

**AdventureSmart**



# S.O.S.

MAKING THE RIGHT CALL

HOW TO ALERT THE SEARCH AND RESCUE SYSTEM TO SIGNAL FOR HELP



THE SCENARIO IS ALL TOO FAMILIAR: A GROUP OF OUTDOOR ENTHUSIASTS LEAVES FOR A DAY'S ADVENTURE BUT THEIR TRIP DOESN'T GO QUITE AS PLANNED. VICTIMS OF BAD WEATHER, INJURY OR JUST SIMPLY LOST, THEY ARE SURPRISED WHEN THEY TURN ON THEIR EQUIPMENT ONLY TO FIND OUT THEY HAVE NO SIGNAL AND NO WAY TO CALL FOR HELP.

## COULD THIS HAPPEN TO YOU?

THE FACT IS, IT CAN HAPPEN TO ANYONE.



SOURCE: PARKS CANADA

Regardless of the amount of preparation, distress situations can still occur. Informing a responsible party of your "Trip Plan" is one method to notify search and rescue (SAR) authorities should you become overdue.

Your chance of a successful outcome increases if your call is made as soon as possible. As an essential part of your survival kit, you should consider carrying some sort of device to call or alert others in an emergency situation. Whatever you choose, it should be compatible with the activity and area in which you are operating. Know the capabilities and the limitations of the equipment you are planning to use as your lifeline to survival.

This pamphlet will provide an overview of various technologies that are typically used to call or alert SAR authorities, as well as key points to consider when making your selection. Indeed, most people find that using a combination of technologies can be the best approach.

**The device you choose to call for help should do what you expect it to do, when you need it most.**

Educate yourself and take the time to read the technical specifications and service agreement or plan of any device you are considering.

Know that all devices have strengths and limitations and it is your responsibility to ensure you have asked yourself a very important question:

**"Which device or service will be the right one for my needs?"**

Think about where you are going and how long you will be gone. Battery power, ruggedness, proximity to cellular phone towers, extent of satellite coverage, location and type of activity are key factors to consider.

### Communication Devices

Cellular and satellite telephones can provide a direct and very capable means of communicating a distress situation. They enable rapid, two-way communication with rescue authorities. It may also be possible to send text messages on a cellular phone even when voice service is unavailable. It is important to note however that the "911" service is not available on satellite phones and may not be available on cellular and/or landline phones within certain regions of Canada so the direct dial number for rescue authorities is required.





Is there cellular coverage in the area you will be travelling? Outside urban areas cellular phone coverage may be limited to highway corridors or impacted by physical obstacles which can block the signal.

Satellite telephones are usually more rugged than cellular phones however most satellite telephones require the user to be outside, or somewhere with a clear view of the sky.

Phone functions and battery life can be drastically impacted by extreme temperatures and humidity. Keeping the phone and extra batteries warm and dry under layers of outer clothing within a watertight container may reduce the impact of these environmental effects.

## Alerting Devices: 406 MHz Emergency Beacons:

When activated anywhere in the world, a 406 MHz emergency beacon sends a distress alerting signal via a dedicated international satellite system (Cospas-Sarsat) directly to search and rescue (SAR) authorities.

Aside from the initial cost to purchase a 406 MHz emergency beacon, there is NO subscription fee for Cospas-Sarsat monitoring, nor is there any fee for registering it with the Canadian Beacon Registry. When properly registered with the Canadian Beacon Registry ([www.cbr-rcb.ca](http://www.cbr-rcb.ca)), SAR authorities will also know who is in distress, in addition to their location.

There are three types of Cospas-Sarsat emergency beacons, each designed for a specific purpose. Emergency Locator Transmitters (ELTs) – aviation use; Emergency



Position-Indicating Radio Beacons (EPIRBs) – maritime use; and Personal Locator Beacons (PLBs) – for personal use.

Personal Locator Beacons (PLBs) are specifically designed to be light-weight, portable, and to withstand the elements. They are triggered manually using a simple two-step process, which helps prevent accidental activations. While intended primarily for use by those working and recreating on the ground or inland waters (e.g. hiking, canoeing), pilots and boaters are also using PLBs on board aircraft and vessels as personal distress alerting devices but must manually activate them. Pilots and boaters who carry PLBs should therefore confirm that their Canadian Beacon Registry record reflects this use, to ensure that the appropriate search and rescue response is coordinated.



## Alternative Satellite-Enabled Notification Technologies

There are a number of other commercial satellite-based technologies now available that include a function for signalling emergencies. Many are designed primarily for locating and/or monitoring the status of people, vessels, aircraft, or vehicles, with distress notification provided as a secondary capability.

Most of these devices acquire and then re-broadcast their GPS position through a commercial satellite system. Many also offer the capability to send these periodic GPS location reports to a data server – essentially creating an “electronic breadcrumb trail” that can be monitored remotely through the Internet or an electronic messaging system.

In addition to the cost to purchase these devices, a subscription fee is usually charged by the system provider for access to the satellites and the related data distribution and notification services. When an emergency notification is transmitted, the commercial service provider also assumes the responsibility for contacting the appropriate search and rescue authorities on behalf of the customer.

As the technologies available for search and rescue alerting continue to develop and grow, so too has confusion regarding the capability and limitations of related safety devices, including those that also use the term, “beacon”:

### Avalanche beacons / transceivers

Avalanche beacons are critical safety devices but they are not distress alerting devices. By homing on the signal transmitted by an avalanche beacon, those who are buried can hopefully be located and dug out, before they run short of breathable air. These beacons should not be confused with 406 MHz beacons or any of the alternative locating devices currently on the market. Avalanche transceivers cannot be detected by Cospas-Sarsat satellites, overflying aircraft, or even heard by the human ear.

### Family Radio Service (FRS) & General Mobile Radio Service (GMRS) radios and beacons

These popular portable radios are now used in virtually every outdoor activity, and are an easy and effective means of maintaining short-range communications within members of the same group. However, FRS and GMRS frequencies



are not universally monitored by emergency services personnel. They should not be relied upon as an emergency communications device.

### Maritime Survivor Locator Devices (MSLDs)

Maritime Survivor Locator Devices, or MSLDs, are short-range beacons most commonly used by personnel working on ships or offshore oil and gas platforms. They are compact beacons worn on a life jacket or flotation suit, and may be manually or water activated. Transmitting a low-powered radio signal (e.g. 121.5 MHz), MSLDs are intended for short-range homing. Frequently called “man overboard” beacons, they indicate the direction towards a person who has fallen into the water, which is particularly useful during rescue operations in heavy seas or darkness. However, MSLDs are not designed or intended to be a primary distress alerting device, nor are they required to meet the minimum standards for a Cospas-Sarsat PLB or EPIRB.

**WANT TO KNOW MORE?**

VISIT THE NATIONAL SEARCH AND RESCUE SECRETARIAT WEBSITE AT:

[www.nss-snrs.gc.ca](http://www.nss-snrs.gc.ca) or  
[www.adventuresmart.ca](http://www.adventuresmart.ca)

