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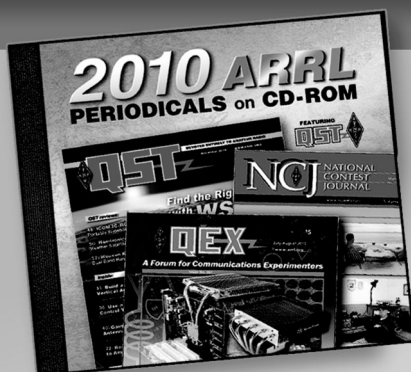
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FM

Conducted By Brian Battles, WS1O
QST Features Editor

A Wilderness VHF FM Protocol

By William Alsup, N6XWV
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This is my proposal for a Wilderness VHF FM Protocol for effective simplex use of hand-held VHF and FM transceivers in the backcountry.

An increasing number of hams who are serious explorers of the wilderness carry hand-held transceivers for potential emergency and safety communications. There are, however, two problems. First, without a customary protocol, such as is described here, a hand-held radio is only useful when it's within range of a repeater, and repeaters are generally located outside wilderness areas. Unfortunately, many backcountry canyons and other areas are shielded from repeaters by mountainous terrain. This makes repeater access the exception and not the rule. Second, a hand-held transceiver's battery power is precious, and backcountry amateurs can't monitor continuously, much less monitor all possible frequencies for simplex or repeater operations.

I've enjoyed more than 70 overnight backcountry trips in the Sierra in the past 20 years, many to remote places. In the past three years, I've routinely carried a compact 2-meter hand-held transceiver on wilderness trips. An example is our 1991 reenactment of 1864's first ascents of Mt Brewer and Mt Tyndall, a nine-day expedition sponsored by the Sequoia Natural History Association, which involved cross country travel (meaning no trail) in rugged areas. Using only its built-in battery and 1.5 watts of power into a telescoping half-wave antenna, we communicated with the Mt Bullion repeater, more than 100 miles away, from our summits. We were thus able to report our progress and limit the region of concern if a subsequent search for us had become necessary.

Most of the time, however, we weren't on a summit or a high pass and were blocked from any repeater.

QST regularly publishes reports of genuine amateur assistance in backcountry life-and-death emergencies. Emergencies justify adoption of a standardized Wilderness VHF FM Protocol to improve backcountry simplex communication.

Federal wilderness regulations prohibit the placement of man-made objects, such as radio repeaters, in federal wilderness areas, except as needed to facilitate official ranger communication. Repeaters on the fringe of

the wilderness, such as the Mt Bullion and Mt Mazourek 2-meter machines near the Sierra, are regularly monitored and/or maintained by able and helpful amateurs. Some hams (for example, Don Stansifer, N6RU, on the eastern escarpment of the Sierra) perform valuable public service in tracking wilderness amateurs as they emerge here and there within radio view of the repeater. Grady Williams, K6IXA, of the Turlock Amateur Club, has programmed the Mt Bullion repeater for autodial to the Yosemite ranger dispatcher, among other important numbers.

Hand-held transceiver-equipped hikers should monitor the national simplex calling frequency, 146.52 MHz, at 10 AM, 1 PM and 4 PM daily, for five minutes.

Hams are also encouraged to monitor on each hour (for five minutes).

The proposed wilderness VHF FM protocol is as follows:

All hand-held transceiver-equipped hikers should monitor the national simplex calling frequency, 146.52 MHz, at 10 AM, 1 PM and 4 PM daily, for five minutes.* Any ham already in range of a repeater won't need the protocol, but he could relay, via the national simplex frequency, a message from an amateur down in the repeater's "shadow." Hams are also encouraged to monitor on each hour (for five minutes).

These clear-cut rendezvous times would concentrate the opportunities for linkup. A ham may also optionally announce his presence on 146.52 MHz and invite others to respond. Monitoring without transmitting would conserve batteries, yet promote a contact if the need arises.

I propose these times for good reason. Most accidents happen while hiking, climbing or swimming. Accidents are less likely in the early morning in camp. Ten o'clock in the morning is after most hikers have broken camp and started moving, when accidents are more likely to have occurred.

Ten AM is a good time for a five-minute rest stop. One PM is usually during hikers' lunch and is convenient. It's also during the mid-day period when serious climbers try to reach summits or high passes, locations that facilitate simplex and repeater access. Four PM is after most hikers have stopped for the day, yet is early enough to allow for helicopter or other assistance before sunset (at least during the summer).

When reaching a place from which a repeater can be accessed, the hand-held-equipped hiker should, at least twice in a five-minute period starting on the hour, transmit his call sign, location and repeater access on the national simplex frequency.

When reaching a place with a wide, clear field of view, even if there's no repeater access, the ham should, at least twice in a five-minute period starting on the hour, transmit his call sign and location on the national simplex frequency and invite others to respond. He should monitor for at least five minutes. Although he might not be able to hit a repeater immediately, his altitude advantage might allow him to go higher and make repeater contact in case of an emergency reported by a ham at a lower elevation. Or the group could go to the aid of a party in distress.

The Technician-class license is ideally suited for expanding the "net" of backcountry hams and a protocol like this will encourage wilderness travelers to apply for licenses.

Where possible, it might make sense to locate amateur repeaters at the same sites as ranger repeaters, and perhaps to create a link between them that could be activated in emergencies. This wouldn't intrude on the wilderness any more than is already done by the government. The proposed protocol, however, doesn't depend on that eventuality. It could promote the eventual location of amateur wilderness repeaters by first encouraging the widespread use of hand-held transceivers in the wild. As hand-held rigs prove more useful in the backcountry, the benefits of wilderness amateur repeaters will be more apparent.

No protocol will do any good unless it's adopted in practice. Amateurs who revere the wilderness will concur that a standard protocol, would be a significant step in advancing one of Amateur Radio's foremost responsibilities—emergency and safety communications. Interested amateurs are invited to send comments to QST (with a copy please to William Alsup, N6XWV). Responses will help identify amateurs seriously interested in promoting effective backcountry communications and the formation of a "net" for implementation will enable and further discussion. 

*Send mail for the FM column to Brian Battles, WS1O, Features Editor, QST, 225 Main St, Newington, CT 06111; fax 203-665-7531, CompuServe 70007,3373, NVN BBATTLES, Internet bbattles@arrl.org.

*Amateurs can also monitor the national simplex frequencies on other VHF/UHF bands, i.e., 52.525, 223.50, 446.0 or 1294.5 MHz—WS1O