

## Miximalist versus minimalist technologies for bear safety, Part 2

by Ed Berg

Last week I introduced readers of this column to some of the pros and cons of firearms, pepper spray and Ikaros hand-held marine flares for bear protection. The hand-held flares, to recall, are a 10-inch flare that is activated by pulling a string; the flare burns with an extremely intense red flame for 60 seconds. Pepper spray comes in an aerosol canister with a trigger and a safety clip that must be removed prior to firing.

Pepper spray has been widely marketed over the last several decades and has a proven track record when properly deployed. In forthcoming publication Tom Smith and colleagues analyze 76 incidents of pepper spray use in Alaska in the period 1985-2005, for both brown and black bears. In close-range encounters they found that pepper spray stopped whatever behavior brown bears were displaying in 96% of the cases; the figure was 89% for black bears. Curious brown bears were dissuaded 100% of the time, and curious black bears 83%. These figures make a compelling case for pepper spray. As noted last week, firearms were successful in only 68% of cases examined (175 of 258 incidents).

Hand-held flares are a much newer product, and are not specifically designed for bear deterrence. The Ikaros-brand flares, recommended by Clint Hlebechuk and Simyra Taback of the Hallo Bay Wilderness bear viewing camp, are basically waterproof marine signal flares for lifevests and boat emergency kits. The flares are less bulky than pepper spray and can be carried in a deep pocket. They can also be used for signaling or starting fires in survival situations.

Starting fires, I should say, is indeed one definite drawback of flares; in tinder dry forest it would be quite possible to start a serious fire, if one dropped the burning flare on the ground. The flare can be held bare-handed for its entire 60-second duration of burning, but it could be dropped in a moment of confusion.

Pepper spray also has certain limitations. Small aircraft pilots often don't want pepper spray inside the cabin, because the pilot could be incapacitated if the canister leaked. Float-plane operators however can safely stow pepper spray in the float compartments.

According to Clint Hlebechuk, hand-held flares are becoming increasingly popular with wheeled-plane bush pilots who land on beaches, sandbars or tundra, because most wheeled planes don't have external storage compartments that are effectively sealed off from the cabin. Neither pepper spray nor flares can be taken on most commercial flights without special shipping as hazardous materials.

It also appears that bears are attracted to the oil-based propellant used in pepper spray. People who have sprayed pepper spray around their camp in hopes of repelling bears have been dismayed to find bears gleefully rolling around in the sprayed vegetation, after the active ingredient (capsicum, a red pepper derivative) had evaporated. Tom Smith wrote a cautionary article about this in the *Wildlife Society Bulletin*, 1998, 26:92-94.

Pepper spray canisters do not have a pressure gauge like a fire extinguisher, so they need to be weighed if there is any doubt about them being fully loaded. Tom Smith recommends disposing of canisters that are less than two-thirds of full weight. A single brief pull of the trigger (outside!) will test the pressure.

In Tom Smith's view the best bear protection has both a long-range and short-range defense. For long-range defense Tom favors a flare pistol that fires a screamer projectile 50 feet or more, making noise and emitting lots of sparks and sound. These are available from Northern Security in Anchorage or Margo Supplies in Alberta. In the short-range department Tom strongly favors bear spray, saying, "I can see the utility of hand-held flares but other, better in my opinion, options exist so why bother?"

Regardless of one's choice of technology, there are strong conservation reasons for using non-lethal deterrents for bears. As the human population of Alaska increases, more and more heavily armed sportsmen venture into the outdoors, i.e., into bear habitat, especially along salmon streams. On the Kenai we typically have a dozen or more so-called "defense of life or property" (DLP's) killings of brown bears every year, which

often triggers cancellation of the fall brown bear hunt. Many of these DLP's could probably be avoided if people were equipped with suitable non-lethal deterrents. According to Tom Smith's data, human beings are much more successful in protecting themselves with non-lethal pepper spray than with firearms, and certainly the bears survive much better with non-lethal deterrents.

In conclusion, I would again encourage readers to

explore some of the technologies discussed in these articles, and perhaps utilize several different options according to the demands of the situation. There is more than one way to skin a cat, and the same can be said for bear trouble.

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