below.

**Table 2. Bird species of concern that occur at the Galena Summit Cell Tower proposed site and their status.**

Species	Partners in Flight Intermountain Region Status <sup>a</sup>	Idaho State Species of Greatest Conservation Need <sup>b</sup>	US FWS Birds of Conservation Concern Northern Rockies Region <sup>c</sup>	USFS Intermountain Region Sensitive Species <sup>d</sup>
Common loon				X
Golden eagle			X	
Bald eagle		X		
Northern goshawk				X
Swainson's hawk	Watch, M	X	X	
Ferruginous hawk		X	X	
Prairie falcon			X	
Peregrine falcon		X	X	X
Sandhill crane		X		
Long-billed curlew		X	X	
Wilson's phalarope			X	
Short-eared owl		X		
Great gray owl				X
Flammulated owl	Watch, LPR	X	X	X
Boreal owl		X		X
Calliope hummingbird	Watch, LPR			
Rufous hummingbird	Watch, M			
Lewis's woodpecker	Watch, M	X	X	
Red-naped sapsucker	Stewardship, LPR		X	
Williamson's sapsucker	Stewardship, LPR		X	

Species	Partners in Flight Intermountain Region Status <sup>a</sup>	Idaho State Species of Greatest Conservation Need <sup>b</sup>	US FWS Birds of Conservation Concern Northern Rockies Region <sup>c</sup>	USFS Intermountain Region Sensitive Species <sup>d</sup>
Three-toed woodpecker		X		X
Olive-sided flycatcher	Watch, M			
Dusky flycatcher	Stewardship, LPR			
Willow flycatcher	Watch, M			
Loggerhead shrike			X	
Clark's nutcracker	Stewardship, LPR			
Mountain bluebird	Stewardship, LPR			
Sage thrasher	Stewardship, LPR			
Green-tailed towhee	Stewardship, LPR			
Brewer's sparrow	Watch, M	X	X	
Black rosy-finch	Watch, LPR	X		
Cassin's finch	Stewardship, M			

<sup>a</sup> **Species of Continental Importance in the Intermountain West Avifaunal Biome** based on Partners in Flight American Landbird Conservation Plan (Rich et al. 2004).

**Watch Species** – species determined to be vulnerable based on the combination of the six following factors – population size, breeding distribution, nonbreeding distribution, threats to breeding, threats to nonbreeding, population trend

**Stewardship Species** – species with a high percentage of their world population within the Intermountain Region Avifaunal Biome either during breeding or wintering season

**M (Management)** – management or other on-the-ground conservation actions are needed to reverse significant, long-term population declines or sustain vulnerable populations.

**LPR (Long-term Planning and Responsibility)** – long-term planning is needed to maintain sustainable populations of species with relatively stable or increasing populations but with a majority of the population found with a single avifaunal biome.

<sup>b</sup> **Idaho State Species of Greatest Conservation Need (SGCN)** – From Idaho’s Comprehensive Wildlife Conservation Strategy (2005). Status determined using an objective rule-based process to evaluate all animals thought by experts to be a candidate for SGCN. This process was designed specifically to reduce subjectivity and to obtain an objective state rank for species considered for inclusion as SGCN. Factors included, but were not limited to, information about population size, trend, viability, environmental specificity, threats, and protection status.

<sup>c</sup> **USFWS Birds of Conservation Concern in the Northern Rockies Bird Conservation Region** – Designated by the US Fish and Wildlife Service (USDI Fish and Wildlife Service 2002) and determined using assessment scores from three sources including Partners in Flight North American Landbird Conservation Plan, US Shorebird Conservation Plan, and the North American Water Bird Conservation Plan.

<sup>d</sup> **US Forest Service Intermountain Region Sensitive Species** – Species designated by the Regional Forester whose population viability may be a concern as evidenced by a current or predicted downward trend in population numbers or density, or a current or predicted downward trend in habitat capability that would reduce a species’ existing distribution.

### 3.3b. Environmental Consequences

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## **Alternative A (No Action)**

Under the No Action alternative, the Galena Summit Communication Site would not be designated and a wireless communication facility would not be built. There would be no change from current condition to wildlife species or their habitat as a result of this alternative.

## **Alternative B (Proposed Action)**

### **A. Endangered Species Act Listed Species**

#### **Canada Lynx (*Lynx canadensis*)**

Lynx may temporarily avoid the project area during installation of the tower and communication building due to human activity. However, once installation was complete, operation and maintenance would not affect lynx occurrence in the vicinity of the project area. No long-term barrier to movement or dispersal would result from the cell tower operation and maintenance. No new access roads are proposed so road density would be maintained at current levels and connectivity to adjacent habitat would be retained.

Alteration of vegetation on approximately 0.25 acres (including the existing Sawtooth Telephone lot) would result in negligible effects to habitat for snowshoe hare. This change would not affect hare availability or distribution. Habitat for red squirrels would be slightly reduced with removal of some mature trees. Effects to habitat for forest grouse would be negligible. These small changes to habitat would not change availability or distribution of these species. The 0.25 acres where vegetation would be altered would likely become unsuitable lynx habitat, which would be insignificant.

The site of the proposed tower and communication building is not located within predicted lynx denning habitat. However, the existing access road passes through approximately 500 feet of predicted lynx denning habitat. No change to this habitat would occur.

In total, the project would result in conversion of .25 acres or less of lynx habitat from suitable to unsuitable. This would not result in greater than 30% of predicted lynx habitat in unsuitable condition within this LAU (Sawtooth FLRMP TEST15).

The area is currently closed to motorized use in the winter. The proponents would be given access to the site in the winter by snowmobile for emergency maintenance. This could potentially increase snow compaction within lynx habitat in the LAU for approximately ¼ mile. Access is not expected to be required more than three times a year during winter. Additionally this area is near an existing backcountry ski travel route (skin trail), which results in a two-ski width compacted trail for most of the winter.

There would be a small change in foraging habitat (0.25 acres) and a potential ¼ mile temporary increase in snow compaction within this LAU. The determination for this alternative is may affect, but not likely to adversely affect Canada lynx. The proposed action is consistent with Forest Plan standards TEST06, TEST15 and TEST34.

### **B. Region Four Sensitive Species**

#### **Gray Wolf (*Canis lupus*)**

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No increase in the potential for mortality to wolves would result from any of the actions associated with installation and operation of the cell tower. The area of habitat change would be small in comparison to the range of a wolf pack so that no measurable change in prey habitat would occur as a result of the cell tower installation and operation.

### **Spotted Bat and Townsend's Big-eared Bat**

Effects to bats from cell towers are not well known. Bat mortality has been documented at communication towers in many locations in North America (Ganier 1962, Avery and Clement 1972, Gollop 1975, Taylor and Anderson 1973, Crawford and Baker 1981). Bats can use echolocation to avoid objects while in flight so may not be impacted to the degree that birds are. Several studies at wind plants have documented that the timing of bat mortalities with towers suggests that migrant rather than resident bats are most susceptible to collisions. During migration bats do not always use echolocation, which may partially explain the collisions (Johnson et al. 2004, Johnson et al. 2003, Erickson et al. 2002).

While the potential for bat collisions resulting in injury or mortality would exist, the features of the tower (no lights and no guy wires) would reduce the likelihood of collisions. Approximately 0.25 acres of vegetation would be removed for operation and maintenance of the Idaho Tower Company facility to accommodate installation of the cell tower and associated structures. This change would be a negligible effect to foraging habitat.

Installation, operation, and maintenance of the Galena cell tower may impact individual spotted bat and/or Townsend's big-eared bat but will not lead to a trend toward federal listing. These determinations are based on the conclusion that there is potential for tower collision mortality.

### **Wolverine (*Gulo gulo*)**

No disturbance to female wolverines within reproductive denning habitat would occur as a result of tower installation, operation, and maintenance because the project area is outside of this habitat. Installation of the proposed cell tower would result in the removal of approximately 0.25 acres of vegetation to accommodate the tower and communication building. Presence and maintenance of the Galena Communication Site (both lots) would not have a measurable effect on wolverine habitat based on the scale of the habitat change in relation to wolverine home range size.

Installation, operation, and maintenance of the Galena cell tower and implementation of a Sawtooth FLRMP amendment designating the area as a Communication Site will have no impact on wolverine. This determination is based on the conclusion that while habitat modification will take place, the nature and scale of change would not result in negative change in reproduction or survival.

### **Fisher (*Martes pennanti*)**

No disturbance to female fisher within reproductive habitat would occur as a result of tower installation, operation, and maintenance because the project area is outside of this habitat. Presence and maintenance of the Galena Communication Site (both lots), including the cell tower, would not have a measurable effect on fisher habitat based on the scale of the habitat

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change, which would include approximately 0.25 acres of vegetation removal in relation to fisher home range size.

Installation, operation, and maintenance of the Galena cell tower and implementation of a Sawtooth Forest Plan amendment designating the area as a Communication Site will have no impact on fisher. This determination is based on the conclusion that while habitat modification will take place, the nature and scale of change would not result in negative change in reproduction or survival.

### ***Birds***

The following discussion of effects applies to Forest Service sensitive, management indicator, and migratory bird species that migrate through the project area. Bird kills caused by towers, their guy wires and related structures have been documented for over 50 years (Shire et al. 2000). Impacts to birds from communication towers are generally from bird-tower collisions and occur most commonly during migration among birds that migrate at night (Shire et al. 2000). It has been estimated that hundreds of thousands of birds die annually from tower collisions, based on calculations using observed mortalities (Longcore et al. 2005). Bird-tower collisions have been determined to occur when birds flying in poor visibility fail to see the towers in time to avoid them. Additionally collisions can occur with lighted towers when there is a low cloud ceiling or foggy condition causing lights on a tower to refract off water particles in the air creating an illuminated area around the tower. In these conditions migrating birds may lose their stellar cues for nocturnal migration and the lighted areas, which increase visibility around the towers, may be the strongest cue the birds have for navigation. They tend to remain in the lighted space by the tower and mortality occurs when they run into the structure and its guy wires, or other migrating birds as more and more passing birds fly into the relatively small, lighted space (Graber 1968, Avery et al. 1976, Larkin and Frase 1988).

The main factors that have been determined to influence bird mortality rates at towers include tower height, guy wires, and lighting. Taller towers, presence of guy wires, and presence of lights all increase mortality rates (Longcore et al. 2005). Based on guidelines from the US Fish and Wildlife Service, cell tower features of height lower than 200', lack of lights, and lack of guy wires, should minimize mortality to birds (US Fish and Wildlife Service 2000).

### **Common Loon, Bald Eagle, Northern Goshawk, Peregrine Falcon, Greater Sage-grouse, Great Grey Owl and Flammulated Owl**

Because the proposed tower and communication building are located outside of breeding, nesting, and/or brood rearing habitat for the common loon, bald eagle, northern goshawk, peregrine falcon, greater sage-grouse, great grey owl and flammulated owl, risks to these species associated with the proposed action are generally limited to the potential for collision with the tower, resulting in injury or mortality. The project design and environmental measures including installation of the facility after August 15<sup>th</sup> to avoid disturbance to breeding birds or if prior to August 15<sup>th</sup> survey for presence of breeding birds, the 90' tower height, and no lighting or guy wires, should reduce the potential for collisions.

Installation, operation, and maintenance of the Galena cell tower may impact individual bald eagle, common loon, northern goshawk, peregrine falcon, greater sage-grouse, great gray owl,

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and flammulated owl but will not lead to a trend toward federal listing. These determinations are based on the conclusion that there is potential for tower collision mortality.

**Boreal Owl (*Aegolius funereus*)**

Operation and maintenance of the Galena Communication Site, which includes installation of the cell tower and associated structures, would result in approximately 0.25 acres of habitat loss (cell tower lot only) due to removal of trees that could potentially provide nest sites. Once the tower is installed owls may collide with the tower resulting in injury or mortality, though the collision probability is low based on the characteristics of the tower (90', unlit, no guy wires).

Results of a preliminary study in Spain have shown negative correlations with levels of cell tower-emitted microwave radiation and numbers and condition of several species of birds breeding and roosting in the vicinity of the electromagnetic fields (Balmori 2003). The Federal Communications Commission lists horizontal buffer distances from antennae to meet their radio frequency (RF) exposure guidelines for humans (FCC 1997; FCC 2000). The proposed antennae radiated power for the Galena Summit tower is approximately 5 watts/channel. The FCC guidelines state that horizontal buffer distances of approximately 5' should be maintained at this wattage with a maximum of 21 channels per sector. With these guidelines in mind, boreal owls roosting or nesting within this horizontal distance of the antennae would likely surpass safe exposure limits. It is unlikely that owls nesting in or roosting on the surrounding trees would be exposed because the antennae would likely be above the surrounding canopy (exposure is based on horizontal distances). However owls roosting on the tower itself would be exposed. FCC guidelines are based on exposure to an adult human body, therefore effects to owls are likely much greater. The consequences of this exposure are not known. Based on the limited studies conducted, the consequences may include displacement, possible mortality of owls nesting or roosting close to the tower (Balmori 2003), or decrease in productivity due to embryo deformities (Delgado et al 1982, Farrell et al. 1997a, Farrell et al. 1997b).

Noise effects from the generator, which would operate during power outages, could temporarily disrupt boreal owl courtship and pair formation if it occurred during late February to April and an owl was calling within the project area.

Because of the potential for tower collision, installation, operation, and maintenance of the Galena cell tower may impact individual boreal owl but will not lead to a trend toward federal listing.

**Three-toed Woodpecker (*Picoides dorsalis*)**

Operation and maintenance of the Galena Communication Site, which includes installation of the cell tower and associated structures, would result in approximately 0.25 acres of habitat loss (cell tower lot only) due to removal of trees that could potentially provide foraging for three-toed woodpeckers. Once the tower is installed woodpeckers may collide with the tower resulting in injury or mortality, though the collision probability is low based on the characteristics of the tower (90', unlit, no guy wires).

Because of the potential for tower collision, installation, operation, and maintenance of the Galena cell tower may impact individual three-toed woodpecker but will not lead to a trend

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toward federal listing.

### **C. Management Indicator Species**

#### **Pileated woodpecker (*Dryocopus pileatus*)**

Operation and maintenance of the Galena Communication Site, which includes installation of the cell tower and associated structures, would result in the loss of foraging habitat as several snags would be removed to install the cell tower. No disturbance to pileated woodpecker breeding habitat would occur.

The tower could result in tower collisions during movements through the area, though the probability is low based on the characteristics of the tower (90', unlit, no guy wires). RF exposure would be low because pileated woodpeckers are not expected to breed, forage, or roost within the horizontal buffer distance of 5' from the antennae.

#### **Greater Sage-Grouse (*Centrocercus urophasianus*)**

See greater sage-grouse under Region Four sensitive Species.

### **D. Migratory Birds**

Construction, operation and maintenance of the Galena Communication Site would result in approximately 0.25 acres of habitat loss due to removal of trees that could potentially provide nest sites to breeding birds. Implementation of the project may result in unintentional take of individuals from cell tower collisions. However, the project design and environmental measures should reduce the potential for mortality. These design and environmental measures include installation of the facility after August 15 to avoid disturbance to breeding birds or if prior to August 15 survey for presence of breeding birds, 90' tower height, and no lighting or guy wires. Noise effects from the generator, which would operate during power outages, could temporarily disrupt breeding bird courtship and pair formation if it occurred during June or July when birds would be singing within the project area.

It is unknown what effect tower-emitted radiation would have on birds breeding and roosting in the vicinity of the proposed tower site. As described in the discussion of effects to boreal owls, results of a preliminary study have shown negative correlations with levels of cell tower-emitted microwave radiation and numbers and condition of several species of birds breeding and roosting in the vicinity of the electromagnetic fields. Species of concern that are most likely to breed, and therefore be affected by RF exposure at the Galena Summit site include Calliope hummingbird, olive-sided flycatcher, Clark's nutcracker, mountain bluebird, Brewer's sparrow, and Cassin's finch. Black rosy-finches may roost in the project area in the winter and could be exposed as well.

The project complies with Executive Order 13186 because the analysis meets agency obligations as defined under the January 16, 2001 Memorandum of Understanding (MOU) between the Forest Service and Fish and Wildlife Service. The MOU was designed to complement Executive Order 13186, including identifying management practices that impact populations of high priority migratory bird species and their nesting, migration, or over-wintering habitats on National Forest System lands, and developing management objectives or recommendations that



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avoid or minimize these impacts. In order to further comply with the Migratory Bird Treaty Act and Executive Order 13186, Idaho Tower Company will monitor bird mortality at the Galena Summit cell tower annually.

Given the project design and environmental measures, the proposed action is consistent with Forest Plan standards WIST02, WIST03, WIST04, and guides WIGU05 and WIGU06.

## **3.4 Wilderness**

### **3.4a. Affected Environment**

The United States Congress designated the Sawtooth Wilderness in 1972 preserving 217,088 acres for its wilderness character, including its outstanding opportunity for primitive and unconfined recreation (PL 88-577). This spectacular Wilderness is comprised of hundreds of jagged peaks, 42 over 10,000' in height, with hundreds of high alpine lakes and tranquil basins. Designated a Mandatory Class I air quality area by the 1977 Clean Air Act, the Sawtooth Wilderness has the clearest air in the continental United States. The Wilderness area constitutes the most primitive setting managed for on the Sawtooth NRA. Appendix I of the Forest Plan (p. I-30 – I-71) includes the Sawtooth Wilderness Management Plan.

Cell phone coverage bleed over does occur in some areas of the Wilderness, primarily on ridgetops and in high cirques. The areas impacted generally fall within Opportunity Class I of the Sawtooth Wilderness, areas offering “outstanding chances for isolation and solitude.” The desired conditions for visitors to these areas include “maximum opportunities for challenge, risk, solitude and self-reliance.” Canyon bottoms, where the highest concentration of visitor use takes place, do not have any cellular coverage.

In addition to the direction in Appendix I, the Forest Plan includes the following direction applicable to wilderness resources:

- **WRGU01** - Use public education and interpretation programs to foster wilderness values, and to maintain environmental qualities and primitive recreation experiences.

### **3.4b. Environmental Consequences**

#### **Alternative A (No Action)**

Under the No Action alternative, the Galena Summit Communication Site would not be designated and a new wireless communication facility would not be built. The wilderness would continue to have limited cell coverage from other sources on ridgetops and in high cirques. While not illegal inside the wilderness, cell phone use is an intrusion of modern technology within an area dedicated to preserving the most primitive setting managed for on the Sawtooth NRA. Cell phone use is inconsistent with Wilderness Management Goals: “Wilderness does not exist in a vacuum. Every effort will be made to ensure that activities occurring outside the wilderness boundary will have no adverse effect on the wilderness resource and experience (SNF LRMP App I – 30).” The use of cell phones as a result of current signal coverage (intended or unintended) within the Sawtooth Wilderness is also inconsistent with the following guideline: “Electronic entertainment and communication devices will be discouraged from use in the wilderness except as needed for administrative purposes (SNF LRMP App I – 42).”

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Those areas currently impacted by signal coverage within Opportunity Class I areas of the Sawtooth Wilderness will continue to be impacted. The desired conditions for “maximum opportunities for challenge, risk, solitude and self-reliance” for visitors to the Opportunity Class I areas will continue to be negatively affected by the intrusion of cell phone usage in these areas. For visitors going to the Wilderness to find solitude and to get away from society’s technological advances, the intrusion of cell phone use may have a negative impact on their wilderness experience.

### **Alternative B (Proposed Action)**

Operation of the proposed cell tower would result in increased cell phone signal coverage within Opportunity Class I areas of the Sawtooth Wilderness. As with the No Action Alternative, cell phone coverage would still be limited to high elevation areas including ridgetops and high cirques, but that coverage may continue further down slope in the high elevation areas than currently occurs. Impacts to wilderness users would be similar to those experienced under the No Action Alternative however, given the potential for an increase in area of coverage, the number of visitors to the wilderness impacted by the intrusion of cell phone use may increase. The proposed action does include provisions for user education including providing printed and verbal information to users about cell phone etiquette in the wilderness. This may reduce impacts associated with cell phone use in the Wilderness.

## **3.5 Recreation**

### **3.5a. Affected Environment**

The project area, atop Galena Summit, is a popular recreation destination for both winter and summer users. The Galena Summit area is popular in summer with day users seeking expansive views of the Smoky Mountains to the south, Boulder Mountains to the east, and northwest into the Sawtooth Valley. The White Cloud Mountains and Castle Peak are visible from the ridge top site known as ‘The Cross’, immediately north of the proposed site. The summit ridge provides a less crowded alternative to the Galena Overlook on Highway 75, immediately west of Galena Summit, which is often cited as the most visited site on the Sawtooth NRA.

Access road #70405 provides the only opportunity for visitors to leave the Highway in their vehicles and within a few minutes, be able to dispersed camp, sightsee, and picnic in an uncrowded setting with the world-class views provided from the highest highway pass in Idaho. While the unimproved condition of the access road discourages many potential visitors and helps preserve the more primitive feel of the ridge, an estimated 10-20 vehicles per day travel at least part of the road. There is one dispersed campsite along the access road, in the area where the tower and building would be located. There is an existing communication facility on the summit ridge to the west of the proposed tower and building site. There is also a Natural Resources Conservation Service Sno-Tel site just off the access road within 400 yards of the highway. The Sno-Tel site is hidden in the trees, low to the ground, and is rarely noticed by visitors.

State Highway 75 over Galena Summit has been designated the Sawtooth Scenic Byway by the State of Idaho and the USDA Forest Service due to its scenic qualities. The highway has numerous scenic turnouts, two of which contain State Historical Markers. The highway is also very popular with road bicyclists.

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One mountain bike outfitter offers rides on the north side of the Old Galena Grade road into the Salmon River Headwaters, and one outfitter is authorized to offer day hikes in the area. The southern leg of the Old Galena Grade is a trail utilized primarily by mountain bikers and hikers; use is light on the trail. The Titus Lake Trail, one of the most heavily used trails on the Sawtooth NRA, begins just below and south of the summit. There is a lightly-used non-system trail that travels south along Titus Ridge passing above Titus Lake.

The project area is classified Roaded Natural in the Recreation Opportunity Spectrum (ROS). ROS is the framework used to define the types of recreation opportunities appropriate for individual areas.

“Roaded Natural provides for a wide range of recreation activities that are generally focused along motorized travel routes....Scenic values are often emphasized. A wide range of management activities and objectives may occur, generally being guided by the adopted visual quality objectives. Landscape modifications due to resource management activities, where evident, harmonize with the natural setting....There may also be a wide range of facilities and structures to support other Forest uses such as telecommunication facilities, power lines, and administrative sites (Forest Plan, Volume 2, F-3).”

Winter is the season of heaviest use on Galena Summit. The area receives reliable snowfall and has favorable north and east aspects which most often provide quality skiing and snowboarding. Although the area is classified as ‘Roaded Natural’, in the winter it is being managed as a ‘Semi-Primitive Non-Motorized ROS. Through a community planning process, the entire summit area has been closed to motorized use from December 1 through April 30 since November, 2000. The ROS map has not been updated to reflect that management change.

Non-motorized winter backcountry use, including backcountry skiing, snowshoeing, and snowboarding has exploded in popularity over the last several years and winter use on Galena Summit has grown accordingly. The summit area is one of the most heavily used non-motorized backcountry use areas on the Sawtooth National Forest and in Central Idaho. The Highway 75 corridor through the Upper Wood River Valley and into the Upper Sawtooth Valley is important for non-motorized backcountry recreationists because there are numerous plowed turnouts for parking and access to a lot of terrain (see photo 6, p. 47). In addition, much of the area is closed to motorized use in winter which is attractive to many non-motorized users who want to escape the noise, smell, speed and tracks of snowmobiles.

Most of the skiable terrain in the Upper Wood River and Sawtooth Valleys is steep and frequently poses avalanche hazard. The area north of Highway 75 along the summit ridge including the north and southeast side of The Cross and Avalanche Peak provide easy access, good snow conditions and little or no avalanche risk due to low-angle slopes. This island of safety is most commonly accessed via a winter trail or skin track that passes right by the proposed tower site.

The skin track does not pass by the existing communication facility and many winter users are not aware that the facility is there, giving an undeveloped backcountry feel to the area. Other

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popular runs abound in the area, including south of the highway on Titus Ridge where avalanche danger is much higher.

There are an estimated 6,000 winter users on Galena Summit, with an estimated 3,500 utilizing the skin track passing the proposed tower site (see photo 7, p.53). There are two outfitters



**Photo 6: ‘The Cross’ Parking Lot on Hwy 75**

authorized to offer backcountry ski, snowboard, and snowshoe trips in the area with an average of 150 service days on The Cross skin track accessing The Cross, Avalanche Peak, and other tours in the area. The Galena Backcountry Ski Patrol, a volunteer Search and Rescue group maintains a yurt off the north side of Avalanche Peak which is accessed primarily via The Cross skin track.

Galena Lodge and the associated groomed nordic ski trails are located at the eastern base of Galena Summit, within the area provided service by the proposed cell tower. Galena Lodge maintains 50 kilometers of groomed ski trails and another 30 kilometers of snowshoe trails (Galena Lodge, About Galena Lodge & the Trails). The lodge and trails are operated by Blaine County Recreation District under Special Use Permit, and is often recognized as one of the premier cross-country ski resorts in the country. An estimated 60,300 skiers used the Galena Lodge groomed trails, 2,000-3,000 snowshoers utilized the lodge’s snowshoe trails, and another approximately 10,000 summer users visit the lodge. Smiley Creek Lodge is located on the west

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side of Galena Summit. The Lodge has a full-service restaurant and rents snowmobiles in winter. The Salmon River Snowmobile Club grooms a snowmobile trail from the lodge to the town of Stanley, approximately 25 miles north.



**Photo 7: Skiers on ‘The Cross’ Skin Track Near Project Site**

The area is classified as Roaded Natural for winter use, but is managed as Semi-Primitive, Non-motorized. According to the Forest Plan, the ROS of Semi-Primitive Non-Motorized is defined as:

“These areas provide for non-motorized recreation opportunities in unroaded and non-motorized settings. A natural-appearing setting dominates the physical environment with only subtle or minor evidence of human-caused modifications....A number of setting inconsistencies may be present during winter periods in this classification. These inconsistencies consist mainly of roads or road prisms, minor structures and developed recreation features...whose presence becomes far less obvious during winter snow cover (F-2).”

The Forest Plan includes the following direction applicable to recreation resources within the project area:

- **REGU08** - All projects and activities should maintain or enhance the adopted ROS classes as displayed on the Forest ROS strategy maps.
- **Management Area Standard 02108 and 0476** - Management activities on National Forest System lands should meet desired recreation settings. Impairment of the recreation values may occur when an action creates a change in the desired recreation setting by one ROS class of any area on the SNRA and occurs over a time period of greater than six months cumulatively.

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Substantial impairment of the recreation values may occur when an action creates a long term or permanent change in the desired recreation setting by one or more ROS class and that effects 2 percent or more of the acreage in that individual ROS zone. Substantial impairment may also occur when cumulatively an ROS classification across the entire SNRA is altered by more than 1 percent as a result of smaller changes within individual ROS zone designations.

### **3.5b Environmental Consequences**

#### **Alternative A (No Action)**

The direct effects of this alternative are that there would be no change to the experience of recreationists using the Galena Summit area from what they currently encounter. The dispersed campsite at the proposed tower and building site would still be available and the uncrowded, undeveloped opportunity available on the summit would still exist. Cell phone coverage on the summit would continue to be extremely limited. The No Action Alternative is consistent with Forest Plan direction related to recreation resources.

#### **Alternative B (Proposed Action)**

Installation of the proposed tower and communications building would result in alteration of the undeveloped recreation experience in the immediate project area. The presence of the building and tower would change the nature of the site for many visitors. While the proposed development would be appropriate for a Roaded Natural ROS setting, it would not be expected in the project area in winter, when the area is managed as Semi-Primitive, Non-Motorized. The prominence of the tower would make it visible from all points after the ridge is gained along FSR 70405 in summer and on the skin track in winter.

Recreation use would be disrupted for three months during construction. The immediate construction area would be unavailable to recreationists, and noise and traffic from construction would affect day users in the vicinity. The construction period would likely coincide with the highest-use summer recreation season. One dispersed campsite would be lost due to construction. The users displaced by elimination of the dispersed campsite would likely establish a new site in another location in the vicinity.

The recreation experience of winter users accessing popular ski routes on the skin track would be affected by passing in close proximity to the tower and building. In winter, the area has a backcountry feel soon after leaving the highway. The development proposed would alter that experience for many users.

Cell phone coverage in the Galena Summit and nearby area would be greatly enhanced. The indirect effects of this alternative would be that some recreationists' experience may be affected by the ringing of cell phones and by other recreationists carrying on phone conversations, both in the pass area and at other recreation sites such as Galena Lodge and along the groomed ski trails that would receive cell coverage. Other recreationists' experience may not be affected by cell phone use. Some visitors may enjoy the convenience of cell phone coverage in the area.

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Winter recreationists' experience could be affected due to increased winter motorized access, up to three motorized incursions per winter, to repair equipment. Winter motorized access to the proposed tower and building site would require travel directly on the heavily used skin track for most of the distance to The Cross itself. Increasing motorized use in the area would likely lead to more conflict. Many winter recreationists choose to recreate in non-motorized areas to escape the noise and smell of motorized equipment, and prefer not to see evidence of motorized use. Recreationists present when motorized vehicles access the site would be affected directly, and the evidence of motorized travel would persist in the form of motorized vehicle tracks until there is sufficient snowfall to cover them.

Although there would be impacts to recreation users as a result of the proposed tower and communication building, the impacts are limited in scope and therefore the proposed action is consistent with Forest Plan direction relative to recreation resources with the exception of the winter time ROS map. Although currently classified as Roaded Natural, the area is being managed under a special closure order as Semi-Primitive Non-Motorized in the winter.

Formal designation of the existing Sawtooth Telephone facility as the Galena Summit Communication Site would have no effect on recreation resources in the project area.

## 3.6 Safety

### Overview

State Highway 75 between the cities of Ketchum and Stanley is a designated 'Scenic Byway' and a popular recreation destination that hosts a large number of campgrounds, trails, and scenic viewpoints along the corridor. The Galena Summit portion of the highway receives heavy snowfall and unpredictable weather during winter months and a high volume of summer users which can make the steep and curved road dangerous.

There is no reliable cell service in the project area. Approximately 25 miles to the north, a cell tower located in the City of Stanley does provide service in areas directly in and around Stanley. Occasionally, users can pick up a signal at Redfish Lake and the Stanley Ranger Station.

Relative to the Issue of Safety, the Sawtooth Forest Plan (p. III-52, III-56) gives this direction for special uses, which include wireless telecommunications facilities:

- **LSGO05** - Special use authorizations are issued for uses that:
  - a) Serve the public,
  - b) Promote public health and safety,
  - c) Protect the environment, and/or
  - d) Are legally mandated.
- **LSGU08** - Priority for modifying existing authorizations should consider the current and potential negative effects on human health and safety and resource values that may be affected.

### 3.6.a.1 Affected Environment - Driving while using Cell Phone

Americans carry mobile phones and conduct conversations on them just about anywhere. Mobile phone use has grown from 1% of the U.S. population in the mid-1980s to about 14.5% or 38 million subscribers in 1996 to 207 million U.S. users in 2005. (Nasar, et. al., 2007) As of

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February 2008, over 254 million people subscribed to cell phones according to the Cellular Telecommunications & Internet Association (I.I.I., 2008).

Distracted driving has been a problem since car manufacturers began installing radios in vehicles in the mid-1930s. But the recent proliferation of high-tech, car-friendly gadgets such as portable phones, DVD players, satellite navigation systems, and electrical outlets that can turn a vehicle into a rolling office has led to a flurry of laws, education campaigns and studies emphasizing the consequences of inattention. According to the National Highway Traffic Safety Administration, driver inattention is responsible for 25 percent to 30 percent of police-reported crashes, or about 1.2 million crashes a year. A 2003 study showed that drivers were most likely to wander into another lane when eating, talking or reaching for something. (ITD 'Transporter Newsletter', 2004)

Increased reliance on cell phones has led to a rise in the number of people who use the devices while driving. There are two dangers associated with driving and cell-phone use, including text messaging. First, drivers must take their eyes off the road while dialing. Second, people can become so absorbed in their conversations that their ability to concentrate on the act of driving is severely impaired, jeopardizing the safety of vehicle occupants and pedestrians. The latest research shows that while using a cell phone when driving may not be the most dangerous distraction, because it is so prevalent, it is by far the most common cause of this type of crash and near crash. (I.I.I., 2008)

An important epidemiological study by Redelmeier and Tibshirani (1997) found that cell phone use was associated with a 4-fold increase in the likelihood of getting into an accident and that this increased risk was comparable to that observed when driving with a blood alcohol level at the legal limit. (Strayer, et. al., 2005)

A survey of dangerous driver behavior was released in January 2007 by Nationwide Mutual Insurance Co. The survey of 1,200 drivers found that 73 percent talk on cell phones while driving. Cell phone use was highest among young drivers. (I.I.I. 2008)

In July, 2008, a full 'hands-free' cell phone law goes into effect for drivers in the State of California (Mercury News, 2008). A similar law also goes into effect in July 2008 in the State of Washington. Under the new law, drivers who read and compose text messages or talk on a cell phone without a hands-free device could face a \$101 ticket. (KOMO News, 2007) However, many studies have shown that using hand-held cell phones while driving can constitute a hazardous distraction. Hands-free sets have been shown to have the same distracting effect as handheld cell phones. (I.I.I., 2008)

David Strayer (University of Utah), one of the foremost researchers in the field of cell phone use and driving is quoted as saying:

We are often asked what our position is on regulatory issues concerning cell-phone induced driver distraction. Clearly, the safest course of action is to pull over and park in a safe location before one makes or takes a call. However, regulatory issues are best left to legislators who are provided with the latest scientific evidence. We caution, however, that



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as more cognitively engaging technology makes its way into the vehicle, the potential for even more severe driver distraction will increase. In the long run, skillfully crafted regulation and better driver education addressing driver distraction will be essential to keep our roadways safe. (Strayer, et. al. 2005)

The Federal Highway Administration has a right-of-way for State Highway 75 through the Sawtooth National Forest and the project area. This right-of-way is managed by the State of Idaho Transportation Department (ITD). ITD routinely conducts maintenance on Highway 75 and is responsible for managing and addressing highway safety issues. The Forest Service has no authority on the operational management of the State Highway and instead, defers to the ITD expertise and authority for management of the State Highway.

The State of Idaho currently does not specifically restrict the use of cell phones while driving. However the State Statutes do address inattentive driving. Using a cell phone while driving can be considered inattentive driving and a motorist may be cited under the following Idaho State Statute:

Idaho Statute 49-1401- Reckless Driving states:

(3) Inattentive driving shall be considered a lesser offense than reckless driving and shall be applicable in those circumstances where the conduct of the operator has been inattentive, careless or imprudent, in light of the circumstances then existing, rather than heedless or wanton, or in those cases where the danger to persons or property by the motor vehicle operator's conduct is slight. (Title 49 Motor Vehicles – Chapter 14 – Traffic – Enforcement and General Provisions)

The 2006 Idaho Driver's Manual (ITD 2006) states:

“Using a cell phone while driving is dangerous. It's against the law in some states. Many accidents are caused by people who try to use or dial cell phones while driving. If you must use a cell phone, park in a safe place before making the call.”

According to the ITD, of the 48,282 reported crashes in 2002— cell phone use was a factor in six deaths. By contrast, alcohol use while driving contributed to 163 deaths. (ITD Transporter Newsletter, 2004)

Average daily traffic counts taken in 2007 show 750 vehicles per day at Highway 75 Milepost 146 (near Galena Lodge) and 520 vehicles per day at Mile Post 168 (near Smiley Creek Lodge). Local traffic trips and folks stopping at the Galena Lodge may account for the difference. This segment of Highway 75 is not ranked as a high accident location per 2006 ITD data. Should accident rates increase in this segment of Highway, ITD would determine the cause and make changes as appropriate. (ITD, 2008)

The project area has virtually no cell phone service available. Thus, while the occasional motorist may look to see if cell service is available, for the most part, motorists are currently not using cell phones while driving.

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### **3.6.a.2 Environmental Consequences – Driving While Using a Cell Phone**

**Alt. 1 - No Action:** Under the No Action alternative, the Galena Summit Communication Site would not be designated and no wireless communication facility would be built. Cell phone service would continue to be virtually non-existent in the project area. Without reliable cell phone service, motorists would not be using cell phones while driving. Thus, there would be no additional distraction opportunity and accident rates should remain unaffected. The No Action Alternative would comply with Forest Plan Goal LSGO05 and Guideline LSGU08.

**Alt. 2 - Proposed Action:** Inattentive driving due to cell phone use while operating their vehicle on the highway may cause increased risk to themselves, other drivers, wildlife and bicyclists. It is expected that if cell phone service was known to be reliable in the project area, accident rates may correlate to state-wide statistics for distracted driving due to cell phone use. The proposed action would comply with Forest Plan Guideline LSGU08 and with Forest Plan Goal LSGO05 components a, c, and d, but would not aid with Goal LSGO05 b) ‘Promote public health and safety’.

### **3.6.b.1 Affected Environment – Cell Phones Provide False Security**

“New technology contributes to the increased participation in outdoor recreation” (Outdoor Industry Association as cited in Holden, 2004, p. 2). “Innovations such as high-tech fabrics, camp stoves, lightweight shelters, and handheld global positioning system (GPS) units have greatly increased in use and implementation over the last 10 years” (Ewert & Shultis as cited in Holden, 2004, p. 2).

“In addition to innovations in equipment and materials, the use of communication technology has become a topic of debate. Cellular and satellite phones have become more and more visible in backcountry recreation” (Holden, 2004, p. 2). According to a 1996 Backpacker Magazine poll, almost half (45%) of 1,355 individuals surveyed said, “a cell phone had a place in their backpack”(Morris study as cited in Hall, 2002 as cited in Holden, 2004, p. 3)

There is little in the way of peer reviewed studies addressing risk behavior changes of people before and after the implementation of carrying cell phones in the backcountry. Perhaps the most relevant is the doctoral dissertation prepared by George T. Holden entitled: “The Impacts of Satellite Phone Technology on a North Carolina Outward Bound School Experience” (Holden, 2004). “Although communication technology has many implications associated with its use, the primary focus of this study was to address the impacts of this technology on the wilderness experience of adventure program participants” (Holden, 2004, p. 3). Holden (2004, p. 80) concludes:

"Although the findings state there was a significant difference in wilderness experience between participants who knew and who did not know about the satellite phone, the more important findings addressing risk, safety, and coping ability showed there was no significant difference between participants who knew and who did not know about the satellite phone."

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Holden suggests that “additional research areas might include backcountry recreation areas used by the general public. Social and environmental impacts may be studied and assessed. One area to be studied may be how communication technology affects guides and other outdoor professionals in their decision-making or experience based judgment. Land management agencies may use the study to better understand visitor preferences and use pertaining to communication technology by determining different motivations, attitudes, values, and needs of both the users and the environment” (Holden, 2004, p. 85). “Findings from this study may be applied to other recreation areas that have seen an increase in satellite and cellular phone use to help land managers create new policies restricting or cautioning visitors in phone use” (Holden, 2004, p. 87).

The Holden study “supports the notion that the impacts of communication technology in the backcountry does not have an extremely good, utopian, or extremely bad, dystopian, effect on the user. The impacts of the technology fall somewhere on the line in between the two opposite ends of the spectrum. Continued experiments are suggested to compare findings to this study.” (Holden, 2004, p. 86).

There is also a recent study in an urban environment where a survey at one college campus found that 40 percent of cell phone users said they walked somewhere after dark that they normally wouldn't go. A separate survey found that about three-quarters of students said that carrying a cell phone while walking alone at night made them feel somewhat or a lot safer (Naser, Hecht, and Wener, 2007). However, the results of the urban study cannot be automatically correlated to the backcountry user population.

Whether or not search and rescue missions have increased due to the use of cell phones and other technological devices (e.g. satellite phones, GPS units, Personal Locator Beacons, etc.) is a much debated question by Search and Rescue units across the nation. Search and Rescue units seem to have a love/hate affair with cell phones and GPS units. They are useful tools and have saved lives. But too often people rely on them and not on more important survival equipment (Johnston, 2005). Cell phones have become key tools used by search and rescue teams as they try to locate people who've become lost in remote areas (Reardon, 2006).

Will people accessing the backcountry and carrying a cell phone put themselves in riskier situations and thus, cause more need for rescues? Larry Nickey is the search and rescue coordinator for Olympic National Park in Washington State.

"We do have cases where the cell phone has seriously helped us," Mr. Nickey said. In one instance, a hiker fell and had a compound fracture. A member of his party hiked to a spot where he could get phone reception and called the park rangers. Rescuers hiked in and carried him out. This was a case, Mr. Nickey said, where the hiker could have died of shock or suffered amputation. But every year, he said, one or two people call in lost who just didn't bother to take a map. "Those are the ones that drive us crazy," he said. Cell phones and global positioning system receivers can, of course, be useful tools, Mr. Nickey said. "We say take the phone, but turn it off" (Gorman, 2001).

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The Olympic National Park has a website giving advice related to cell phones that is similar to the advice given by most wilderness and backcountry experts:

Do not depend on a cell phone to help in an emergency. Come prepared to meet wilderness on its own terms. Cell phone coverage is very patchy throughout most of the park. There may be a chance to reach a cell site by climbing to a ridge top. From the backcountry, report only serious emergencies by calling 911.”  
(<http://www.nps.gov/olym/planyourvisit/wilderness-safety.htm>)

Or are backcountry travelers responsibly carrying a cell phone for emergency use only, while taking many other precautions – is it just one more tool in an already well-planned trip? The University of Oregon Outdoor Program provides ‘emergency use only’ cell phones to students for outdoor adventure activities (U of O, 2008). The University of Oregon Outdoor Program has a safety philosophy:

“The goal ... is to make outdoor safety equipment available to U of O students in order to lessen the risks inherent in wilderness travel. Ultimately, safety is the responsibility of the individual and to a lesser extent, the group the individual is a part of. Each individual and group must take advantage of all resources available in order to make safe decisions in high risk outdoor activities”. (U of O, 2008).

Supporters of carrying cell phones acknowledge the limitations of use (poor or no coverage, dead battery, etc.) but claim it is no different than a driver carrying a spare tire in the car. They ask, does knowing you have a spare tire in your car cause you to drive in places you’d normally avoid? Probably not, they conclude (Shapiro, 2008).

According to Ranger Mark Hnat -Branch Chief of Emergency Services with the National Park Service, it is not clear if there are more ‘false alarms’ due to the use of cell phones (Repanshek, 2008).

### **3.6.b.2 Environmental Consequences – Cell Phones Provide False Security**

**Alt. 1 - No Action:** Search and Rescue rates would remain unaffected and change due to variables other than the installation of a cell tower and cell service in the project area. The No Action Alternative would comply with Forest Plan Goal LSGO05 and Guideline LSGU08.

**Alt. 2 - Proposed Action:** Cell phone coverage could lead to a false sense of security to some visitors who may rely on their cell phone rather than preparation or judgment for safety and security. Based on the literature available, it is unclear if this would measurably increase the current rate of search and rescue missions. There could also be some increase in the number of emergency calls received by the respective agencies that may be legitimate and result in quicker responses. The proposed action would comply with Forest Plan Goal LSGO05 and Guideline LSGU08.

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### 3.6.c.1 Affected Environment – Emergency Response Times

The project area has two small communities (Smiley Creek and Galena Lodge) with year-round and seasonal residents. Ranches are scattered along State Highway 75 in the Sawtooth Valley. The area offers a variety of recreation experiences, such as backcountry and Nordic skiing, camping, hiking, picnicking, and sight seeing but has limited communications. The area proposed for cell phone coverage has limited private phone landlines and has very restricted or no cell phone coverage. There is a free emergency phone at Galena Lodge on the south side of Galena Summit. There is a pay phone at Smiley Creek Lodge & Restaurant that is not always operational. Most of the residences around the Lodge have landline phones as well.

In case of accidents or search and rescue, emergency services are dispatched from the Ketchum Rural Fire Department from south of Galena Summit or from the Sawtooth Valley Rural Fire Department in Stanley, north of the summit. Law enforcement also responds from Blaine County (Hailey) or Custer County (Stanley).

Ketchum Rural Fire Department responds to all medical emergencies north of Ketchum to Smiley Creek, which encompasses the project area and provided the information in Table 3, below.

**Table 3. Emergency Medical Response data from 1999 to 2003 Annual Reports (medical only)**

<b>Year</b>	<b>Coverage Area</b>	<b># Responses</b>	<b>% Responses for Entire District</b>
1999	Rural North	47 responses	8.6%
2000	Rural North	53 responses	9%
2001	Rural North	40 responses	8.5%
2002	Rural North	34 responses	7.4%
2003	Rural North	33 responses	7.1%

Depending upon the location of the emergency, once notification has been made, it currently takes a minimum of 30 minutes driving time under ideal conditions to reach a highway accident on Galena Summit from either direction. In reality, response times are often much longer. Backcountry rescues typically take several hours to reach the scene.

Mobile phones have positive values, including use in emergencies to call for help (Chapman and Schofield, 1998). Cell phone owners often cite benefits such as security and peace of mind, increased productivity, privacy, and quicker crime and accident reporting when cell phone coverage is available.

Cell phones are often used today by emergency responders to communicate between themselves. During the Castle Rock Fire (Ketchum Ranger District 2007) emergency responders relied upon cell phones to converse with each other. Announcements were made on the local radio station asking the public to stay off their cell phones unless absolutely necessary so as to not tie up the bandwidth which then made it unavailable to emergency workers. Cell phones are currently not used in the project area for emergency response as there is no cell service available.

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Emergency responders also use public safety radios (VHF or UHF) to converse. Currently, there are no emergency services antennas in the project area for use by the Blaine or Custer Counties or Rural Fire Districts. Thus, public safety radios only work as ‘line of sight’ in the project area on the north side of Galena Summit - generally up to ½ mile. There can be no topographical features obstructing the ‘line of sight’, or the radios do not work. During a law enforcement incident at Alturas Lake in 2007, Blaine County Sheriff Femling had to station a Deputy at the top of Galena Summit to act as a ‘human repeater’ in order to have minimal radio communications during the incident. Sheriff Femling emphasized he doesn’t always have the staff to make this happen and under different circumstances, he might not have had radio communications in a hazardous situation. (Femling, 2008)

By being able to pinpoint a location from a caller’s cell phone, the money savings in terms of emergency resources and paid searchers may be reduced. (Reardon, 2006) This feature is commonly known as ‘Phase 2 Wireless E-911’. There are only two counties in Idaho that have this service, which includes the project area in Blaine County. It allows the dispatch office to ‘accept’ information from the wireless service. The limitation of using ‘Phase 2 Wireless E-911’ is that a cell phone must be able to reach two or more towers (line of sight). This method requires a regular cell phone be near three cell towers to pinpoint (triangulate) the caller’s location. If the phone is only within range of one tower, then the dispatcher will only know the distance the caller is from the tower. If the phone is within range of two towers, the location can be narrowed down to two possible locations. If the phone is within range of three towers, the location can be definitively determined.

The other method is for the phone to have a Global Positioning System (GPS) sensor in it. Most current-model cell phones now include GPS chips, which can determine the cell phone coordinates by connecting to satellites. It is likely that the trend of including location-tracking components will continue as cell phone manufacturers comply with the Federal Communications Commission (FCC) Enhanced 911 (E911) rule. The FCC's E911 initiative requires cell phone carriers to be able to pinpoint their customers' location within 100 meters, so emergency responders can reach them in a crisis. However, phones with GPS chips can actually find you within a few feet. Ninety-five percent of cell phones were to be E911 compliant by the end of 2005. In the future nearly all cell phones will have location-tracking features. Although the impetus behind location-based tracking was public safety, many companies are exploring commercial opportunities as well. Several companies now offer non-emergency tracking for a monthly fee. (Privacy Rights, 2006)

### **3.6.c.2 Environmental Consequences – Emergency Response Times**

#### **Alt. 1 - No Action**

Response times would remain unaffected and would continue to be primarily dependant upon a person being able to reach a landline phone at Galena Lodge, Smiley Creek Lodge, or at one of the remote ranches or recreation residences. In many cases, a Good Samaritan will often drive into the town of Stanley or Ketchum before being able to make contact with emergency services. The No Action Alternative would comply with Forest Plan Guideline LSGU08 however would not aid in achieving Forest Plan goal LSGO05 to issue special use authorizations that: a) Serve

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the public and b) promote public health and safety. It would comply with Forest Plan Goal LSGO05 c) Protect the environment, and/or d) Are legally mandated.

### **Alt. 2 - Proposed Action**

If the cell tower is approved, a cell phone will likely work to make an emergency phone call in the project area. The availability of cell coverage could result in more rapid notification of authorities in the event of highway accidents, wildfire, search and rescues, and other emergency incidents. This may improve emergency response times within the coverage area. The capability of cell phone communication in these isolated areas may change the balance of risk and loss of life in favor of those who need emergency response.

Emergency service responders may have the ability to converse with each other using cell phones. Emergency services communications would also be enhanced with the availability of a radio repeater (in the equipment building) and an antenna on the proposed tower to improve their two-way communications. This greatly increases the range of public safety radio communications in the project area as they are not limited by ‘line of sight’ communications.

Improved communications by use of cell phones may reduce the need for unnecessary Search and Rescue action. For example, if a hiker was overdue, but not in any danger, the hiker could let someone at home know the situation so they would not initiate an emergency response. Because a cell phone communication is two-way, emergency dispatchers may be able identify a frivolous call, or in other cases, give guidance to the caller, without having to activate a Search and Rescue mission.

By having cell phone service available in the project area, a phone with a GPS chip would allow the dispatcher to map a location for the caller and send emergency services directly to the incident site.

According to Blaine County Sheriff Femling, the small amount of nuisance phone calls he may receive for search and rescues due to cell phone service is far outweighed by the positive safety benefits that would occur in the event of a real emergency. (Femling, 2008)

The proposed action would comply with Forest Plan Goal LSGO05 and Guideline LSGU08.

## **3.7 Cumulative Impacts**

Cumulative effects are defined as “the impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable actions, regardless of what agency or persons undertake them” (40 CFR 1508, 2004). The following section describes the cumulative effects of the proposed project by resource. The analysis area used to evaluate cumulative effects varies by resource and therefore is disclosed for each resource in the discussions below.

### **Visual Resources**

The analysis area for cumulative effects to visual resources is the Sawtooth NRA.

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No cumulative effects are expected from implementation of alternative A. Given the direction from Congress and the President to facilitate implementation of the Nation's strategy for wireless communication (see the Purpose and Need section of this EA), it is highly probable that additional proposals for wireless facilities will be made. Depending on the types of facilities proposed, visual resources could be impacted.

Cumulative effects to visual resources from alternative B would result from the addition of another, more visually dominant alteration to the landscape at this site. Currently, only the low profile Sawtooth Telephone site exists in the cumulative effects area. Limiting the facilities to the existing Sawtooth Telephone and proposed ITC facilities, as would be required in the site management plan developed as part of the formal designation process, would prevent further cumulative effects to scenic resources associated with communication site development.

## **Wildlife**

Within the project area, activities that have impacted terrestrial species of concern and their habitats include roads, livestock grazing, dispersed recreation, backcountry skiing, and special use permitted activities including operation and maintenance of a Sno-tel site and operation and maintenance of the Sawtooth Telephone communication facility. In addition to these on-going activities and the proposed Idaho Tower Company proposal, an application has been filed for installation of a plate boundary observatory within the project area. The plate boundary observatory would be located adjacent to the Sawtooth Telephone lot. The observatory would require an area approximately 20' x 40' to provide for a Trimble NetRS GPS receiver geodetic grade choke ring antenna, a stable monument that anchors the antennae firmly to the ground, and a 2' x 2' area for a solar-paneled power system, equipment box and a communication system. The antenna dome and solar panel would be between 7 and 8 feet tall. After construction (1-7 days) minimal access to the site would be needed because data would be collected remotely. When needed, winter access to the observatory would be non-motorized. Winter access to the Sawtooth Telephone facility and the proposed Idaho Tower site would generally be non-motorized, but there could be one to three motorized trips authorized per year for emergency repairs. Two additional cell towers could be proposed in the foreseeable future for installation and operation on the Sawtooth NRA. No details on design and height are available for these towers.

The analysis area used to evaluate cumulative effects to wildlife varies by species and is disclosed in the write-up for each specie or group of species analyzed.

### **Canada lynx**

Based on the home range size and wide-ranging nature of the species, the north end of the Sawtooth National Forest is considered the cumulative effects boundary for Canada lynx (U.S. Fish and Wildlife Service 2000, Aubry et al. 1999).

As described in section 3.3.b. above, there would be a small change in foraging habitat (0.25 acres) and a potential ¼ mile temporary increase in snow compaction within the LAU as a result of the proposed project. There is the potential for snow compaction in this area to increase in the future, as well as become more frequent, as more motorized use is authorized to accommodate facility maintenance needs and backcountry ski numbers increase over time. However, because of the small amount of habitat change and small increase in snow compaction



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associated with the Idaho Tower Company project, the effects of the project when added to the overall cumulative effects from past, present and reasonably foreseeable future activities, would be insignificant to Canada lynx.

### **Gray Wolf**

The north end of the Sawtooth National Forest is considered the cumulative effects boundary for gray wolf based on the home range size and wide-ranging nature of these species (U.S. Fish and Wildlife Service 2000, Aubry et al. 1999). Because installation, operation, and maintenance of the Galena cell tower is not expected to cause negative effects to gray wolf, it would not contribute cumulative effects to this species.

### **Spotted Bat and Townsend's Big-eared Bat**

The Sawtooth NRA is considered the cumulative effects boundary for spotted bat and Townsend's big-eared bat. The loss of foraging habitat and potential for individual mortality as a result of tower collisions are the primary impacts associated with the proposed project that could cumulatively contribute to impacts to bats and their habitats.

Installation, operation and maintenance of the Galena cell tower would potentially contribute to negative cumulative effects to spotted bat and Townsend's big-eared bat in conjunction with current and future sources such as the proposed plate boundary observatory or other cell towers. However, due to the design of the Idaho Tower Company tower, the likelihood of bird collisions and resulting mortality would be low but additive to other sources. Similarly, the plate boundary observatory would have a low profile and therefore would pose a low potential for collision related mortality

Both the proposed Idaho Tower Company facility and the plate boundary observatory would result in the loss of a very small amount of foraging habitat (less than ½ acre total). However, because of the small amount of habitat change the effects of the project when added to the overall cumulative effects from past, present and reasonably foreseeable future activities, would be insignificant to spotted and Townsend's big-eared bats.

### **Wolverine and Fisher**

The north end of the Sawtooth National Forest is considered the cumulative effects boundary for wolverine based on home range size, the wide-ranging nature of this species and information on the wolverine population in this area from Copeland (1996). The north end of the Sawtooth National Forest is also considered the cumulative effects boundary for fisher based on home range size (Powell and Zielinski 1994). Because installation, operation, and maintenance of the Galena cell tower is not expected to cause negative effects to wolverine or fisher, it would not contribute cumulative effects to this species.

### **Common Loon, Bald Eagle, Northern Goshawk, Peregrine Falcon, Greater Sage-grouse, Great Grey Owl, Flammulated Owl, Boreal Owl and Three-toed Woodpecker**

The Sawtooth NRA is considered the cumulative effects boundary for common loon, bald eagle, northern goshawk, peregrine falcon, greater sage-grouse, great gray owl, flammulated owl, boreal owl, and three-toed woodpecker. Installation, operation and maintenance of the Galena cell tower would potentially contribute to negative cumulative effects to these species in

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conjunction with current and future sources such as the proposed plate boundary observatory or other cell towers. However, due to the design of the Idaho Tower Company tower, the likelihood of bird collisions and resulting mortality would be low but additive to other sources. Similarly, the plate boundary observatory would have a low profile and therefore would pose a low potential for collision related mortality. Effects from RF exposure to species perching or roosting on or near the tower should be confined to the 0.25 acre cell tower lot.

### **Migratory Birds and MIS**

The Sawtooth NRA is considered the cumulative effects boundary for migratory birds and management indicator species for this project. Installation, operation and maintenance of the Galena cell tower would potentially contribute to negative cumulative effects to spotted bat and Townsend's big-eared bat in conjunction with current and future sources such as the proposed plate boundary observatory or other cell towers. However, due to the design of the Idaho Tower Company tower, the likelihood of bird collisions and resulting mortality would be low but additive to other sources. Similarly, the plate boundary observatory would have a low profile and therefore would pose a low potential for collision related mortality. Effects from RF exposure to species perching or roosting on or near the tower should be confined to the 0.25 acre cell tower lot.

### **Wilderness**

The analysis area for cumulative effects to wilderness is the boundary of the Sawtooth Wilderness area. Bleed over from the existing cell tower in Stanley into the Sawtooth Wilderness already occurs. As technological advances in cell phone signal and signal reception occurs, additional cell coverage within the Wilderness is likely, with or without the proposed Idaho Tower Company facility. This accumulation of additional cell phone reception within the Wilderness may result in degradation of wilderness character, specifically to the quality of "solitude or a primitive and unconfined type of recreation" as identified in the Wilderness Act (P.L. 88-577). Should this occur, it would negatively affect the experience of an increased number of wilderness users.

### **Recreation**

The analysis area for cumulative effects to recreation is the Galena Summit area. The cumulative effects of this alternative would be that communication structures in addition to the existing facility would increase the developed character of the area and expand the development envelope on the summit. The existing Sawtooth Telephone facility is in a location that gets some summer use but very little winter use. Currently summer visitors wishing to avoid development can go north on the access road. This option would no longer be available if the Idaho Tower Company facility is constructed.

Motorized use to access the existing communication site and the Sno-tel site occurs on average 0-2 times per winter. Installation of the Idaho Tower Company facility would potentially increase motorized winter access to up to 5 times per winter. Any additional motorized access in the project area may lead to increased conflict and could substantially affect winter recreationists' experience.

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## **Safety**

The analysis area for cumulative effects to safety is the boundary of the Sawtooth NRA. If additional wireless communication facilities are constructed in the future in other locations it could lead to seamless communications from Ketchum to Stanley.

In the future, the Idaho State Legislature may pass legislation that specifically restricts the use of cell phones while driving, which may result in a decrease in accident rates. There is no proposed legislation at this time however, in the past, legislation has been proposed.

The ITD Office of Highway Safety receives federal money to conduct driver education programs. ITD may develop driver education programs (e.g. “Just Drive Campaign”) aimed at distracted drivers, which may also affect driver accident rates.

As technological advances in cell phone signal and signal reception occurs, additional cell coverage within the project area may improve, with or without the proposed Idaho Tower Company facility. Satellite phones or other technology may gradually replace cell phones.

## **3.8 Compliance With Other Laws And Regulations**

This project complies with all the applicable laws and regulations. The following are project specific laws and regulations.

### **Endangered Species Act**

The project complies with the Endangered Species Act of 1973, as Amended. A BA/BE was completed and is included in the Planning Record. An Aquatics Specialist report was also completed with a No Effect finding.

### **Telecommunications Act**

The project complies with Telecommunications Act of 1996 requiring the federal government to facilitate the siting of Wireless Telecommunication Facilities.

### **National Historic Preservation Act**

Cultural resource surveys have been conducted in the Project Area (Pepalis, 2007) and no sites considered eligible for the National Register of Historic Places were discovered. The complete cultural report and the State Historical Preservation’s Office “No Historic Properties Affected” concurrence letter are included in the Project Record.

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## **CHAPTER 4. CONSULTATION AND COORDINATION**

The Forest Service consulted the following individuals, Federal, State, and local agencies, tribes and non-Forest Service persons during the development of this environmental assessment:

### **ID TEAM MEMBERS**

Project Leader and EA writer - Jackie Richter  
NEPA Specialist – Stacey Clark  
Visuals – Tom Streit  
Visuals - Dan Schlender – Boise National Forest  
Visuals – David Reis – Humbolt-Toiyabe National Forest  
Visual – Terry Fletcher – retired FS employee / contractor  
Wildlife – Robin Garwood  
Botany – Deb Taylor  
Recreation and Public Affairs – Ed Cannady  
Wilderness – Liese Dean  
Project Advisor – Terry Clark  
Area Ranger – Sara Baldwin

### **FEDERAL, STATE, AND LOCAL AGENCIES**

Fish and Wildlife Service  
NOAA Fisheries  
Idaho State Historic Preservation Office  
Idaho Department of Transportation  
Blaine County Emergency Communications - Director Bob Greenlaw  
Blaine County Sheriff - Walt Femling

### **TRIBES**

Shoshone-Bannock Tribes

### **OTHERS**

Aquatics – Mark Moulton, FS  
Timber – M. Scott Loos, FS  
Cultural Resources – Randy Thompson, FS  
Cultural Resources – Contracted to Jeanne Pepalis, M.A.

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## CHAPTER 5. REFERENCES

- Attarian, Aram, 2002. 'Rock Climbers' Self-Perceptions of First Aid, Safety, and Rescue Skills'. *Wilderness and Environmental Medicine*: Vol. 13, No. 4, pp. 238–244. Found online via: <http://www.wemjournal.org/pdfserv/i1080-6032-013-04-0238.pdf>
- Aubry, K.B., G. Koehler, and J.R. Squires. 2000. Ecology of Canada lynx in southern boreal forests. Pages 373-396 In Ruggiero, L.F., K.B. Aubry, S.W. Buskirk, G.M. Koehler, C.J. Krebs, K.S. McKelvey, and J.R. Squires (Tech Eds.). *Ecology and conservation of lynx in the United States*. Univ. Press of Colorado. Boulder, CO 480 pp.
- Avery, M. and T. Clement. 1972. Bird mortality at four towers in eastern North Dakota: Fall 1972. *Prairie Nat.*, 4:87–95.
- Avery, M., Springer, P.F., & Cassel, J.F. 1976. The effects of a tall tower on nocturnal bird migration - A portable ceilometer study. *Auk*, 93, 281-291.
- Balmori, A. 2003. The effects of microwave radiation on wildlife. Preliminary results. Valladolid, Spain.
- Blaine County Recreation District, 2008. About Galena Lodge and the Trails. Found online via: [www.bcrd.org/galenalodgetrails/tabid/173/defaults.aspx](http://www.bcrd.org/galenalodgetrails/tabid/173/defaults.aspx)
- Braun, C.E. 1998. Sage grouse declines in Western North America: what are the problems? *Proc. Western Assoc. State Fish and Wild. Agencies* 78:000-000.
- Braun, C.E., T. Britt, and R.O. Wallestad. 1977. Guidelines for maintenance of sage grouse habitats. *Wildl. Soc. Bull.* 5:99-106.
- Brennan, L.A., W.M. Block, and R.J. Gutierrez. 1987. Habitat use by mountain quail in northern California. *The Condor* 89:66-74.
- Bull, E.L., S.R. Peterson, and J.W. Thomas. 1986. Resource partitioning among woodpeckers in northeastern Oregon. *USDA Forest Service Research Note PNW-444*. 19 pp.
- Bull, E.L., M.G. Henjum, and R.S. Rohweder. 1988. Nesting and foraging habitat of great gray owls. *Journal Raptor Research* 22: 107-115.
- Bull, E.L. and J.G. Henjum. 1990. Ecology of the great gray owl. General Technical Report PNW-GTR-265. Portland, OR: USDA, Forest Service, Pacific Northwest Research Station. 39 pp.
- Cannady, E. January 16, 2008. Personal communication between Ed Cannady, Sawtooth National Recreation Area Backcountry Specialist, and Kirk Bachman, Sawtooth Mountain Guides (SMG) in Stanley, about Winter ski/snowboard use on Galena Summit
- Cannady, E. January 16, 2008. Phone conversation between Ed Cannady Sawtooth National Recreation Area Backcountry Specialist and Janet Kellam, Director of the Sawtooth National Forest Avalanche Center
- Cannady, E. January 16, 2008. Personal communication between Ed Cannady, Sawtooth

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National Recreation Area Backcountry Specialist, and Andy Munter, Mountain Sports, Ketchum, ID, regarding outdoor winter activity in Ketchum area

- Cannady, E. January 16, 2008. Phone conversation, between Ed Cannady Sawtooth National Recreation Area Backcountry Specialist, and Bob Rosso, Elephants Perch in Ketchum, regarding Winter sport activity in Ketchum
- Cannady, E. 2007. Questions and Answers for: Recreation Use on Galena Summit as relayed to Ed Cannady by Tom Streit
- Chapman, S., Schofield, W.N., 1998. Lifesavers and Samaritans: emergency use of cellular (mobile) phones in Australia. *Accident Analysis and Prevention* 30 (6), 815–819. Found online via: : [http://www.sciencedirect.com/science?\\_ob=ArticleURL&\\_udi=B6V5S-3V728VH-1F&\\_user=4250274&\\_rdoc=1&\\_fmt=&\\_orig=search&\\_sort=d&view=c&\\_acct=C000052423&\\_version=1&\\_urlVersion=0&\\_userid=4250274&md5=1def7eabc41d38801ee3f169dc73b089](http://www.sciencedirect.com/science?_ob=ArticleURL&_udi=B6V5S-3V728VH-1F&_user=4250274&_rdoc=1&_fmt=&_orig=search&_sort=d&view=c&_acct=C000052423&_version=1&_urlVersion=0&_userid=4250274&md5=1def7eabc41d38801ee3f169dc73b089)
- Christy, R.E. and S.D. West. 1993. Biology of bats in Douglas-fir forests. General Technical Report PNW-GTR-308. Portland, OR: USDA, Forest Service, Pacific Northwest Research Station. 28 pp.
- Connelly, J.W., W.L. Wakkinen, A.D. Apa, and K.P. Reese. 1991. Sage grouse use of nest sites in southeastern Idaho. *J. Wildl. Manage.* 55:521-524.
- Connelly, J.W., M.A. Schroeder, A.R. Sands, and C.E. Braun. 2000. Guidelines to manage sage grouse populations and their habitats. *Wildlife Society Bulletin* 2000, 28(4): 967-985.
- Copeland, J.P. 1996. Biology of the wolverine in central Idaho. M.S. Thesis, University of Idaho, Moscow. 138 pp.
- Cooper, J. M., Vladislavljevic, I., Strayer, D.L., Martin, P.T.(2008). Drivers' Lane Changing Behavior While Conversing On a Cell Phone in a Variable Density Simulated Highway Environment. Found online via: <http://www.psych.utah.edu/AppliedCognitionLab/LC.pdf>
- Crawford, R.L., and W.W. Baker. 1981. Bats killed at a north Florida television tower: a 25-year record. *Journal of Mammalogy* 62:651-652.
- CTIA, USDI, BLM, USDA, USFS. 1997. Siting Wireless Antennas, An Introduction , Federal Land Managers Version. 130 pgs.
- Delgado, J.M.R., J. Leal, J.L. Monteagudo, and M.G. Gracia. 1982. Embryological changes induced by weak, extremely low frequency electromagnetic fields. *Journal of Anatomy* 134: 533-551.
- Derby, C. 2006. Bird and bat fatality monitoring of six ungued, unlit cellular telecommunication towers within the Coconino and Prescott National Forests, Arizona: 2006 Season Results. Tech. Report prepared for American Tower Corporation.
- Dobkin, D.S., R.D. Gettinger, and M.G. Gerdes. 1995. Springtime movements, roost use, and foraging activity of Townsend's big-eared bat (*Plecotus townsendii*) in central Oregon. *Great Basin Naturalist* 55:315-321.

- 
- Donahue, Mary 2008. Cell Phones In Wilderness. Homepage. Found online via:  
[http://faculty.deanza.edu/donahuemary/stories/storyReader\\$1068](http://faculty.deanza.edu/donahuemary/stories/storyReader$1068)
- Dorr, J. 2008. email correspondence between Jay Dorr, Sawtooth National Recreation Area Supervisory Forestry Technician, and Ed Cannady, Backcountry Specialist
- Douglas, C.W. and M.A. Strickland. 1987. Fisher. Pages 511-529 in Wild furbearer management and conservation in North America. M. Novak, J.A. Baker, M.E. Obbard, and B. Malloch, eds. Ministry of Natural Resources, Ontario.
- Drews, F. A., Pasupathi, M., & Strayer, D. L. 2004. Passenger and cell-phone conversations in simulated driving. In the Proceedings of the 48nd Annual Meeting of the Human Factors and Ergonomics Society (pp 2210-2212). Found online via:  
<http://www.psych.utah.edu/AppliedCognitionLab/HFES2004-000597-1.pdf>
- Dunn, P.O. and C.E. Braun. 1986. Summer habitat use by adult female and juvenile sage grouse. *J. Wildl. Manage.* 50:228-235.
- Erickson, W.P., G. Johnson, D. Young, D. Strickland, R. Good, M. Bourassa, K. Bay, and K. Sernka. 2002. Synthesis and comparison of baseline avian and bat use, raptor nesting and mortality information from proposed and existing wind developments. Prepared for Bonneville Power Administration by WEST, Inc., Cheyenne, WY. Final Report. 124 pp.
- Farrell, J.M., M. Barber, D. Krause, and T.A. Litovitz. 1997a. Effects of low frequency electromagnetic fields on the activity of ornithine decarboxylase in developing chicken embryos. *Bioelectrochemistry and Bioenergetics*, 43: 91-96.
- Farrell, J.M., T.L. Litovitz, M. Penafiel, C.J. Montrose, P. Doinov, M. Barber, K.M. Brown, and T.A. Litovitz. 1997b. The effect of pulsed and sinusoidal magnetic fields on the morphology of developing chick embryos. *Bioelectromagnetics* 18:431-438.
- Federal Communications Commission. 1997. Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields. OET Bulletin 65, Edition 97-01.
- Federal Communications Commission, 2000. A local government official's guide to transmitting antenna RF emission safety: rules, procedures, and practical guidance. Local and State Government Advisory Committee.
- Femling, Walt, 2008. Personal Communication. Phone conversation between Blaine County Sheriff Walt Femling and Sawtooth Forest employee Carol Brown on June 5, 2008 regarding the proposed Galena Cell Tower and safety issues. Ketchum, Idaho.
- Foss, Robert D., Arthur H. Goodwin, Annie T. McCartt, Laurie A. Hellinga, 2008. Short-term Effects of a Teenage Driver Cell Phone Restriction. University of North Carolina Highway Safety Research Center, Chapel Hill, North Carolina. Found online via:  
<http://www.iihs.org/research/topics/pdf/r1106.pdf>
- Frederick, G.P. and T.L. Moore. 1991. Distribution and habitat of white-headed woodpeckers in west-central Idaho. Conservation Data Center, Idaho Department of Fish and Game. 32 pp.



- 
- Fritts, S.H., E.E. Bangs, and J.F. Gore. 1993. The relationship of wolf recovery to habitat conservation and biodiversity in the northwestern United States. *Landscape and urban planning C*: 1-11, Elsevier Science Publishers B.V., Amsterdam.
- Ganier, A.F. 1962. Bird casualties at a Nashville TV tower. *Migrant* 33:58-60.
- Garwood, R. 2005. Wildlife observation, greater sage-grouse. June 28, 2005.
- Garwood, R. 2005. Wildlife observation, three-toed woodpecker. August 11, 2005.
- Glassbrenner, Donna, 2005. Driver Cell Phone Use in 2005 — Overall Results. *Traffic Safety Facts Research Notes - DOT HS 809 967*. National Highway Traffic Safety Administration. (NHTSA). Found online via: <http://www-nrd.nhtsa.dot.gov/pdf/nrd-30/NCSA/RNotes/2005/809967.pdf>
- Gollop, M.A. 1965. Bird migration collision casualties at Saskatoon. *Blue Jay* 23:15-17.
- Gorman, James, 2001. The Call in the Wild: Cell Phones Hit the Trail. *The New York Times*. Found online via: <http://query.nytimes.com/gst/fullpage.html?res=9C04E5DF1530F933A0575BC0A9679C8B63&sec=&spon=&pagewanted=all>
- Graber, R. R. 1968. Nocturnal migration in Illinois - Different points of view. *Wilson Bulletin*, 80, 36-71.
- Hayward, G.D., P.H. Hayward, and E.O. Garton. 1993. Ecology of boreal owls in the northern Rocky Mountains, USA. *Wildlife Monographs No. 123*. 59 pp.
- Hash, H.S. 1987. Wolverine. *Wild furbearer management and conservation in North America*. (Pages 575-585) M. Novak, J.A. Baker, M.E. Obbard, and B. Malloch, eds. Ministry of Natural Resources, Ontario.
- Holden, George Thomas III (2004). *The Impacts of Satellite Phone Technology on a North Carolina Outward Bound School Experience*. Doctoral Dissertation. Department of Parks, Recreation, and Tourism Management. North Carolina State University. Raleigh, NC. Found online via: <http://www.lib.ncsu.edu/theses/available/etd-03242004-161618/unrestricted/etd.pdf>
- Idaho State Statutes. Title 49 Motor Vehicles – Chapter 14 – Traffic – Enforcement and General Provisions. 49-1401 Reckless Driving. Found online via: <http://www3.state.id.us/cgi-bin/newidst?sctid=490140001.K>
- Idaho Transportation Department (ITD), 2008. e-mail correspondence with Walter Burnside, Project Development Engineer and Connie Jones, NEPA Coordinator - District 4 ITD. Shoshone, Idaho.
- Idaho Transportation Department (ITD), 2006. *State of Idaho Driver's Manual*. June, 2006. "Cell Phones". pp. 4-3. Found online via: [http://www.itd.idaho.gov/dmv/DriverServices/documents/driver\\_manual.pdf](http://www.itd.idaho.gov/dmv/DriverServices/documents/driver_manual.pdf)
- Idaho Transportation Department (ITD), 2004. Fiery crash leads to distracted driving concern. Authorities say the problem goes beyond just talking on the phone. Found online via: [http://itd.idaho.gov/Transporter/2004/032604\\_Trans/032604\\_ORdistracted.html](http://itd.idaho.gov/Transporter/2004/032604_Trans/032604_ORdistracted.html)

- 
- Insurance Institute For Highway Safety (IIHS), 2005. 1st Evidence of Effects of Cell Phone Use On Injury Crashes: Crash Risk is Four Times Higher When Driver is Using a Hand-Held Cell Phone. July 12, 2005 Found online via: [http://www.iihs.org/news/2005/iihs\\_news\\_071205.pdf](http://www.iihs.org/news/2005/iihs_news_071205.pdf)
- Idaho Institute for Highway Safety (IIHS), 2008. Cell phone laws by State. Found online via: <http://www.iihs.org/laws/cellphonelaws.aspx>
- Insurance Information Institute (III), 2008. Cell phones and Driving. Found online via: <http://www.iii.org/media/hottopics/insurance/cellphones/>
- Iowa Civic Analysis Network (I-CAN), 2006. Cell Phone Use While Driving: Effects and Legislation. Found online via: <http://www.uiowa.edu/~ican/Papers%202006/distracteddriving122906.pdf>
- Johnsgard, P.A. 1975. North American Game Birds. Univ. of Nebraska Press, Lincoln and London. 183 pp.
- Johnsgard, P.A. 1988. North American owls, biology and natural history. Smithsonian Institution Press, Washington and London. 295 pp.
- Johnsgard, P.A. 1990. Hawks, eagles, and falcons of North America, biology and natural history. Smithsonian Institution Press, Washington and London. 403 pp.
- Johnson, G.D., M.K. Perlik, W P. Erickson, and M.D. Strickland. 2004. Bat activity, composition, and collision mortality at a large wind plant in Minnesota. *Wildl. Soc. Bull.* 32: 1278-1288.
- Johnson, G.D., W P. Erickson, M.D. Strickland, M.F. Shepherd, D.A. Shepherd, and S.M. Sarappo. 2003. Mortality of bats at a large-scale wind power development at Buffalo Ridge, Minnesota. *Am. Midl. Nat.* 150: 332-342.
- Johnston, Greg 2005. The 10 essentials: A revised list for emergency wilderness survival. Seattle Post-Intelligencer Reporter. Found online via: [http://seattlepi.nwsourc.com/getaways/216076\\_essentials17.html](http://seattlepi.nwsourc.com/getaways/216076_essentials17.html)
- Katzner, T.E., and K.L. Parker. 1997. Vegetative characteristics and size of home ranges used by pygmy rabbits (*Brachylagus idahoensis*) during winter. *Journal of Mammalogy* 78:1063-1072.
- Klebenow, D.A. 1969. Sage grouse nesting and brood habitat in Idaho. *J. Wildl. Manage.* 33:649-662.
- Koehler, G.M. and K.B. Aubrey. 1994. Chapter 4: Lynx. Pages 74-98 in American Marten, Fisher, Lynx, and Wolverine in the Western United States, L.F. Ruggiero, K.B. Aubrey, S.W. Buskirk, L.J. Lyon, W.J. Zielinski, eds. U.S. Forest Service, Gen. Tech. Rpt. RM-251.
- KOMO News, 2007. Cell phone bill, text message ban signed into law. AP Wire story. Found online via: <http://www.komonews.com/news/local/7470007.html>
- Krebs, J., E.C. Lofroth, and I. Parfitt. 2007. Multiscale habitat use by wolverines in British Columbia, Canada. *Journal of Wildlife Manage.* 71:2180-2192.
- Kunz, T.H. and R.A. Martin. 1982. *Plecotus townsendii*. Mammalian Species No. 175. American Society of Mammalogists. 6 pp.

- 
- Larkin, Ronald P., and Barbara A. Frase. 1988. Circular paths of birds flying near a broadcasting tower in cloud. *Journal of Comparative Psychology* 102:90-93.
- Leave No Trace Center for Outdoor Ethics. Leave No Trace Cell Phone Use Guidance. 2008. Found online via: [http://test.lnt.org/training/PDFs/Cell\\_Phone\\_Guidance.pdf](http://test.lnt.org/training/PDFs/Cell_Phone_Guidance.pdf)
- Licht, L. 1986. Food and feeding behavior of sympatric red-legged frogs, *Rana aurora*, and spotted frogs, *Rana pretiosa*, in southwestern British Columbia. *Canadian Field Naturalist* 100: 22-31.
- Ligon, J.D. 1973. Foraging behavior of the white-headed woodpecker in Idaho. *Auk* 90: 787-797.
- Longcore, T.L., C. Rich, and S.A. Gauthreaux. 2005. Scientific basis to establish policy regulating communications towers to protect migratory birds: response to Avatar Environmental, LLC report regarding migratory bird collisions with communications towers, WT Docket No. 03-187, federal Communications Commission Notice of Inquiry. Land Protection Partners, Los Angeles, CA.
- Magoun, A.J., and J.P. Copeland. 1998. Characteristics of wolverine reproductive den sites. *Journal of Wildl. Manage.* 62:1313-1320.
- May, R., A. Landa, J. van Dijk, J.D.C. Linnell, and R. Andersen. 2006. Impact of infrastructure on habitat selection of wolverines *Gulo gulo*. *Wildl. Biol.* 12:285-295.
- McCarley, J.S., Vais, M.J., Pringle, H., Kamer, A.F., Irwin, D.E., & Strayer, D.L. (2004) Conversation disrupts change detection in complex traffic scenes. *Human Factors*, 46, 424-436. Found online via: <http://www.psych.utah.edu/AppliedCognitionLab/McCarley04.pdf>
- McCarley, J. S., Vais, M., Pringle, H., Kramer, A. F., Irwin, D. E., & Strayer, D. L. (2001). Conversation disrupts visual scanning of traffic scenes. Paper presented at Vision in Vehicles, Australia. Found online via: [http://www.psych.utah.edu/AppliedCognitionLab/ViV\\_2001.pdf](http://www.psych.utah.edu/AppliedCognitionLab/ViV_2001.pdf)
- McClellan, Tom, 2008. email. Ketchum Rural Fire Department – EMS response data. Ketchum, Idaho
- McCord, C.M. and J.E. Cardoza. 1982. Bobcat and lynx. in J.A. Chapman and G. A. Feldhamer (eds.). *Wild mammals of North America biology, management and economics*. Johns Hopkins University Press, Baltimore, MD.
- Mech, D.L. 1970. *The wolf, the ecology of an endangered species*. University of Minnesota Press, Minneapolis. 384 pp.
- Mercury News, 2008. Full hands-free cell phone law. Newspaper article in MercuryNews.com (Silicone Valley, CA) . Found online via: [http://www.mercurynews.com/ci\\_8837177](http://www.mercurynews.com/ci_8837177)
- Merriam, C.H. 1890. Journal of a trip in Idaho, Aug. 15-Oct. 24, 1890 papers (in part). Library of Congress manuscript Division, Washington, D.C.
- Monthey, R.W. 1986. Responses of snowshoe hares, *Lepus americanus*, to timber harvesting in northern Maine. *Can. Field-Nat.* 100:568-570.
- Morris, R. and W. Tanner. 1969. The ecology of the western spotted frog, *Rana pretiosa pretiosa*. Baird and Girard, a life history study. *Great Basin Naturalist* 29: 45-81.

- 
- Munger, J.C., M. Gerber, K. Madrid, M. Carroll, W. Petersen, and L. Heberger. 1998. U.S. National Wetland Inventory classifications as predictors of the occurrence of Columbia spotted frogs (*Rana luteiventris*) and Pacific treefrogs (*Hyla regilla*). *Conservation Biology* 12:320-330.
- Musil, D. 1989. Movements, survival, and habitat use of sage grouse translocated into the Sawtooth Valley, Idaho. M.S. Thesis, University of Idaho, Moscow. 72 pp.
- Nasar, Jack, Peter Hecht and Richard Wener. 2007a. Call if You Have Trouble: Mobile Phones and Safety among College Students Volume 31.4 December 2007 863–73 *International Journal of Urban and Regional Research* DOI:10.1111/j.1468-2427.2007.00759.x. Found online via: <http://facweb.knowlton.ohio-state.edu/jnasar/crpinfo/research/IJURCellPhoneSurvey2007.pdf>
- Nasar, Jack, Peter Hecht, and Richard Wener, 2007b; Mobile telephones, distracted attention, and pedestrian safety. *Accident Analysis and Prevention* 40 (2008) 69–75. Found online via: [http://facweb.knowlton.ohio-state.edu/jnasar/crpinfo/research/MobilePhones\\_AAP\\_2007.pdf](http://facweb.knowlton.ohio-state.edu/jnasar/crpinfo/research/MobilePhones_AAP_2007.pdf)
- NatureServe. 2007. Spotted Bat and Townsend’s Western Big-eared Bat. NatureServe Explorer: An online encyclopedia of life [web application]. Version 6.2. NatureServe, Arlington, Virginia. Available <http://www.natureserve.org/explorer>. (Accessed: October 4, 2007, Printed April 8, 2008). 23 pgs.
- O’Connell, Kim, 2005. Phoning It In - As technology encroaches on the outdoors, the debate heats up over whether cell phones help or hinder the hiking experience. *American Hiker Magazine*. Fall, 2005 edition.
- Powell, R.A., and W.J. Zielinski. 1994. Chapter 3 in *The scientific basis for conserving forest carnivores: American marten, fisher, lynx, wolverine in the western United States*. Ruggiero, L.F., K.B. Aubry, S.W. Buskirk, J.L. Lyon, W.J. Zielinski, tech eds. Gen. Tech. Rep. RM-254. Ft. Collins, CO: USDA Forest Service, Rocky Mountain Research Forest and Range Experiment Station. 184 pp.
- Privacy Rights, 2006. Fact Sheet 2(b) Cell Phone Technology. “Can My Location Be Tracked Using My Cell Phone?” Found online via: <http://www.privacyrights.org/fs/fs2b-cellprivacy.htm>
- Quinn, N.W.S. and G. Parker. 1987. Lynx. Pages 683-694 in *Wild furbearer management and conservation in North America*. M. Novak, J.A. Baker, M.E. Obbard, and B. Malloch, eds. Ministry of Natural Resources, Ontario.
- Rachlow J. and L. Svancara. 2006. Prioritizing habitat for surveys of an uncommon mammal: a modeling approach applied to Pygmy rabbits. *Journal of Mammalogy*, 87(5):827-833.
- Reardon, Marguerite, 2006. CNET.com. Turning cell phones into lifelines. Found online via: [http://www.news.com/Turning-cell-phones-into-lifelines/2100-1039\\_3-6140794.html](http://www.news.com/Turning-cell-phones-into-lifelines/2100-1039_3-6140794.html)
- Redelmeier, Donald A., M.D., and Robert J. Tibshirani, Ph.D. 1997. Association between Cellular-Telephone Calls and Motor Vehicle Collisions. *The New England Journal of Medicine*. Volume 336:453-458. Number 7. February 13, 1997. Found online via: [http://content.nejm.org/cgi/content/full/336/7/453?journalcode=nejm&firstpage=453&tdate=9%2F30%2F2002&HITS=20&sortspec=PUBDATE\\_SORTDATE+desc+Score+desc&fdate=1%2F1%2F1975&volume=336&FIRSTINDEX=0&searchid=1033424601882\\_28022&searchid=1&FIRSTINDEX=0&volume=336&firstpage=453&resourcetype=HWCIT](http://content.nejm.org/cgi/content/full/336/7/453?journalcode=nejm&firstpage=453&tdate=9%2F30%2F2002&HITS=20&sortspec=PUBDATE_SORTDATE+desc+Score+desc&fdate=1%2F1%2F1975&volume=336&FIRSTINDEX=0&searchid=1033424601882_28022&searchid=1&FIRSTINDEX=0&volume=336&firstpage=453&resourcetype=HWCIT)

- 
- Reese, K.P., J.L. Beck, P. Zager, and P.E. Heekin. 2005. Nest and brood site characteristics of mountain quail in west-central Idaho. *Northwest Science* 79:254-264.
- Remington, T.E., and C.E. Braun. 1985. Sage grouse food selection in winter, North Park, Colorado. *J. Wildl. Manage.* 49:1055-1061.
- Repanshek, Kurt, 2008. Is Your Backcountry Safety Net A Personal Locator Beacon or Cell Phone? *National Parks Traveler*. Found online via: <http://www.nationalparkstraveler.com/2008/05/your-backcountry-safety-cord-personal-locator-beacon-or-cell-phone>
- Reynolds, R.T., R.T. Graham, M.H. Reiser, R.L. Basselt, P.L. Kennedy, D.A. Boyce Jr., G. Goodwin, R. Smith, and E.L. Fisher. 1992. Management recommendations for the northern goshawk in the southwestern United States. Rocky Mountain Forest and Range Experiment Station, South-west Region Forest Service. USDA Forest Service, General Technical Report GTR-RM-217. 90 pp.
- Ritter, S.A. 1989. Nongame species account: common loon. Nongame program, Biological Services Section, Wyoming Game and Fish Department, Cheyenne, WY. 35 pp.
- Robertson, Jason, 2003. Search and Rescue: A Privilege for the Saved or Burden for Society. *American Whitewater*. Found online via: [http://www.americanwhitewater.org/content/Article\\_view\\_articleid\\_973\\_display\\_full\\_](http://www.americanwhitewater.org/content/Article_view_articleid_973_display_full_)
- Rodhouse, T.J., M.F. McCaffrey, and R.G. Wright. 2005. Distribution, foraging behavior, and capture results of the spotted bat (*Euderma maculatum*) in central Oregon. *Western North Am. Naturalist* 65:215-222.
- Ruediger, B., J. Claar, S. Gniadek, B. Holt, L. Lewis, S. Mighton, B. Naney, G. Patton, T. Rinaldi, J. Trick, A. Vandehey, F. Wahl, N. Warren, D. Wenger, and A. Williamson. 2000. Canada Lynx Conservation Assessment and Strategy. USDA Forest Service, USDI Fish and Wildlife Service, USDI Bureau of Land Management, and USDI National Park Service. Forest Service Publication #R1-00-53, Missoula, MT. 142 pp.
- Sauer, J. R., J. E. Hines, and J. Fallon. 2006. The North American Breeding Bird Survey, Results and Analysis 1966 - 2006. Version 6.2.2006., Laurel, MD.
- Shapiro, Leslie, 2008. SHIFT: GPS — saving lives or encouraging risks? Found online via: [http://dvice.com/archives/2008/01/shift\\_gps\\_savin.php](http://dvice.com/archives/2008/01/shift_gps_savin.php)
- Shire, G.G., K. Brown, and G. Winegrad. 2000. Analysis of 50 years of tower kill studies. 1949-1999. *American Bird Conservancy Report*.
- Short. L.L. 1982. Woodpeckers of the world. Delaware Museum of Natural History. 676 pp.
- Stalmaster, M.V. 1987. The Bald Eagle. Universe Books, New York. 227 pp.
- Shultis, John, 2001. Consuming Nature: The Uneasy Relationship Between Technology, Outdoor Recreation and Protected Areas. *The George Wright Forum*. Volume 18, No. 1. Found online via: <http://www.georgewright.org/181shultis.pdf>

- 
- Siegel Thines, N.J., L.A. Shipley, and R.D. Saylor. 2004. Effects of cattle grazing on ecology and habitat of Columbia Basin pygmy rabbits (*Brachylagus idahoensis*). *Biol. Conservation* 119:525-534.
- Spahr, R. 1992. Wildlife observation, boreal owl. March 12, 1992.
- Starck, Charlotte, 2008. KING 5 News - KTVB.com News Story. Study: Cell phone ban while driving saves lives. May 14, 2008. Found online via: [http://www.ktvb.com/news/health/stories/ktvbn-may1408-cell\\_phone\\_ban\\_study.fd5675c6.html](http://www.ktvb.com/news/health/stories/ktvbn-may1408-cell_phone_ban_study.fd5675c6.html)
- Strayer, D. L., & Johnston, W. A., 2001. Driven to distraction: Dual-task studies of simulated driving and conversing on a cellular phone. *Psychological Science*, 12, 462-466. Found online via: <http://www.psych.utah.edu/AppliedCognitionLab/PS-Reprint.pdf>
- Strayer, D. L., Drews, F. A., Albert, R. W., & Johnston, W. A., 2001. Cell phone induced perceptual impairments during simulated driving. In D. V. McGehee, J. D. Lee, & M. Rizzo (Eds.) *Driving Assessment 2001: International Symposium on Human Factors in Driver Assessment, Training, and Vehicle Design*. Found online via: <http://www.psych.utah.edu/AppliedCognitionLab/DrivingSymposium.pdf>
- Strayer, D. L., Drews, F. A. & Johnston, W. A., 2002. Why do cell phone conversations interfere with driving? *Proceedings of the 81st Annual Meeting of the Transportation Research Board, Washington, DC*. Found online via: <http://www.psych.utah.edu/AppliedCognitionLab/TRB1.pdf>
- Strayer, D. L. & Drews, F. A., 2003. Effects of cell phone conversations on younger and older drivers. In the *Proceedings of the 47<sup>th</sup> Annual Meeting of the Human Factors and Economics Society* (pp. 1860-1864). Found online via: <http://www.psych.utah.edu/AppliedCognitionLab/Aging.pdf>
- Strayer, D. L., Drews, F. A., & Johnston, W. A., 2003a. Are we being driven to distraction? *Public Policy Perspectives*, Vol. 16, 1-2. (Published by the Center for Public Policy and Administration, University of Utah) Found online via: <http://www.psych.utah.edu/AppliedCognitionLab/CPPA1.pdf>
- Strayer, D. L., Drews, F. A. & Johnston, W. A., 2003b. Cell phone induced failures of visual attention during simulated driving. *Journal of Experimental Psychology: Applied*, 9, 23-23. Found online via: [http://www.psych.utah.edu/AppliedCognitionLab/JEP\\_Applied.pdf](http://www.psych.utah.edu/AppliedCognitionLab/JEP_Applied.pdf)
- Strayer, D. L. & Drews, F. A. & Crouch, D. J., 2003c. Fatal distraction? A comparison of the cell-phone driver and the drunk driver. In D. V. McGehee, J. D. Lee, & M. Rizzo (Eds.) *Driving Assessment 2003: International Symposium on Human Factors in Driver Assessment, Training, and Vehicle Design*. Published by the Public Policy Center, University of Iowa (pp. 25-30). Found online via: <http://www.psych.utah.edu/AppliedCognitionLab/DrivingAssessment2003.pdf>
- Strayer, D. L., Cooper, J. M., & Drews, F. A. 2004a. What do drivers fail to see when conversing on a cell phone? In the *Proceedings of the 48<sup>th</sup> Annual Meeting of the Human Factors and Ergonomics Society* (pp 2213-2217). Found online via: <http://www.psych.utah.edu/AppliedCognitionLab/HFES2004-000804-1.pdf>
- Strayer, D.L., & Drews, F. A., 2004b. Profiles in driver distraction: Effects of cell phone conversations on younger and older drivers. *Human Factors*, 46, 640-649. Found online via: <http://www.psych.utah.edu/AppliedCognitionLab/StrayerHFES04.pdf>

- 
- Strayer, D. L. & Drews, F. A. Crouch, D. J., & Johnston, W. A., 2005. Why do Cell Phone Conversations Interfere with Driving? In W. R. Walker and D. Herrmann (Eds.) *Cognitive Technology: Essays on the Transformation of Thought and Society* (pp. 51-68), McFarland & Company, Inc., Jefferson, NC. Found online via: <http://www.psych.utah.edu/AppliedCognitionLab/CogTechChapter.pdf>
- Strayer, D. L., Drews, F. A., & Crouch, D. J., 2006. A comparison of the cell phone driver and the drunk driver. *Human Factors*, 48, 381-391. Found online via: <http://www.psych.utah.edu/AppliedCognitionLab/HFES2006.pdf>
- Strayer, D. L., & Drews, F. A., 2007. Cell-Phone-Induced Driver Distraction. *Current Directions In Psychological Science*, 16, 128-131. Found online via: <http://www.psych.utah.edu/AppliedCognitionLab/cdir.pdf>
- Stutts, Jane C., Herman F. Huang, William W. Hunter, 2002. Cell Phone Use While Driving in North Carolina: 2002 Update Report. Final Project Report to the North Carolina Governor's Highway Safety Program. Found online via: [http://www.hsrc.unc.edu/safety\\_info/distracted\\_drowsy/Cell\\_Phone\\_Use\\_NC\\_2002.pdf](http://www.hsrc.unc.edu/safety_info/distracted_drowsy/Cell_Phone_Use_NC_2002.pdf)
- Taylor, W.K., and B.H. Anderson. 1973. Nocturnal migrants killed at a central Florida TV tower; autumns 1969-1971. *Wilson bulletin* 85:42-51.
- University of Oregon (U of O), 2008. Allard and Casey Memorial Safety Library. Found online via: <http://outdoorprogram.uoregon.edu/index.php?page=resources&section=library>
- USDA Forest Service, National Forest Landscape Management, Volume 2, Chapter 1, The Visual Management System, USDA Handbook #462, 1974. Found online via: <ftp://ftp2.fs.fed.us/incoming/r9/RO/Scenery%20Management/>
- USDA Forest Service - Sawtooth National Forest Visual Quality Objective Map (pdf file).
- USDA Forest Service. 2003. Land and Resource Management Plan, Sawtooth National Forest, Intermountain Region.
- U.S. Forest Service and U.S. Fish and Wildlife Service. 2000. Canada Lynx Conservation Agreement. USFS Agreement #00-MU-11015600-013.
- U.S. Fish and Wildlife Service. 1994. The reintroduction of gray wolves to Yellowstone National Park and Central Idaho, Final Environmental Impact Statement. Helena, Montana.
- US Fish and Wildlife Service. 2000. Service Guidance on the Siting, Construction, Operation and Decommissioning of Communications Towers. Letter of September 14, 2000.
- Wai-Ping, V. and M.B. Fenton. 1989. Ecology of spotted bat (*Euderma maculatum*) roosting and foraging behavior. *Journal Mammalogy* 70: 617-622.
- Wakkinen, W.L. 1990. Nest site characteristics and spring-summer movements of migratory sage grouse in southeastern Idaho. M.S. Thesis, Univ. of Idaho, Moscow. 57 pp.
- Waterbury, Beth. 2005. Personal communication. March 17, 2005 email.

- 
- Watkins, L.C. 1977. *Euderma maculatum*. Mammalian Species No. 77. American Society of Mammalogists. 4 pp.
- Wambolt, C.L., A.J. Harp, B.L. Welch, N. Shaw, J.W. Connelly, K.P. Reese, C.E. Braun, D.A. Klebenow, E.D. McArthur, J.G. Thompson, L.A. Torell, and J.A. Tanaka. 2002. Conservation of greater sage-grouse on public lands in the Western U.S.: implications of recovery and management policies. Policy Analysis Center for Western Public Lands (PACWPL) Policy Paper SG-02-02. 41 pp.
- Weiss, N.T. and B.J. Verts. 1984. Habitat and distribution of pygmy rabbits in Oregon. Great Basin Naturalist 44: 563-571.
- Welch, B.L., F.J. Wagstaff, and J.A. Roberson. 1991. Preference of wintering sage grouse for big sagebrush. J. Range Manage. 44:462-465.
- Wiley, S. B. C. 2005. Repositioning the wilderness: Mobile communication technologies and the transformation of wild space. Paper presented at the Conference on Communication and the Environment. Jekyll Island, Georgia, June 24-27. Found online via: <http://social.chass.ncsu.edu/~wiley/research/wilderness.pdf>
- Winter Wildlands Alliance. July 2006. Winter Recreation on Western National Forest Lands. 44pp.
- Zeveloff, S.I. and F.R. Collett. 1988. Mammals of the Intermountain West. Univ. of Utah Press, Salt Lake City, Utah. 365 pp.