

CHAPTER 1: PURPOSE AND NEED

Introduction

This Wireless Communications Services Plan and Environmental Assessment (WCS Plan/EA) presents alternatives for evaluating wireless services and infrastructure proposed within Yellowstone National Park and assesses the impacts that could result from continuing the current approach or implementing one of the three action alternatives.

Wireless communications include cellular phone services, the National Park Service (NPS) two-way radio system, resource monitoring stations, and wireless fidelity (WiFi) services. These services rely on a combination of land lines, fiber, and an elevated antenna network to transmit voice and data information. Components of a WCS network in the park typically include: (1) antenna, (2) support structure, (3) equipment housing, (4) utility connections, and (5) access roads.

Background

Yellowstone National Park is located in the northwest corner of Wyoming and extends to the north and west into Montana and Idaho. Established by an Act of Congress on March 1, 1872, Yellowstone is managed by the National Park Service. Its 2.2 million acres were “set apart as a public park or pleasuring-ground for the benefit and enjoyment of the people” and to “provide for the preservation, from injury or spoliation, of all timber, mineral deposits, natural curiosities, or wonders within said park, and their retention in their natural condition.”

Wireless services and infrastructure in Yellowstone are used daily in park operations, research activities, emergency functions, and by park visitors, contractors, and residents. Wireless facilities range from small-scale stations to monitor stream and thermal features to mountaintop communications sites. Functions include commercial telephone and data transmission, earthquake and other scientific monitoring, two-way radios for park operations and emergency communications, contractor and concessioner operations, FM radio stations, weather-band radio, cellular telephone service, Internet access, satellite TV, remote weather stations, and wireless webcams for resource monitoring.

In 2004, park managers placed a moratorium on the installation of new wireless equipment except for equipment that was: (1) in-kind replacement; (2) for emergency use; or (3) for temporary use (up to two years). The moratorium remains in effect until this plan is completed.

Rather than continuing to evaluate impacts from wireless projects on a case-by-case basis (the no-action alternative), the three action alternatives would use established criteria to guide decisions on the installation of wireless infrastructure. If existing wireless services in the park were deemed inappropriate according to these criteria, they would be discontinued. Similarly, existing wireless infrastructure may be modified or relocated.

Purpose and Need

The purpose for developing a Wireless Communications Services Plan is to protect park resources and values by limiting the types and locations of wireless services and infrastructure in Yellowstone National Park. The estimated number of wireless subscribers in the U.S. grew from 28.1 million in 1995 to 243.4 million by June 2007 (CTIA 2006), and as the use of wireless devices increases, so does the demand for infrastructure to support these services. Under the Telecommunications Act of 1996, national parks and other federal property are available for

Purpose –

To protect park resources and values by limiting the types and locations of wireless services and infrastructure

placement of telecommunications equipment by authorized providers unless there are unavoidable conflicts with the agency's mission. This wireless communications plan is therefore needed to address the following management, operational, and visitor concerns:

Operational Effectiveness and Safety

- The primary wireless communication method used by the NPS to support safety and essential law enforcement functions is a two-way narrow band system. However, park staff also uses cell phones, where service is available, and many employees report that cell phone service is essential to ensure reliable communications for emergency personnel in critical, life safety situations.
- Current 911 emergency coverage is insufficient in the park and improvement is needed for enhanced life, health, and safety response.

Conflicting Values

- Some people have expressed that cell phones and Internet access are inappropriate in national parks and conflict with the NPS mission to preserve resources. Some visitors have commented on the visual impact of some existing cell towers and the use of cell phones by other visitors, which they feel has a negative impact on their park experience. Conversely, other visitors have commented on the lack of cell phone coverage and the impact that has on their park experience.
- While some people have commented that allowing cell phone coverage in recommended wilderness areas impacts wilderness character, others have expressed the view that cell phone coverage throughout the park, including recommended wilderness, would enhance safety for visitors and employees.
- Park visitors, staff, and the Wyoming State Historic Preservation Office have commented that the Old Faithful cell tower impacts historical views from within the Old Faithful developed area and geyser basin.

Wireless Capacity and Performance

- The park has used all of the bandwidth available for its operations. Upgrades or improvements to the existing wireless network usually require additional bandwidth.
- The powerline to the summit of Mount Washburn, which is old and of inadequate capacity, is a limiting factor in improving the wireless equipment on the summit.
- Park managers need to consolidate equipment and improve the appearance, efficiency, and performance of wireless facilities at Bunsen Peak, Elk Plaza, and Mount Washburn (Figure 2). The Mount Washburn Fire Lookout, where there is a considerable collection of antennas close to areas of visitor access, poses a risk of radio frequency exposure.

Consistency of Practice

- The existing cell towers in the park were approved on a case-by-case basis after undergoing analysis under the National Environmental Policy Act, without a parkwide guiding vision. The park needs to develop a long-term plan to process requests for wireless services and infrastructure.
- Existing rights-of-way permits for all cell phone communication facilities in the park expire by the end of 2009. Park managers need to provide a consistent and timely process for responding to requests for the use of property, rights-of-way, and easements in the park by authorized cellular telephone companies and other wireless contractors.
- Scientists increasingly need to install instrumentation with wireless data transmission capabilities. Their requests are reviewed under research permit guidelines and, when appropriate, under wilderness minimum requirement guidelines, but they should also be considered under wireless communications criteria.

- Although some park concessioners have installed WiFi Internet access for business purposes and employee use, their request to allow visitor use of WiFi access in concessions facilities is on hold until this WCS plan/EA is complete.

Objectives

The objectives of this WCS Plan/EA are to:

- Protect park resources and values by strictly guiding the placement, appearance, and amount of wireless telecommunications infrastructure in the park.
- Improve operational effectiveness of wireless communications in the park and safety for park visitors, employees, residents, contractors, and concessioners.
- Consolidate existing wireless infrastructure and remediate existing impacts where possible.
- Evaluate requests to site non-NPS telecommunication antennas and related facilities in the park in accordance with the Telecommunications Act of 1996 (47 USC 332 note), which authorizes but does not mandate a presumption that such requests be granted unless doing so would create an unavoidable conflict with the agency mission, the current or planned use of the property, or access to that property.
- Develop a consistent and timely process to evaluate requests for wireless services and facilities in the park. Respond to requests for the use of property, rights-of-way, and easements by duly authorized cellular telephone companies, researchers, and project proponents.

Related Laws, Policies, Plans, and Actions

NPS management is guided by the U.S. Constitution, public laws, treaties, proclamations, Executive Orders, regulations, and Department of Interior directives. The following laws and policies are described in this section to illustrate the parameters under which this WCS Plan/EA must operate and the policies with which it must comply.

NPS Guiding Laws, Regulations, and Policies

- **NPS Organic Act of 1916**
Units of the national park system shall be managed “to conserve the scenery and the natural and historic objects and wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations” (16 USC 1).
- **National Parks Omnibus Management Act of 1998**
This act directs the NPS to use a broad program of the highest-quality science and information in managing and protecting units of the national park system.
- **Redwood National Park Act of 1978, as Amended**
This act states that the NPS must conduct its actions in a manner that will ensure no “derogation of the values and purposes for which these various areas have been established, except as may have been or shall be directly and specifically provided by Congress.”
- **Code of Federal Regulations, Revised July 2000**
Title 36, Chapter 1, provides regulations “for the proper use, management, government, and protection of persons, property, and natural and cultural resources within areas under the jurisdiction of the National Park Service.”

Authorities and Guidance for WCS Right-of-Way Permits

- **Telecommunications Act of 1996, PL 104-104, 110 STAT. 56 § 704(C)**
 The legislation was enacted “to promote competition and reduce regulation in order to secure lower prices and higher quality services for American telecommunications consumers and encourage the rapid deployment of new telecommunications technologies” (Public Law No. 104-104, 110 Stat. 56 [1996]). Section 704(c) and its regulations make federal property, including parkland, available for placement of telecommunications equipment by duly authorized providers absent unavoidable conflicts with the department or agency’s mission, the current or planned use of the property, or access to that property.
- **Presidential Memorandum: Facilitating Access to Federal Property for the Siting of Mobile Services Antennas (1995), 60 F.R. 42023, 40 U.S.C. § 581, NOTE, 1995**
 This Presidential Memorandum directs all department and agency heads to facilitate appropriate access to federal property for the purpose of siting mobile services antennas as long as such siting is in accordance with federal, state, and local laws and regulations, environmental and aesthetic concerns, preservation of historic buildings and monuments, protection of natural and cultural resources, and protection of national park and wilderness values.
- **Wireless Telecommunications and Public Safety Act of 1999, PL 106-81**
 This act designated “911” as the universal emergency number for all wire-line and wireless phones and expanded the areas covered by wireless telephone service.
- **Enhance 911 Services Act of 2004, PL 108-494**
 This act amended the National Telecommunications and Information Organization Act in order to: facilitate the reallocation of spectrum from governmental to commercial users; improve, enhance, and promote the nation’s homeland security, public safety, and citizen-activated emergency response capabilities through the use of enhanced “911” services; upgrade Public Safety Answering Point (PSAP) capabilities and related functions in receiving enhanced 911 calls; and support the construction and operation of a ubiquitous and reliable citizen-activated system.

Yellowstone National Park is a designated primary PSAP for Yellowstone National Park, Teton County (WY), Park County (WY), and Park County (MT).
- **GSA Bulletin FMR 2007-B2, Placement of Commercial Antennas on Federal Property, 72 F.R. 11881, March 14, 2007**
 This bulletin contains the General Services Administration guidelines and procedures for the placement of commercial antennas on federal property and directs federal agencies to consider the requirements of the federal agency managing the property when evaluating siting requests and determining the impacts of placing commercially-owned antennas on federal property.
- **36 CFR 14, Rights-of-Way and 16 USC 5, Rights-of-Way**
 These sections of the *Code of Federal Regulations* and the United States Code address the management of right-of-way permits on NPS lands.
- **NPS Management Policies 2006**
 Actions under this WCS Plan/EA are in part guided by section 8.6.4.3 of the *NPS Management Policies 2006*, which directs parks to consider requests to site non-NPS telecommunications facilities on NPS lands in accordance with the Telecommunications Act of 1996.

- **NPS Director's Order 53, "Special Park Uses"**

This Director's Order establishes that a special park use is a short-term activity in a park area that (1) provides a benefit to an individual, group or organization, rather than the public at large; (2) requires written authorization and some degree of management control from the NPS in order to protect park resources and the public interest; (3) is not prohibited by law or regulation; and (4) is neither initiated, sponsored, nor conducted by the NPS.

NPS Reference Manual 53, which accompanies Director's Order 53, provides direction for processing and evaluating applications for right-of-way permits on NPS managed lands. Appendix 5, Exhibit 6, provides guidance specific for siting telecommunications facilities.

Other Applicable Federal Laws, Executive Orders, and Regulations

- **National Environmental Policy Act, 1969, as Amended**

This act is implemented through regulations of the Council on Environmental Quality (40 CFR 1500-1508). The NPS has adopted procedures to comply with this act and the CEQ regulations, as found in Director's Order 12, Conservation Planning, Environmental Impact Analysis, and Decision-Making (2001), and its accompanying handbook.

- **Endangered Species Act of 1973, as Amended**

This act requires all federal agencies to consult with the Secretary of the Interior on all projects and proposals with the potential to impact federally endangered or threatened plants and animals.

- **The Wilderness Act of 1964**

This act states: "In order to assure that an increasing population, accompanied by expanding settlement and growing mechanization, does not occupy and modify all areas within the United States and its possessions, leaving no lands designated for preservation and protection in their natural condition, it is hereby declared to be the policy of the Congress to secure for the American people of present and future generations the benefits of an enduring resource of wilderness." Although there is great similarity between the NPS Organic Act and the Wilderness Act, Congress applied the Wilderness Act to NPS to strengthen its protective capabilities.

- **National Historic Preservation Act of 1966, as Amended**

Section 106 of this act requires federal agencies to consider the effects of their undertakings on properties listed or potentially eligible for listing on the National Register of Historic Places. All actions affecting the park's cultural resources must comply with this legislation.

- **Historic Sites Act of 1935**

This act declares as national policy the preservation for public use of historic sites, buildings, objects, and properties of national significance. It authorizes the Secretary of the Interior and the NPS to restore, reconstruct, rehabilitate, preserve, and maintain historic or prehistoric sites, buildings, objects, and properties of national historical or archaeological significance.

- **Director's Order 77, 1991**

This document provides guidance to park managers on the design, implementation, and evaluation of a comprehensive natural resource management program.

- **Federal Noxious Weed Act, 1975**

The Federal Noxious Weed Act (7 USC 2801-2814, January 3, 1975, as amended 1988 and 1994) provides for the control and management of non-indigenous weeds that injure or have the potential to injure the interests of agriculture and commerce, wildlife resources, or the public health.

- **Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds**

The United States has recognized the critical importance of this shared resource by ratifying international, bilateral conventions for the conservation of migratory birds, including the Convention for the Protection of Migratory Birds with Great Britain on behalf of Canada 1916,

the Convention for the Protection of Migratory Birds and Game Mammals–Mexico 1936, the Convention for the Protection of Birds and Their Environment–Japan 1972, and the Convention for the Conservation of Migratory Birds and Their Environment–Union of Soviet Socialist Republics 1978. The United States implemented these conventions, which impose substantive obligations for the conservation of migratory birds and their habitats, through the Migratory Bird Treaty Act. This executive order directs executive departments and agencies to take certain actions to carry out the act.

- **Executive Order 13112, Invasive Species**
This executive order requires the NPS to prevent the introduction of invasive species, provide for their control, and minimize the economic, ecological, and human health impacts that invasive species cause.
- **Executive Order 11990, Protection of Wetlands**
This executive order directs the NPS to avoid, to the extent possible, the long- and short-term adverse impacts associated with the destruction or modification of wetlands and the direct or indirect support of new construction in wetlands wherever there is a practicable alternative.
- **Executive Order 11988, Floodplain Management**
This executive order directs the NPS to avoid, to the extent possible, the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and the direct or indirect support of floodplain development wherever there is a practicable alternative.
- **Executive Order 11593, Protection and Enhancement of the Cultural Environment**
This executive order directs the NPS to support the preservation of cultural properties and to identify and nominate to the National Register cultural properties within the park and to “exercise caution . . . to assure that any NPS-owned property that might qualify for nomination is not inadvertently transferred, sold, demolished, or substantially altered.”

The Purpose of Yellowstone National Park

National park system units are established by Congress to fulfill specified purposes. A park’s purpose is the fundamental building block for its decisions to conserve resources while providing for the “enjoyment of future generations.”

Purpose and Significance of Yellowstone National Park

- It is the world’s first national park.
- It preserves geologic wonders, including the world’s most extraordinary collection of geysers and hot springs and the underlying volcanic activity that sustains them.
- It preserves abundant and diverse wildlife in one of the largest remaining intact wild ecosystems on earth, supporting unparalleled biodiversity.
- It preserves an 11,000-year old continuum of human history, including the sites, structure, and events that reflect our shared heritage.
- It provides for the benefit, enjoyment, education and inspiration of this and future generations.

Yellowstone National Park Organic Act U.S.C., Title 16, sec. 22 (17 Stat.32)

Congress established Yellowstone National Park on March 1, 1872, “dedicated and set apart as a public park or pleasuring-ground for the benefit and enjoyment of the people; ... for the preservation, from injury or spoliation, of all timber, mineral deposits, natural curiosities, or wonders within said park, and their retention in their natural condition.”

Relationship to other Plans

This WCS Plan/EA is consistent with the following plans previously completed for Yellowstone:

- **Yellowstone National Park Master Plan (NPS 1974)**
The Record of Decision strives to balance human impacts and preservation of park resources by developing objectives for General Management, Resource Management, Visitor Use, and Interpretation.
- **Statement for Management (NPS 1991)**
It described the existing conditions and management objectives for natural resources, adjacent lands coordination, visitor use, cultural resources, and park operations and planning.
- **Yellowstone Wilderness Recommendation (NPS 1973)**
The Record of Decision recommends that 2,016,181 acres of the park be designated a wilderness area by an Act of Congress (Figure 11).
- **Parkwide Telephone Modernization Project EA (NPS 1992)**
There was a Finding of No Significant Impact on this proposal to upgrade the parkwide telephone system, which included replacement of aging switches and cables, standardizing equipment, and increasing capacity to meet park and concessioners needs.
- **Mammoth Area Cellular Communications Sites EA (NPS 1998)**
There was a Finding of No Significant Impact on this proposal to construct cellular sites near Mammoth Hot Springs, at Elk Plaza and Bunsen Peak.
- **Old Faithful/Grant Village Cellular Communications EA (NPS 1999)**
There was a Finding of No Significant Impact on this proposal to locate additional equipment at a cellular site at Old Faithful and Grant Village in order to improve cellular coverage, improve reliability, provide more options for cellular customers, and provide opportunities for the NPS to use cellular company-owned towers and associated infrastructure.

Current WCS in Yellowstone

- **Two-Way Radios**
The National Park Service uses a two-way narrowband radio system that operates in "mixed" (analog/digital) mode. Most government vehicles contain a mobile radio and most park employees use

The Cellular Concept –

Wireless communications are transmitted through the air via radio waves of various frequencies. An elevated antenna or antenna set transmits and/or receives these radio signals. The area covered by an antenna set is commonly referred to as a "cell". Cellular systems are composed of interconnected neighboring "cell sites" forming a honeycomb effect. These cell sites operate on low amounts of electric energy.

a portable radio while working and traveling around the park. The radio system uses seven mountaintop repeaters in the park that are generally located near elevations of 10,000 feet in order to provide maximum coverage and minimize the number of repeaters that are required. Each of these sites is connected, using a variety of technologies, to the park's 24/7 Communications Center, located in Mammoth, Wyoming. The radio system's 20 base stations, located in developed areas, are also connected to the Communications Center and support approximately 300 "remote" desktop radios in offices, visitor

Wireless Services –

Includes mobile phones, pagers, and two-way enhanced radio systems, resource monitoring systems, and relies on the combination of land lines, fiber, and an extensive network of elevated antennas, typically found on communications towers, to transmit voice and data information.

KEY COMPONENTS

The key components of any wireless telecommunications networks include:

- Antenna
- Support Structure
- Equipment Housing
- Utility/Power Connection(s)
- Access

centers, and ranger stations around the park, providing direct access to the system.

- **Cell Phones**

Cell phone service is currently available in the Old Faithful, Mammoth, Grant Village, Canyon, and Tower-Roosevelt developments, as well as along the road corridor between Mammoth and Gardiner, Montana. The cell towers are located at Old Faithful, Grant Village, Mount Washburn, Bunsen Peak, and Elk Plaza (Fig. 1).

Cell phones are used by park staff, visitors, contractors, and residents. Some scientific monitoring equipment, such as some seismographs for detecting earthquakes and some Geographic Positioning System (GPS) stations for detecting ground movement, relies on cellular service to transmit data. Some park employees, ranger stations, and ambulances are issued cell phones in addition to two-way radios for improved communications. The number of NPS-owned cell phones in use was approximately 78 in 1996, peaked at 193 in 2007, and is 155 in 2008.

- **Commercial Data and Telephone Service**

Qwest Communications provides commercial data and telephone service throughout Yellowstone. A major upgrade to the system in 1992 replaced aging switches and cables and increased capacity to meet increased demands (NPS 1992). Microwave dishes and passive reflectors, located throughout the park, are integral to the phone system. Mount Washburn serves as a primary hub for data transmission throughout the park. The number of pay phones in the park has decreased dramatically in recent years. Phones were added to some guest hotel units after 1992.

- **Internet Access**

For security reasons, Internet access in NPS computers used by park employees is hard-wired. However, WiFi access can be purchased for personal use in the park where cell phone service is available. Residents of NPS housing are allowed to install satellite dishes for TV reception and Internet service. The Yellowstone Federal Credit Union and some Yellowstone Association locations also have satellite Internet connections. Some park concessioners have installed WiFi access for business purposes and for personal use by their employees. Park visitors have limited access to the Internet in areas with cellular service if they have the proper equipment installed in a laptop or a handheld device (e.g., a Blackberry). Even without Internet access, park visitors using laptops for other purposes in various places in Yellowstone has become a frequent occurrence.

- **Other Radio Transmission**

An FM translator and antenna, operated by the Gardiner/Mammoth FM Association, sits atop Bunsen Peak and transmits two FM radio stations for the Mammoth and Gardiner areas. An FM translator and antenna at Elk Plaza can transmit an additional three stations, but one frequency is currently unused. Weather band radio transmitters are installed at Elk Plaza and Grant Village.

- **Resource Monitoring**

The scientific monitoring equipment that uses wireless data transmission in the park includes:

- Twenty-five seismic stations and 14 GPS deformation monitoring stations “hubbed” through Mount Washburn that are maintained by the Yellowstone Volcano Observatory, which also obtains data from some of the 13 USGS-operated stream gauging stations;
- Nine automated snowpack and weather sensor (SNOTEL) sites (West Yellowstone, Canyon, Parker Peak, Two-Ocean Plateau, Thumb Divide, Snake River, Sylvan Road, Sylvan Lake, Northeast Entrance) operated by the Natural Resources Conservation Service;
- Three meteorological stations automated by the National Oceanic and Atmospheric Administration (Tower-Roosevelt, Mammoth, and Old Faithful) that transmit weather data to

WiFi (Wireless Fidelity) –

WiFi provides wireless local area connectivity to WiFi-enabled computers. WiFi was intended to be used for mobile devices and Local Area Networks (LANs) but is now often used for Internet access. It enables a person with a wireless-enabled computer or personal digital assistant (PDA) to connect to the Internet when in proximity of an access point. The geographical region covered by one or several access points is called a hotspot.

- the U.S. Weather Service via satellite, with an additional station at Lake that transmits via the phone system;
- Three Remote Automated Weather Stations (Bechler, Quadrant Mountain, and Thorofare).

Sometimes equipment is temporarily deployed to monitor fire weather or changes in geothermal basins. For example, several seismometers and GPS deformation monitoring stations were installed at the Norris Geyser Basin after a significant ground-warming event in 2003.

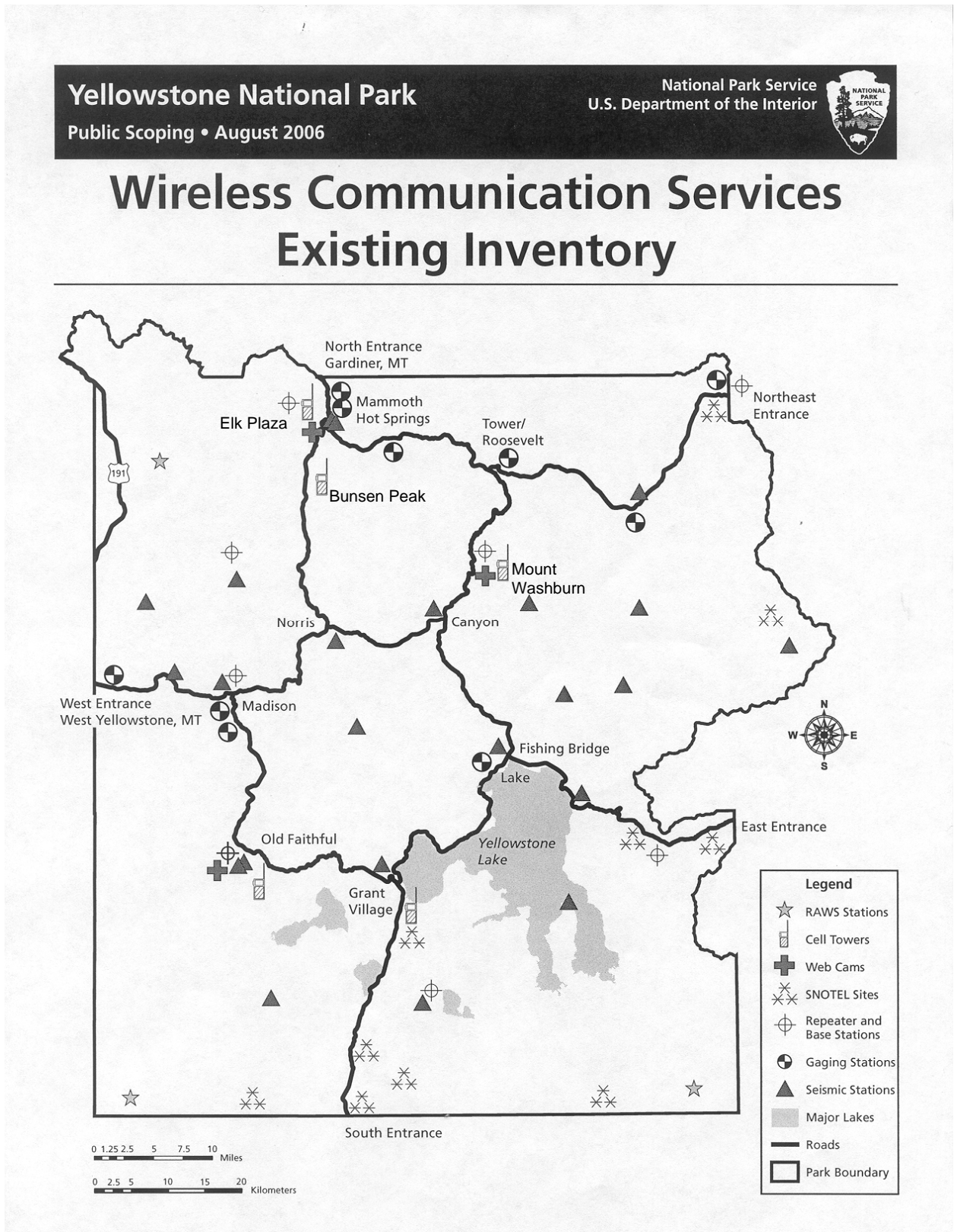


Figure 1 - Existing Wireless Communications Facilities in Yellowstone National Park

Impairment

NPS Management Policies require analysis of potential effects to determine whether or not actions would impair park resources (NPS 2006). The fundamental purpose of the national park system, established by the Organic Act and reaffirmed by the General Authorities Act, as amended, begins with a mandate to conserve park resources and values. NPS managers must seek ways to avoid, or to minimize to the greatest degree practicable, adversely impacting park resources and values. However, laws do give the NPS management the discretion to allow impacts to park resources and values when necessary and appropriate to fulfill the purposes of a park, as long as the impact does not constitute impairment of the affected resources and values.

Although Congress has given the National Park Service the management discretion to allow certain impacts within parks, that discretion is limited by the statutory requirement that the NPS must leave park resources and values unimpaired, unless a particular law directly and specifically provides otherwise. Impairment is an impact that, in the professional judgment of the responsible NPS manager, would harm the integrity of park resources or values. An impact to a park resource or value may constitute impairment to the extent that it has a major adverse effect upon a resource or value whose conservation is:

- Necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park;
- Key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park; or
- Identified as a goal in the park's general management plan or other relevant NPS planning documents.

An impact that may, but would not necessarily, lead to impairment may result from NPS activities in managing the park, visitor activities, or activities undertaken by concessioners, contractors, and others operating in the park. A determination on impairment is made in the Conclusion section for each of the resource topics in Chapter 4, *Environmental Consequences*.

Unacceptable Impacts

The impact threshold at which impairment occurs is not always readily apparent. Therefore, the Service will apply a standard that offers greater assurance that impairment will not occur. The Service will do this by avoiding impacts that it determines to be unacceptable. These are impacts that fall short of impairment, but are still unacceptable within the park's environment. Park managers must not allow uses that would cause unacceptable impacts; they must evaluate existing or proposed uses and determine whether the associated impacts on park resource and values are acceptable.

Virtually every form of human activity that takes place within a park has some degree of effect on park resources or values, but that does not mean the impact is unacceptable or that a particular use must be disallowed. Therefore, for purposes of these policies, unacceptable impacts are impacts that, individually or cumulatively, would meet the following criteria:

- inconsistent with a park's purposes or values,
- impede the attainment of a park's desired future conditions for natural and cultural resources as identified through the park's planning process,
- create an unsafe or unhealthful environment for visitors or employees,
- diminish opportunities for current or future generations to enjoy, learn about, or be inspired by park resources or values,

- unreasonably interfere with
 - park programs or activities;
 - an appropriate use;
 - the atmosphere of peace and tranquility or the natural soundscape maintained in wilderness and in natural, historic, or commemorative locations within the park;
 - NPS concessioner or contractor operations or services.

In accordance with NPS Management Policies, park managers must not allow uses that would cause unacceptable impacts to park resources. To determine if unacceptable impacts could occur to the resources and values of Yellowstone National Park, the impacts of proposed actions in this Environmental Assessment were evaluated based on the above criteria. A determination on unacceptable impacts is made in the Conclusion section for each of the resource topics in Chapter 4, *Environmental Consequences*.

Appropriate Use

Section 1.5 of NPS Management Policies (2006), *Appropriate Use of the Parks*, directs that the NPS must ensure that park uses that are allowed would not cause impairment of, or unacceptable impacts on, park resources and values. A new form of park use may be allowed within a park only after a determination has been made in the professional judgment of the park manager that it will not result in unacceptable impacts.

Section 8.1.2 of NPS Management Policies (2006), *Process for Determining Appropriate Uses*, provides evaluation factors for determining appropriate uses. All proposals for park uses are evaluated for:

- consistency with applicable laws, executive orders, regulations, and policies;
- consistency with existing plans for public use and resource management;
- actual and potential effects on park resources and values;
- total costs to the National Park Service; and
- whether the public interest will be served.

Park managers must continually monitor park uses to prevent unanticipated and unacceptable impacts. If unanticipated and unacceptable impacts emerge, the park manager must engage in a thoughtful, deliberate process to further manage or constrain the use or discontinue it.

Appropriate communications and resource or science monitoring facilities are common and vital structures in most park units. Proper location, sizing, and construction methods, would ensure that unacceptable impacts to park resources and values would not occur. Communication services of varying types are consistent with Yellowstone's Master Plan and other related documents. With this in mind, the NPS finds that wireless communications services and facilities are an appropriate use in Yellowstone National Park.

Public Scoping

Scoping is an early and open process to determine the breadth of environmental issues and alternatives to be addressed in an environmental assessment. Yellowstone staff has conducted both internal scoping on WCS with appropriate NPS resource specialists and external scoping with the public and interested parties. This interdisciplinary process helped to refine the EA's purpose and need, identify potential actions to address the need, and determine likely issues and resource impact topics (i.e., resources that could be impacted by the implementation of a given course of action or alternative).

Public scoping to identify issues and concerns began on July 13, 2006, with a press release, a mailing to interested parties, and posting of a scoping newsletter on the NPS Planning, Environment and Public Comment (PEPC) website. In August 2006, public open houses were held in Idaho Falls, Idaho (11 persons attended), Bozeman, Montana (12), and Cody, Wyoming (1), and in three locations in the park: the Lake Developed Area (15), the Old Faithful Developed Area (5), and the Mammoth Developed Area (4). The 50-day scoping period ended on August 31, 2006.

A total of 107 written comments were received through mailed letters (17), mailed park forms (22), and PEPC (68). All correspondence that was entered manually into PEPC was identified as a park form or letter. No form letters were identified. No comments were received from state or federal agencies.

Approximately 50% of the comments opposed increased cellular coverage for visitor convenience, but generally supported the use of wireless communication for NPS and visitor safety and emergency response needs. Approximately 30% of the comments favored increased wireless coverage in the park. Comments on the use of wireless technology for scientific research and monitoring were highly supportive. Recommendations for impact topics to be analyzed in the EA centered on visual impacts, noise/social impacts from cell phone use in geyser basins and wilderness, impacts to safety from radio frequency exposure and vehicle collisions, and impacts to migratory birds from cell towers. Preferences included restricting cellular telephone use to 911, restricting wireless coverage to building interiors, eliminating all wireless infrastructure, eliminating all wireless coverage from the backcountry, and increasing public radio use. Several comments focused on NPS wireless communication policies, and on health and human safety. Scoping comments were used during the formulation of alternatives and impact topics analyzed in this EA.

Impact Topics Retained for Further Analysis

Impact topics for this plan were identified on the basis of: (1) federal laws, regulations, and orders; (2) *NPS Management Policies 2006*; (3) NPS staff knowledge of resources at Yellowstone National Park; and (4) comments received during public scoping. The impact topics that received further analysis in this EA and the reasons why are listed below. For each of these topics the existing setting or baseline conditions within the affected project area is described in Chapter 3, Affected Environment. This information was used to analyze impacts on the current conditions of the project area in Chapter 4, Environmental Consequences.

Natural Resources

- **Threatened and Endangered Species**

This topic has been retained because the Canada lynx and the gray wolf are protected under the Endangered Species Act of 1973, as amended, and are present within potential project areas in the park.

- **Migratory Birds, including Bird Species of Management Concern**

This topic has been retained because bird species that have been recently removed from the threatened and endangered species list (i.e., bald eagles and peregrine falcons) and bird species of management concern that have been declining in Yellowstone in recent years (i.e., trumpeter swans and white pelicans) could be disturbed by antenna mounting structures and construction-related noise. Adverse impacts could be temporary or long-term.

- **Wilderness**

This topic has been retained because approximately 91% of the park's 2.2 million acres has been recommended to be designated a wilderness area and per NPS policy must be managed to preserve wilderness character. Some NPS radio repeaters and scientific monitoring equipment

currently installed within the recommended wilderness as well as installations approved in the future could degrade wilderness character.

- **Soundscapes**

This topic has been retained because human-caused sounds would likely increase temporarily during construction due to equipment, vehicular traffic, and other activities. Long-term impacts include the operation and maintenance of the wireless communication facility and the use of personal devices such as cell phones. Turbulence created by the interaction between towers, antenna, and wind would cause local increases in non-natural sounds.

Cultural Resources

- **Historic Properties including Cultural Landscapes**

Historic properties are the buildings, structures, objects, cultural landscapes, and districts listed on or eligible for listing on the National Register of Historic Places. Within Yellowstone are 7 nominated and 6 eligible historic districts, 7 individual historic properties that have been designated as National Historic Landmarks, 953 historic buildings, of which 371 are on the National Register and 320 have been determined eligible for listing, and 41 areas where preliminary surveys suggest cultural landscapes may exist. This topic has been retained because some communications structures such as antennas could be placed on buildings within historic districts and wireless towers or structures could impact historic properties and cultural landscapes

Social Resources

- **Health and Human Safety**

This topic has been retained because of questions about potential radio frequency exposure, increased traffic accidents due to people using cell phones while driving, and the ability of visitors to reach 911 or local rangers for access to emergency services.

- **Park Operations**

This topic has been retained because of park operations' essential need for wireless communication. The commercial telephone system and the NPS two-way radio system are the primary communications methods that support law enforcement, public safety, and management functions. However, park staff also uses cell phones where service is available, and many employees have stated that cell phone service is essential to ensure reliable communications for emergency service personnel in critical life and safety situations. Park staff and partners also use cell phones to conduct routine business. Staff scientists, science partners, and independent scientists rely on infrastructure with wireless data transmission to conduct research in Yellowstone.

- **Visitor Use and Experience**

This topic has been retained because visitors have expressed concern about how technology like cell phones, GPS units, and laptop computers will affect the visitor experience in the wilderness, backcountry, while viewing thermal features and vistas within the park, and in historical settings like hotel lobbies. The types of wireless service available and the location of wireless facilities such as cell towers may affect how visitors experience the park.

- **Visual Quality including Viewsheds**

This topic has been retained because Yellowstone abounds with impressive viewsheds of the highest quality. Most of Yellowstone's landscapes appear untouched by humans and retain their primeval characteristics. Less than two percent of the park is developed and facilities are predominantly grouped along the figure-eight road system and in a handful of small communities, leaving substantial acreage in its natural condition. Because the primary viewsheds are natural, facilities and structures often stand out in stark contrast to the scenery.

Impact Topics Dismissed From Further Analysis

The impact topics that have been dismissed from further consideration and the reasons why are listed below.

○ **Topography, Geology, and Soils**

The proposed construction of new wireless communications infrastructure in the park would be located in areas that do not contain sensitive topographic or geologic features and restricted to sites previously disturbed by construction. In some instances, minor modifications of the topography and excavation of soils would be required to facilitate a level surface on which to construct the facilities, but this would have a negligible to minor effect on the topography. This topic has been dismissed from further analysis because the proposed actions would result in no more than negligible to minor, temporary and permanent adverse effects to topography, geology, and soils.

○ **Vegetation including Rare Plants, Wetlands, and Exotic Plants**

The general locations for any proposed new wireless communications infrastructure have been previously disturbed by construction and the facilities would not be sited in areas that could impact rare plants or wetlands. In some instances, small areas of vegetation could be disturbed in construction areas. Site surveys would be done prior to installation of any wireless communication facility. Disturbed areas would be revegetated following construction. Introduction of exotic plants would be minimized through cleaning construction equipment prior to entry into the park. This topic has been dismissed from further analysis because the removal or disturbance of vegetation would result in no more than negligible to minor adverse impacts.

○ **Water Resources, Floodplains, and Hydrology**

Communications or monitoring sites will not be placed in surface waters or areas located within the 100-year floodplain. Dry sites will be used unless the facility is specifically designed to monitor water runoff. Periodic runoff could occur during storm events but water quality, water quantity, and drinking water are not expected to be affected by the wireless facilities. No hard surfacing would occur. Equipment sheds or cabinets would increase the amount of impervious surface in the area, which could possibly increase its erosion potential. However, this would have a negligible impact on the park's water resource. Therefore, these topics have been dismissed from further consideration.

○ **Wildlife**

All existing guidelines for limiting human entry into critical wildlife habitat, including Bear Management Areas and closures for nesting birds or denning wildlife, would be followed during installation of wireless facilities. Although noise would temporarily increase during construction, which may disturb wildlife in the general area, this would have a negligible to minor adverse effect on wildlife. Because the effects to wildlife and wildlife habitat from the proposed project are minor or less in degree, the general topic of wildlife has been dismissed from further analysis, but Threatened and Endangered Species, Bird Species of Special Management Concern, and Migratory Birds will be retained, as described above, as impact topics.

○ **Paleontological Resources**

This topic has been dismissed from further analysis because the general locations for any proposed wireless communications infrastructure have been previously disturbed by construction and little potential exists for excavation and construction activities to encounter paleontological resources.

○ **Archeological Resources**

This topic has been dismissed from further analysis because the proposed project areas are not expected to contain archeological resources and appropriate steps would be taken to protect any archeological resources that are inadvertently discovered during construction. Any proposed location for infrastructure related to wireless services would be surveyed prior to construction.

and construction would not be allowed to proceed if archeological resources are identified in the immediate project area.

- **Ethnographic and Indian Trust Resources**

This topic has been dismissed from further analysis because American Indian tribes traditionally associated with the park were apprised of the proposed project during scoping and their responses indicated that no impacts to significant ethnographic resources were expected. In the unlikely event that human remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered during project implementation, provisions outlined in the Native American Graves Protection and Repatriation Act of 1990 (25 USC 3001) would be followed. There are no Indian trust resources (which are owned by American Indians and held in trust by the United States) at Yellowstone National Park.

- **Museum Collections**

Yellowstone's archives, library, and museum collections contain more than 5.3 million items, most of which are kept in the Heritage and Research Center (HRC) near the park entrance in Gardiner, Montana. This topic has been dismissed from further analysis because the wireless facilities are not anticipated to have measurable effects on these items.

- **Air Quality**

Construction of wireless communications facilities could result in direct, short-term, and negligible degradation of local air quality, but this topic has been dismissed from further analysis because such effects would be temporary, neither federal, state nor local ambient air quality standards would be exceeded, and Yellowstone's Class I air quality designation would not be affected.

- **Lightscape Management**

The proposed action may incorporate minimal exterior lighting on wireless facilities, but this topic has been dismissed from further analysis because the lighting would have negligible effects on the park's existing outside lighting or natural night sky. Lighting would be used only if maintenance activities must take place after dark (in case of emergencies or equipment failures) or if life-flight helicopter landings must be made in certain locations (e.g., the Old Faithful area). Light fixtures would be fitted with appropriate shielding mechanisms and placed only in areas where lighting is needed for safety reasons.

- **Socioeconomics**

This topic has been dismissed from further analysis because the proposed actions in this plan would not change local and regional land use or appreciably impact local businesses or other agencies. Implementation of the proposed action could provide a negligible benefit to local economies due to minimal and temporary increases in employment opportunities and associated revenues for local businesses and governments during facility construction.

- **Prime and Unique Farmlands**

This topic has been dismissed from further analysis because none of the soils in the park are classified as prime and unique farmlands.

- **Environmental Justice**

This topic has been dismissed from further analysis because none of the alternatives would have health or environmental impacts on minorities or low-income populations or communities as defined in the CEQ document Environmental Justice: Guidance Under the National Environmental Policy Act (CEQ 1998).