

MANAGING TECHNOLOGY IN WILDERNESS FORUM

Wilderness Risk Management Conference

October 3, 2008

Jackson Lake Lodge, Wyoming

This forum was held during the WRMC to promote discussion on the topic of electronic communication and entertainment devices on backcountry adventure programs; including their use, their pitfalls and how this technology is managed. There were approximately 60 attendees at the workshop. We don't know how many different organizations were represented.

The following is a summary of the discussions. It does not represent a particular stance on the topic. We hope it will give a sense of how we are managing technology on wilderness programs and be useful in furthering the dialogue.

What sort of devices are people using?

Using a simple show of hands we asked what types of electronic communication devices people were using. The results were:

Satellite phones = 95%

Satellite signaling devices¹ = 15%

GPS = 35%

PDA's = 10%

Other - Weather, short wave, marine band radios = 20%

Some organizations were using more than one type of device.

Program use of Satellite/Cell Phones for communication from the field.

There was consensus that if the devices are good and have high reliability then they should be used, but many people still have doubts, or actual experience that the devices are not reliable. The Iridium satellite phone system is the most commonly used and has a reputation for adequate reliability. The Globalstar phone system has fallen out of favor, as the reliability in recent years has been poor. Most of the attendees understood the inherent technological challenges of using satellite phones, e.g. dropped calls, and while this can be frustrating one just needs to have patience and redial. One organization recounted an experience with very poor reliability of the Iridium phone system.

Since 95% of this group uses satellite phones one could surmise that satellite phones are the norm. Cell phones are not the norm due to their unreliability in wilderness/backcountry settings. The two organizations that did not use satellite phones cited financial reasons for not having them.

There was some use of short-range FRS radios, but due to their limited range it is only for intra-group communication and not for contacting an organization's base of operations.

Student/participant use of personal communication or entertainment technology

The consensus of the group was that student/participant personal use of cell phones, satellite phones and music players and other communication and entertainment devices should not be permitted – comments included:

- They deter from the group and wilderness experience.
- Therapeutic organizations do not [may not] allow devices.
- We want to prevent kids from interacting with technology and give them the true wilderness experience.

¹ SPOT™ satellite messenger, EPIRB (Electronic Position Indicating Radio Beacon) and PLB (Personal Locator Beacon)

- One organization has a two-week “blackout” period without devices for group formation and bonding, then allows them into the group under certain conditions.
- One organization presents options to students and parents for students to be in a group who communicates everyday or being a group that does not communicate.
- A safety concern example cited - girl belaying another student and her cell phone rings and she drops the rope [her brake hand] to answer phone – her first priority/natural reaction.
- Concern if a student is having a bad day and calls their parents and what that could mean – panic, desire to bring child home and other issues related to evacuations (see below). If the program’s intent is to teach the participant to work through these issues themselves, this call defeats this purpose.
- If a student’s device works better than the organization’s it can hurt the credibility of the program.
- Those who more readily accept or expect technology and those who don’t tend to break along generational lines. Younger generations who grew up with technology and consider it normal are more likely to not want to part with it. Older generations may be more accepting of not having access to technology.
- The addiction to being in constant contact can be really tough for people.
- What if the cell phone is also the participant’s camera? This group’s response was to switch off cell coverage, or make them buy a camera.
- For students of lower socio-economic backgrounds this may not be an issue if they can’t afford the devices.

Staff use of personal communication or entertainment technology

It seemed that among the attendee’s staff were allowed more freedom to use electronic devices than students/participants, though there were some concerns with their use.

- Staff will bring music player, which is a mixed message too students who can’t
- Satellite radios cause a distraction because staff listens to sports etc. and not to students.
- Staff is allowed to take personal cell/sat phones but need to be discreet about their use.
- Staff may not be strict enough about not allowing a student cell phone because staff is more like-minded with students.

Parent issues

Parent related concerns fall into two areas 1) expectations or desires to be in touch with their child and 2) how parents and society have changed the expectations for emergency response.

1. Expectations for contacting their child or following their child’s experience

- Students and some parents (especially younger ones) expect quick communication – instant gratification.
- Younger generation will expect the tech comforts and presumed safety of constant communications.
- The “gee whiz” factor of being able to track their child’s adventure using SPOT tracking service and Google maps.
- In an effort to share the experience with parents at least one organization had their groups call the base on regular intervals. Their location is marked on a map and along with photos that were emailed from the field are uploaded to a website.
- Concerns were raised about posting info on a website
 - Personal safety issues related to divulging a group’s location on a website map.
 - Privacy issues.
 - Concern that this type of activity promotes the false impression that communication with a group in a remote setting is easy. Sets up false expectations for emergency response.

2. Communication technology and emergency response

- Concern for expectations by parents that organization is able to contact the group at anytime.
- How you will handle the argument of not spending the money on the technology if it means someone's life – X amount of \$ vs. my child's life?
- Where do you draw the line? Organization provides a sat phone, should there be a backup device? Allow students to bring devices just to have more available?

How position on technology is communicated stakeholders

- Face-face parent and student briefing session with incentives for parents to come, e.g. get all the paperwork signed.
- Use online briefing with photos, diagrams and explanation of expected emergency response times.
- Address the topic in marketing and enrollment materials.
- Convey the “no news is good news” idiom.
- There were statements made that many parents understand the position for no tech. However it is harder for them to understand the degree of remoteness of trips and response time for evacuation.
- Additional waivers signed as addendum to original waiver (comment by a 4 year institution).
- Explain the unreliability factor of devices.
- Waiver has excerpt on the form that says “ we have a cell phone ... it may not work” not expected to carry other devices.
- Inform tactfully to the staff, parents and students about evacuation protocol and how technology does or doesn't fit including devices used, backup systems, limits on reliability and challenges for conducting evacuations.

Emergency response

Electronic communication devices are a useful tool for an organization for responding to and managing medical emergencies and evacuations. The consensus was that this is the primary use of these devices and any other use is secondary.

- Reliability – the limits on reliability of satellite phones appears to be understood. Some expressed frustration or surprise when sat phones performed poorly.
- EPIRB's and PLB's perform more reliably due to different satellite system.

There was discussion if communication technology increases or decreases the number of evacuations – comments included:

- One program reports an increase in medical visits and a decrease in students leaving course.
- One program reported an increase in evacuations with sat phones particularly disciplinary, motivational, behavioral, and emotional evacuations and mental health illness.
- One program reported that the amount of consultation and time to make a decision whether to evacuate or not is increased, while the overall evacuation rate has not changed.
- Is there an increase in non-trauma (students with diarrhea/colds) medical evacuations? In the past there would not even be a phone call.
- Increased incidents of staff calling in saying “I forgot to do something, check my desk drawer for...”
- It can be good for homesick students to talk to parents who can convince the students to tough it out and stay.
- One program reported an increase in evacuations with satellite phones at first, but it has since declined and leveled off as they learned how to better manage their use.
- It can increase the amount of time it takes for support staff to respond. More people become involved as more information or opinions are sought.

There was discussion about how communication technology may or may not influence evacuation decisions and self-reliance of instructors/leaders while in the field – comments included:

- Technology is minimizing the responsibility of the instructors – allowing others to make the decisions or they depend on the ability to seek advice when they, the instructors, have or know the answer.
- Having manual back up – old school ways of support, e.g. messenger teams are still essential.
- Backing up your backups. Once you start with one you need to have all of them – SPOT to back up satellite phone – where will it end!?
- Communication technology will not substitute for time spent on staff training on how to handle medical situations and evacuations.
- Training with staff of what is appropriate to call in on, provide feedback – if not this then this...
- There is a concern of having an incident reported by student to someone other than organization without organization's knowledge and ability to respond appropriately as planned. This could lead to less effective response and management of a situation and public relations problems.

The consensus was...

- Technology is a useful tool for arranging evacuation logistics and improving emergency notification from the field, but we need to continue to inform participants that it is not a panacea.
- Tools are only good when they are working and in the hands of intelligent and informed individuals.
- Part of the emergency procedures class training for students.
- If an organization's mission or purpose is to teach students the skills, experience and judgment to lead others in the wilderness, then the use of technology cannot be denied and students need to be taught how to use it appropriately.

SPOT specific issues

The SPOT satellite messenger is like an EPIRB for the masses. It is made by a subsidiary of Globalstar and uses their L band data signal, which is different than their S band voice signal. The L band signal has not had the problems that the S band signal has had. The SPOT can be used to notify search and rescue if the user is in trouble and it allows for the user to be tracked by people he or she designates for no other reason than it can and it can do it relatively cheaply. It only provides one-way communication – from the field to a designated person(s).

- Some organizations are using or experimenting with SPOT, but it is not clear what their best use will be.
- Some field tests have shown that reliability has not been as good as advertised.
- The lack of two-way communication will mean that SPOT would likely not take the place of a satellite phone.
- SPOT does offer lower cost communication from remote locations that is more reliable than cell phones.
- Organizations that have independent student group travel are considering providing them to the student groups.
- One organization tried to get the SPOT to send a message to their satellite phone, but was not successful. The SPOT company representative said he would look into it.
- The 911 feature of SPOT can be modified so that a 911 message will not trigger a search and rescue response, but the organization will be contacted and allowed to respond appropriately

There were concerns voiced about students using SPOT's

- SPOT's original design was to be able to send a distress message when the user was in trouble, but with the SPOT tracking service and with people manually sending SPOT "OK" messages on a regular basis it has also become a tracking device.
- If the automatic tracking service is used or the individual is supposed to manually send a message every day, but then either the system fails or the person forgets or decides not to send the OK message, then the person receiving the message may panic and assume the worst when the messages stop coming. This could present complications for program managers who would likely feel compelled to act, even though it is more likely that nothing is wrong with the group.
- There was concern expressed that students/participants using SPOTs could do so without the organization's knowledge. The SPOT representative offered a solution whereby an organization contact person would be added to each SPOT user account and the student's messages could be monitored. While this would be a useful arrangement it would also likely increase workload of someone monitoring the messages.

Conclusion

During the forum no one voiced an opinion opposing the use of communication technology for emergency response. In 1992 the WRMC issued the following statement regarding this topic.

"We recognize there have been technological advances available to the guide and wilderness educator and an organization may be called upon to justify their decision to employ these technologies, for example, the use of radios to effect rescues from remote areas. Organizations should become familiar with these advances and incorporate or reject their use as is appropriate for their goals and mission."

Based on the discussions during this forum 16 years later, it appears that few adventure organizations have taken a stand to reject the use of communication technology and instead have embraced it as a valuable tool for increasing emergency response capabilities and its use has become established as a standard practice. However, this practice needs to be carefully managed to balance its use against the need to preserve the wilderness related opportunities for solitude and getting away from civilization that many programs are based on. Finding this balance has been and will continue to be challenging as new technologies develop and society's expectations about "being connected" increase.

Drew Leemon
NOLS Director of Risk Management
Wilderness Risk Manager's Committee

Tod Schimelpfenig
NOLS/WMI Curriculum Director
Wilderness Risk Manager's Committee