Rick Palm, K1CE, k1ce@arrl.net

Public Service

Wilderness Emergency Communications Protocols

The further I paddled my 14-foot kayak into the Okefenokee National Wildlife Refuge in Folkston, Georgia — the third largest national wilderness area on the east coast — the more I thought about emergencies and safety. Most people think of kayaking as leisurely floating down a river in a state park patrolled by rangers. However, there's another side to kayaking found in major wilderness areas, such as Georgia's Okefenokee Swamp, where for 3 days I encountered no one (rangers or otherwise) during a 31-mile solo winter solstice traverse of the swamp. Dangerous wildlife pose a risk, as does overturning your kayak and falling into the water. During the summer at a busy state park, this is simply an inconvenience, but in winter, it can be a life-threatening emergency when you're miles into the waterscape of the nearly 500,000-acre Okefenokee, where there's little land to crawl onto and no one close by to help.

Cell signals were nearly non-existent the farther I paddled. I checked a "local" repeater north of the refuge boundary and spoke with a ham who said he monitors the repeater 24/7 for emergency calls. Under the stars that night, I remembered a wilderness VHF FM simplex protocol.

Wilderness VHF FM Simplex Protocol

In the February 1994 issue of *QST*, Sierra Nevada hiker William Alsup, N6XMW, proposed "A Wilderness VHF FM Protocol" for effective simplex use of handheld radios in the backcountry, which was met with wide acclaim. The protocol called for hams in and near wilderness areas to monitor the national simplex frequency, 146.52 MHz, for emergency transmissions, as well as perform safety checks at 10 AM (when most explorers start moving),

Before Going Into the Wilderness

- ✔ Learn and pre-program the frequencies (including tone squelch) of repeaters on the periphery of the wilderness area where you'll be traveling. When on site, try making brief contacts on in-coverage repeaters and inform users of your location, route, and plan.
- ✔ Program the national calling frequency, 146.52 MHz, into your radio.
- ✔ Be informed of the LiTZ DTMF protocol and Wilderness Simplex VHF FM protocol calling times and frequencies.
- ✔ Plot your course by map or GPS coordinates. When traveling, always know your location by GPS coordinates, and natural and manmade landmarks, such as a lake or tent platform.
- ✔ Carry the basic operating manual for your radio.
- ✔ Keep all accessory plugs inserted when not in use, to preserve the water resistance of the radio.
- ✔ Keep your batteries warm in cold weather to preserve their power.
- ✔ Pack extra batteries. Preserve power by using the lowest power setting that yields successful communication.
- ✔ Bring the best portable antenna you can. I used a mag-mount ⅝ wavelength whip antenna that worked well in Okefenokee.

On a remote shelter platform in winter in the Okefenokee National Wildlife Refuge, Rick Palm, K1CE, used a handheld radio to inform a ham north of the swamp of his exploration route and plan. [Rick Palm, K1CE, photo]



1 PM (when most explorers stop to eat lunch), and 4 PM (when most explorers have stopped for the day and it's early enough for helicopter rescues). It also encouraged monitoring the frequency at the top of every hour for 5 minutes, when possible. The purpose of the protocol is to concentrate the chances for link-up. If a repeater is within range, the ham in the wilderness can report his access to it on the national simplex frequency.

Other proposals were discussed for installing amateur repeaters at ranger stations with links to government repeaters that could be activated in an emergency, and creating a net (or online forum) of wilderness traveler-hams to discuss implementation of the protocol and other wilderness emergency communications issues.

Long Tone Zero Protocol

Long Tone Zero (LiTZ) is another protocol for sending an alert during an emergency by pressing and holding the zero key on your dual-tone multi-frequency (DTMF) keypad, and transmitting it for at least 3 seconds. After sending the alert tone, briefly announce the nature of your emergency and your location.

Some repeaters are configured to respond to the LiTZ alert automatically, with prerecorded messages describing how to access the autopatch or other functions. Repeaters with LiTZ support may also alert the control operator and others to assist.

Other Emergency Communications Systems

Consider adding other systems to your wilderness communication assets as well. Brian Boschma, KK6FJ, suggests a registered Emergency Position Indicating Radio Beacon (EPIRB) unit. EPIRBs are monitored by satellites worldwide. He noted that in a potentially life-threatening situation, the device can be tracked accurately, even in remote areas. The mere activation of an EPIRB transmitter is a declaration of an emergency. Satellites and other monitoring stations receive the signal and immediately relay the information to authorities.

Amateur radio has its place in wilderness emergency communications, safety, and even search-and-rescue, but don't rely solely on the Amateur Radio Service as your lifeline.

A Recruitment Opportunity

As Alsup pointed out in his article, with handheld radios and growing use of the protocol, more wilderness travelers would be encouraged to obtain their amateur radio licenses. In the September 2016 issue of *QST*, Greg Waters, KJ6OUI, discussed how the Fresno Area Mentor and Elmer (FAME) program in Fresno, California, marketed amateur radio to outdoor enthusiasts, attracting a group of wilderness travelers to get licensed, in his article, "FAME in Fresno — A Success Story in Recruiting New Hams."

Conclusion

For safety and emergency communications in the wilderness, the more hams who use and promote the protocol, the more potential for lives saved, and meeting our statutory mandate of FCC rule §97.1(a): "Recognition and enhancement of the value of the amateur service to the public as a voluntary noncommercial communication service, particularly with respect to providing emergency communications."

Field Organization Reports

December 2020

Public Service Honor Roll

This listing recognizes radio amateurs whose public service performance during the month indicated 70 or more points in six categories. Details on the program can be found at **www.arrl.org/public-service-honor-roll**.

520
KW9EMG

510
N9VC

477
W7PAT

449
WA7PTM

430
WA3EZN

408
KE8BYC

345
KE8KOC

322
KB3YRU

270
ND8W

268
KD2LPM

240
WD8USA

230
KB2RTZ

225
KT2D

221
WA2CCN

220
AL0Y
W0PZD

200
KD2NMG

187
WM2C

176
KB9LX

170
W2PH
KM8V
W9GRG

163
W8DW

160
AI9F

156
W8IM

155
N8SY
W4DNA

154
KB8RCR

153
WA2BSS

150
W3GWM
WO2H

148
W9RY

145
KD0HHN
K8AMH
KI5GRH

140
WB9QPM
K0RCJ

137
KB9PGY

135
W8DJG
AB8M
W3YVQ
K4IWW

130
KC9FXE
W7EES
KY2MMM
AC0KQ
N1LL
KW1U
N2JBA
N4CNX
WK4WC

126
KV8Z

125
AG9G
WB9WKO
AD3J
N5MKY
KD8ZCM

123
AD8CM

122
KD2GXL

120
WA4VGZ

W4CMH
WC4FSU
K9LGU
KY2D
KC8WH
N2LC
KA9QWC
W0LAW
K2TV
N2WGF
K3JL
WA4VGZ
W4NWT
NA7G
N7IE
NA7G
N7IE

115
KF5OMH
AF2NC
N1TF
KC8YVF

114
AC8NP
N3KRX

110
W1KX
KA9MZJ
K6HTN
KF5IOU
KA5AZK
KG5NNA
KO4OL
KB2QO
N3SW
WA3QLW
WB8YLO
W8MAL
K8MDA
AB8MW
AB9ZA
N1IQI
W1RVY
K3IN
KI7TIG
WB8TQZ
K8BKM
WF2Y

106
NI2W

105
W2PAX
N2DW
K1XFC

104
KD2IWN

100
WB4RJW
KZ8Q

KE5YTA
K9GDF
KN9P
NX9K
KO4OL
W3CJD
WB6UZX
AC8RV
WB8SIQ
K3RC
N8CJS
AA3SB
KB2YAA
WS4P

99
WB8YYS
N1LAH
KC1HHO
K1HEJ

98
AB3WG

97
W9EEU
KB1NMO
WV5Q

96
WA1URS
W7PHX

92
K0FBS
AA7BM

90
KM4WHO
AA4XZ
N6IET
KA2HZP
W2AH
KB8PXM
K8KRA
KB8HJJ
KA1G
KD2JKV
KC1KVY
KC1MSN
N2TSO
AA3N
K3MIY
WX2DX
K8ED
WB8WKQ
WD0BFO

88
K8RDN

87
WA1LPM
K2EAG

86
AD4DO
K6JT
W4TTO

85
K1STM

84
N3JET

83
N3RB
W9BGJ
KE1ML

81
KE5DRF
W3ZR

80
W0DHG
KD8UUB
KL7RF
KD8UOT
N8MRS
N4ZM
KF7GC
K7OED
KG7QWR
KJ7BHO
KB1NAL

79
WB8R

78
KA2GQQ

77
WB4ZDU
KA9IKK
KB0DTI
W5XX

75
KT5SR
KA0DBK

73
AJ7B
K4FHR
WB2VUF
NV1N

72
K6RAU
KB8PGW

71
KF7LMJ
KA2JFU

70
K2MJF

The following stations qualified for PSHR in previous months, but were not reported in this column: (Nov.) K8AMH 250, KF5OMH 180, KI5GRH 175, KG5NNA 150, KF5IOU 120, KA5AZK 110, KE5YTA 100, K6JT 84, KF5IVJ 82.

Section Traffic Manager Reports

The following Section Traffic Managers reported: AK, AR, AZ, CO, CT, DE, EB, EMA, ENY, EPA, IL, IN, KS, KY, LA, LAX, MDC, ME, MI, MN, MO, MS, NC, ND, NE, NFL, NLI, NM, NNJ, NTX, OH, OR, SC, SD, SFL, SJV, SNJ, STX, TN, UT, WCF, WI, WMA, WPA, WV, WWA, WY.

Section Emergency Coordinator Reports

The following Section Emergency Coordinators reported: AZ, ENY, IL, IN, KY, LA, MDC, MI, MN, MS, ND, NLI, NNJ, NTX, OH, OR, SCV, SJV, STX, SV, TN, VT, WI, WPA, WY.

Brass Pounders League

The BPL is open to all amateurs in the US, Canada, and US possessions who report to their SMs a total of 500 or more points or a sum of 100 or more origination and delivery points for any calendar month. Messages must be handled on amateur radio frequencies within 48 hours of receipt in standard ARRL radiogram format. Call signs of qualifiers and their monthly BPL total points follow.

NX9K 1,745, N9CK 1,040, K6HTN 886, KW1U 782, WB9WKO 728, N1IQI 544.

The following stations qualified for BPL in October 2020, but were not reported in this column: WB9WKO 1,945, NX9K 1,399, N9VC 646.