Wireless Telecommunications Committee Annual Report for FY11

Yellowstone National Park
For the period of October 1, 2010 to September 30, 2011

The purpose of the Telecommunications Committee is to:

1. Receive and address requests for wireless service
2. Ensure proposals adhere to the wireless communications plan
3. Make recommendations to the Superintendent regarding any action to be taken.

	Proposals Rcvd.	Date Received	Recommendation	Superintendent
1	1610 Radio East Entrance	10/13/2010	Approve	Approved
2	1610 Radio South Entrance	10/13/2010	Approve	Approved
3	1610 Radio West Entrance	10/13/2010	Approve	Approved
4	Druid Peak Permanent LMR Repeater	12/9/2010	Approve	Approved
5	Motorola Wireless PTP LAN Bridge Old Faithful	4/07/2011	Approve	Approved
6	Verizon Network Extender at Lake and Canyon Ranger Stations	5/10/2011	Approve	Approved
7	RAWS Grebe Pit Canyon Village	7/6/2011	Approve	Approved
8	AT&T Wireless Co-Location at Elk Plaza	NA	-	-
9	Fire Web Cam on Mt. Sheridan, Mt. Holmes, and Bunsen Peak	7/21/2011	Approve	Approved
10	Gardiner-Mammoth FM Association Elk Plaza KEMC radio transmitter	9/12/2011	Approve	Approved
11	Install Cell Network Extenders in Developed Areas Previously Approved in the Wireless FONSI	9/12/2011	Approve	Approved

Recommended:

Bret De Young — Wireless Committee Representative — Signature — 3/26/12 — Date

Approved:

Dan Wenk — Superintendent — Signature — 3/27/2012 — Date

Descriptions of Proposals Received:

1 - 1610 Radio East Entrance - Approved

Replacement of the 1610 AM radio visitor information broadcast system at the East Entrance. New equipment was installed adjacent to the ranger station, building #221, in the government area. Components include an exterior cabinet adjacent to the existing building connected to a power source, a data line buried from the cabinet to the new antenna, and a 15' tall wooden pole and antenna located 15' from the building. YNP maintains the FCC license for this location.

The original antenna was on a pole attached to the electric panel of the lift station out in the middle of the meadow north of the entrance station. The vendor believed that their product would work best as a free standing unit away from buildings but the Wireless Telecommunications Committee recommended to the Superintendent that they locate the new installation in a less visible rather that adding additional infrastructure out in the meadow.

2 - 1610 Radio South Entrance - Approved

Replacement of the 1610 AM radio visitor information broadcast system at the South Entrance. New equipment was installed in place of the existing 1610 equipment adjacent to the rear of Garage and Cache building #697 in the government area. Components include an exterior cabinet adjacent to the building connected to a power source, a data line buried from the cabinet to an antenna, and an existing metal pole and antenna at the rear of the building. The view of the building is blocked from the road by forest. YNP maintains an FCC license for this location.

The Wireless Telecommunications Committee preferred utilizing the existing mount and ground plane antenna over adding additional infrastructure.

3 - 1610 Radio West Entrance - Approved

Replacement of the 1610 AM radio visitor information broadcast system at the West Entrance. New equipment was installed in place of the existing 1610 equipment at the new entrance station. The previous installation was located at the previous entrance station location approximately 1,000 feet west. Components include a cabinet near the SW corner of the building, a data line buried from the cabinet to the new antenna, and an antenna mounted on a light pole just south of the building at the edge of the parking lot. The edge of the parking lot is forested providing a backdrop for the pole to blend in to the landscape. YNP maintains an FCC license for this location from the previous installation.

The Wireless Committee felt that mounting the antenna to the existing light pole would be the least visible option.

4 - Druid Peak Permanent LMR Repeater - Approved

The NPS proposed to install a permanent solar powered VHF land mobile radio (LMR) repeater system on the summit of Druid Peak following a temporary test installation in 2010. The proposal for the temporary installation was included in the 2010 report. Components for the permanent installation included one aluminum weatherproof equipment box dimensions 4'7" wide x 3'7" deep x 3' high, a 10' pole with an attached single 12' fiberglass antenna (combined 20' height) located 15' from the equipment box. Two 2'x 3' solar panels were mounted side by side at the top of the 10' pole to provide 12VDC power.

This LMR repeater improved public and employee safety by expanding the two-way radio coverage in the Tower/Lamar/Northeast Entrance areas as it filled longstanding gaps in the ability to communicate with dispatch from these areas. The new repeater at Druid peak created a backup channel that is independent of Century Link leased utilities in the Lamar radio system and is not susceptible to interruption when Century Link circuits experience outages.

The Wireless FONSI states that "the park will upgrade and install new equipment and functions to the NPS radio system as needed to meet changing technology, federal mandates, and park needs". The Committee recommended approval of this proposal to enhance the performance of Yellowstone's primary communication system and to improve safety and reliability in the Lamar area. A Minimum Requirements Analysis request was approved by the Yellowstone Wilderness Coordinator to place the equipment in Proposed Wilderness on 12/3/2010. A Categorical Exclusion Compliance for NEPA was signed on 12/9/2010.

5 - Motorola Wireless PTP LAN Bridge Old Faithful - Approved

A wireless network bridge from the Old Faithful Ranger Station to the Old Faithful Emergency Services and Maintenance Building (ESB) was proposed to eliminate problematic and expensive leased Qwest lines that supply DOI network service (computers, phones, radio). A 15" x 15" X 5" panel antenna was proposed to be mounted to the existing antenna mast on the roof of the ESB, and a matching 15" x 15" X 5" panel antenna was proposed to mount on the existing LMR antenna tower on the back side of the Ranger Station. The equipment in this installation was identical to the equipment installed on the approved installation at Building 38 Telecom to the Garage in Mammoth in 2010. The Committee recommended approval as the installation met the terms of the Wireless Communications FONSI.

6 - Verizon Network Extender at Lake and Canyon Ranger Stations - Approved

This proposal was for the deployment of Wireless Network Extender equipment at the Lake Ranger and Canyon Ranger Stations. The Network Extender uses an Internet connection to provide expanded service to wireless phones, allowing users to receive a cellular signal throughout an up to up to 5,000sf facility where signals are non-existent or weak. These devices , called Femtocell Sites (mini cell sites), will only accommodate three simultaneous calls at a time. They are easy to deploy; all you need is an active network connection to the internet and a little electricity.

Approval was recommended for deployment in two specific areas already approved under the Wireless Communications FONSI.

7 - RAWS Grebe Pit Canyon Village - Approved

Wildland Fire submitted a proposal to place a new, long term RAWS weather monitoring station on the Grebe Pit road, south of the Canyon developed area. The proposed location is north of the road, north of an existing power substation, and west of the existing power line. No ground disturbance will be necessary for installation of equipment, and the current Fire Management research permit already covers the proposed action. There are currently four RAWS stations located in the four corners of the park, and the central area of the park has the largest area of unburned forest with no representative weather stations. A new RAWS is necessary to collect long term weather observations from the Central Plateau area in middle part of the park; data collected from it is needed to help run fire management decision modeling tools to determine if natural ignitions will be allowed to burn or not. Natural fires which are allowed to burn naturally are a benefit to wilderness character and assist in maintaining a healthy ecosystem that has evolved with the historical presence of fire.

A remote automated weather station is necessary near the Central Plateau of Yellowstone to adequately represent this area of the park. Although there are manual weather stations currently at Old Faithful and Canyon, they do not collect long term data and data is subject to human collection errors. RAWS sites are addressed under Resource Monitoring in the Wireless Communications FONSI. The Committee recommended approval under this section and terms of the FONSI.

8 - AT&T Wireless Co-Location at Elk Plaza – Proposal expected/not received.

Ramaker and Associates Inc., AT&T's real estate division submitted an SF299 Application for Transportation and Utility Systems and Facilities on Federal Lands form to locate (6) panel antennas on the existing 100ft tower owned by Verizon Wireless and located at Elk Plaza. The permit request included a 10'x12' equipment shelter at the base of the tower, within the existing fenced area. The response to AT&T was eventually no, as the request did not adequately address site efficiency through co-location. Ramaker and Associates abandoned the request prior to submitting a Wireless Proposal.

9 - Fire Web Cam on Mt. Sheridan, Mt. Holmes, and Bunsen Peak - Approved

Wildland Fire submitted a proposal for a pilot program to test automated cameras on the Holmes and Sheridan Lookouts. Camera images would be transmitted back to Mammoth and would not be accessible to the public. The cameras would be used solely by fire management personnel (FMO and Dispatchers) to remotely monitor natural fires within these areas. Camera and supporting apparatus (mounts, tripods, solar panel boxes and bridges) would be painted grey to camouflage equipment with the backdrop of the sky. A tripod mounted camera was proposed

to be placed adjacent to the fire lookout buildings on Holmes and Sheridan, and a cable would be run from the camera to two solar panel boxes on the ground next to each lookout building. Two wireless bridges (relays) would be mounted to the shelter on top of Bunsen peak. Web cameras beam real time images to Bunsen, and relay from Bunsen to the Mammoth Fire Cache and Fire Dispatch offices. The cameras have the ability to be controlled remotely for zooming and panning. The 2011 summer (July-October) would serve as a pilot to determine if equipment would work and to determine prospects for long term feasibility. The equipment would be taken down over the winter. If the equipment proved useful, Wireless, NHPA, and MRA proposals will be submitted to make the equipment permanent in 2012. The cameras would save the Fire Management Program money by allowing fire management staff to remotely monitor non-active ignitions and would reduce costs and risk to personnel by not staffing lookouts. The number of flights required to observe fires and the amount of personnel time monitoring an inactive fire would also be reduced.
Minimum Requirements Analysis: Pilot year deployments would be flown in combination with the fire lookout structural maintenance MRA. NHPA Compliance: Pilot year deployments would not be physically attached to historic fire lookout structures on Mount Holmes and Mount Sheridan.
In response to a Substantive Comments in the FONSI about technology and fire management, the NPS indicated that Webcams on fire lookout structures could be used with the firefighting effort as remote resource monitoring devices to monitor fire movements and behavior and help with safer fire management decision making. Under Webcams, the FONSI states that "it is possible that wireless monitoring cameras could be placed in backcountry areas for resource monitoring or to address safety concerns, but these will not be available for public viewing purposes. The Committee recommended approval to the Superintendent as the proposal was within the guidelines and criteria of the FONSI.

10 - Gardiner-Mammoth FM Association Elk Plaza KEMC radio transmitter - Approved

The Gardiner-Mammoth FM Association proposed to locate a 4' diameter satellite dish on the roof of the equipment building located at the base of the Elk Plaza cell tower within the fenced area surrounding the tower. This dish would receive the FM radio signal for Public Radio station KEMC to be rebroadcast to the Gardiner and Mammoth communities. It would be connected to equipment already located in the building and the frequencies would be licensed to the Gardiner-Mammoth FM Association by the FCC. The dish will be attached to a self-standing, weighted base sitting on the roof of the building. This proposal was contingent to a co-location agreement between Verizon Wireless, the owner of the building and the FM Association.
The Wireless Committee recommended approval if a dish smaller than 4' could be used in order to reduce adverse visual effects. Reference page 46 of the Wireless Communication Services Plan FONSI.

11 - Install Cell Network Extenders in Developed Areas Previously Approved in the Wireless FONSI – Approved

This proposal is similar to the Network Extender proposal described in #6, but seeks to establish the authority for Yellowstone to install Cellular Network Extenders in any developed area previously approved for cellular telephone service in the Wireless Telecommunications Services Plan FONSI (April 2009).
Any installed Cellular Network extenders would be utilized in buildings to improve weak signals from specific carriers (i.e. Verizon). These devices are not approved outside of developed areas and where cellular service was not approved in the Wireless Communications FONSI.
Cell phone coverage is approved at Mammoth, Canyon, Tower-Roosevelt, Old Faithful, Grant, and Lake developed areas. This meets the Wireless Plan objective to improve operational effectiveness of wireless communications in the park and safety for park visitors, employees, residents, contractors and concessioners. The Committee recommended approval within the criteria cited.

Public comments were collected and considered throughout the scoping and planning process for the Wireless Communications Services Plan Environmental Assessment (EA). In lieu of public meetings, the NPS provides this annual report, available to the public, which includes; a list of proposals received/reviewed by the Wireless Telecommunications Committee (WTC), recommendations from the WTC to the Superintendent, action taken by the Superintendent, and a summary of each proposal.

The Committee consists of four representatives from Park Planning, Resource Management, and Telecommunications and is led by the Supervisory Telecommunications Specialist.