

# Bear Safety

## A Conversational Guide for Scouts

"Everything You Ever Wanted to Know About How to Protect Yourself from Bears (and more....)"  
Detailed "How-To" information for all Scout Groups, from solo campers to large Crews, and for virtually all camping environments, from car-camping ghettos to deep wilderness.

**Fact:** There is only one animal on the North American Continent that will actively track and kill human beings for food - the Polar Bear.

**Fact:** There are three other animals in North America who will (rarely) take advantage of a lone sick, injured or stupid human being, and make a meal out of them - the Grizzly Bear, the Mountain Lion, and the Wolf (the latter usually in packs.)

**Fact:** [However,] there are dozens of other animals and reptiles in North America who can and will kill or put a severe hurting on a human being if circumstances warrant - alligators, bobcats, coyotes, deer, (wild) dogs, elk, javelinos, lynx, moose, feral (wild) pigs, raccons, rattlesnakes, wolverines, etc., etc., etc. Of all these, the best known is the common black bear, *ursus americanus*.

In reality, black bears represent a more realistic threat to humans than polar bears, grizzly bears, mountain lions or wolves, because of their rapidly increasing numbers, the extensive overlap of their habitation range with human domains, their increasing familiarity with human beings, high degree of intelligence, excellent memory, legendary strength and fighting ability. On his or her turf, and his or her terms, even a small bear is a potentially deadly opponent.

Yet for all that, the threat level is almost minuscule. As implied in the three preamble "Facts," predatory black bear attacks on humans are extremely rare (less than 25 documented predatory attacks resulting in human deaths, this \*century\*), and even provoked attacks are relatively uncommon. [This from an estimated current population of half million black bears in North America.] For the most part, black bears studiously avoid human confrontation. Why? - well, bears are still hunted by humans (both legally and illegally), and we're therefore well recognized by them as being a lethal threat. Plus we've spent the last 400 years shooting most of the hyper-aggressive bears in the lower 48, so artificially induced Darwinian selection has definitely played a role in our favor. Today, there's really only three ways to get in trouble with a black bear (in order of degree of danger):

- \* Actively threaten a cub (aka: "Death Wish.")
- \* Surprise one on the trail (aka: "Close Encounters of the Worst Kind" - I had such an encounter at Philmont in 1972, but quite fortunately didn't pay the price for it.)
- \* Be careless with respect to food and other "smellables" use, cleanup and storage.

Situations 1 and 2 are easy enough to avoid, merely by paying attention to your surroundings and making noise as you travel in bear country. Bears have excellent hearing, better than reputed (color!) vision, and an extraordinarily acute sense of smell - and if a bear hears, sees, or smells you coming, you probably won't see him/her at all, or will only get a distant or passing view. Noise is your most effective defense. Everyone has heard of the rather common (albeit highly irritating) trick of attaching small bells

or similar items to backpacks in grizzly country; however, this really isn't necessary for Scout groups in black bear country. The average Scout group walking through the woods makes enough noise to be heard a quarter mile away, either from incessant chatter or from suspended gear rattling on their backpacks. However, solo hikers or small groups who are being intentionally quiet to maximize their chances of seeing wildlife, have to be a lot more cautious and alert. My close encounter in '72 arose because I was very carefully and silently stalking a small group of mule deer for a closeup picture, from uphill and downwind (perfect conditions for me.) Coming around a very large boulder that marked an right turn in the trail, I came face-to-face with a medium sized bear \*less than\* 6 feet away who was walking down the trail. If I'd have been 2 seconds later we'd have bumped heads at the intersection. Quite fortunately for me, no cubs were involved, and Mr. Bear did a quick 180 and trotted off back up the hill (a pretty typical response.) Proving how foolish a 16 year old can be, I ran after him for about 20 feet and snap-shot a photo of his retreating butt, which I still have here somewhere around my house. I supposed if he had attacked, my last photo of "full frontal bear" would have made a fine epitaph in the National Inquirer. To this day, I cannot figure out how he didn't smell me, since the wind was in his favor, and I smelled as ripe as only a Scout can after a week at Philmont.

Lucky, lucky, lucky....

Anyway, if you make noise while hiking or backpacking in the woods, and pay attention to your surroundings, you'll almost certainly never run afoul of Situations 1 or 2. Note, however, that extra caution is warranted in "white noise" situations which drown out your "bear alarms" or natural group noise; these include walking along noisy streambeds or in wooded areas during moderate to strong winds or rain. If you're walking through known bear territory under such conditions, it would be prudent to keep up the talking level or otherwise generate more noise.

Situation 3 - "smellables" safety - is by far the most common problem. Bears love human food, and will risk approaching humans in order to obtain it - especially if they have successfully raided in the past. However, taking a few common sense precautions are invariably all that's needed to protect yourself, \*and the bears!\* Make it tough, and they won't bother - but make it easy, and they'll be back for more, forever....

What are smellables? [A Quick Education] - Mention "bear safety," and most people think "food." While correct, this is only the tip of the iceberg. A bear's nose is one of the most sensitive in the entire animal kingdom - allegedly they can differentiate between identical, factory-sealed cans containing food versus sand or other similarly inert materials (if true, that's absolutely amazing!) Unfortunately, virtually \*anything\* with an unusual odor is "food" to a bear. A short list includes: bandages, Brillo Pads, canteens that have ever contained a flavored drink (unless they've been sterilized with a solution of Chlorox since that time), Chapsticks, clothing worn while eating meals or doing KP, deodorants, dryer (anti-static) sheets, feminine hygiene products, film, baby or foot powder, insect repellent, medications, scrubbies, shampoo, soap, sunscreen, toilet wipes, toothpaste, any and all trash, unclean backpacks, unclean tents, and unclean utensils, eating ware or cookware, Wet-Ones, etc., etc., etc.

*Bit of an eye-opener, isn't it?*

A bit scary - however, this also gives us the basis for bear safety: "Take Care of (All) Your 'Smellables!'" The following 15 step "Bear Safety Checkoff List" spells out how to do this, in excruciating detail.

## **The "Bear Safety Checkoff List" - when in bear country, you must ensure:**

- 1) That you never, ever intentionally feed a bear (aka: "Don't be a dumb-ass tourist!")
  - 2) That you always practice proper, low-impact cooking and cleaning procedures, and never leave dirty cookware or eating ware out overnight.
  - 3) That you never eat in or near your tent, nor go to bed wearing the clothes you had on while eating or doing KP.
  - 4) That the only items that go into your tent each night are: You, your sleeping bag and foam pad/air mattress, your pillow, a flashlight, and either your "night clothes" or tomorrow's clean clothes. Nothing else! [A real education for your average Scout, most of whom - especially your youngsters - want to bring everything they own into their tents at night.]
  - 5) That your tent, sleeping bag, foam pad/air mattress, pillow, flashlight and clothes are meticulously clean and free of trash. Note that use of a typical Troop tent in known bear country is a VERY BAD IDEA unless it has been thoroughly hosed out prior to your trip (all those soda spills, empty candy wrappers, and stray M&M's, don't you know....)
  - 6) That every member of your Crew avoids using sunscreen, insect repellent, soap/shampoo, and/or topical medications after about 5pm (some jurisdictions recommend 3pm.) That every member of your Crew avoids using any deodorants, body lotions, hair creams, or similar products (at all.)
- #s 3 - 6 are by far your most important check-offs. Your equipment can be replaced; you can't.
- 7) That you avoid burning waste or leftover food in fireplaces (rarely consumes the food entirely, but does a masterful job of spreading potent food odors downwind.)
  - 8) That if a sump (food cleanup and wastewater disposal area) is not available, that all wastewater be dispersed well away from \*any\* potential tenting sites - both the ones you're intending to use, and any other flat areas which might be used by future campers.
  - 9) That your tents are all set up well away from your cooking, eating, cleaning, food sorting, and bear-bag areas (this is the basis for the "Bearnuda Triangle," which is formally defined below.) Also, that if you're camping on an established campsite, that your tents are all set up well away from the "Bearnuda Triangle" established by previous groups (if you can tell.) Note that only heavy rains will render these areas scent-free again.
  - 10) That you check under any flat rocks laying on the ground near your tent - a rapidly growing problem all across the country is the stashing of trash under rocks, either to prevent it from blowing away in the wind (and subsequently forgotten) or out of sheer laziness. That you educate your own Scouts not to do this incredibly stupid thing.
  - 11) That your backpacks are well away from your tents, and properly wrapped in waterproof pack covers (which help keep residual pack odors down.)
  - 12) That your food, trash and all other "smellables" are properly stored in bear bags, properly stored in bear-proof containers or suspended out of reach, and well away from your campsite. (Much more on bear-bags below. Note well the comments on bear-bag storage of emergency medications such as

inhalers or epi-pens.)

# 12 is your fifth most important checkoff.

13) That you make a lot of noise when approaching bear bags, especially at night or at dusk or first light. Clapping your hands and talking in a normal tone of voice are excellent warning hints for any foraging bears (bears hate surprises!)

14) That you never publicly bitch at a Scout or Leader for failure to get a "personal smellable" into a bear-bag "on-time;" this leads to all Scouts and Leaders hiding late-discovered smellables rather than facing your wrath. Hard to resist when you've been calling for "smellables" for 30 minutes and just killed yourselves hauling 150 pounds into the air - but resist you must. [See also "Micro-Bear-Bags" below.]

15) That you always designate a responsible Scout or Adult to be your bear safety monitor while you're camping in bear country. Always remember, education and vigilance are your best defenses!

This sounds like an awful lot to be careful about - and it is! - but with proper training, all of these precautions become ingrained and second nature to you and your Troop or Crew.

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## The "Bearmuda Triangle"

The "Bearmuda Triangle" represents the area enclosed by the three points most likely to be visited by a raiding bear. At Philmont (which is where I first heard the term), these three areas are: (A) the fire-ring (food preparation and eating area, usually including the Crew tarp); (B) the sump (cleanup and wastewater disposal area); and (C) the bear-bag area. If the Crew tarp (food sorting and organization area) is for some reason set up away from the fire-ring, the "triangle" turns into a "quadrangle" (not a geometrically correct term, but you get the idea); in the latter case, the tarp should never be set up over a flat area where a future crew might choose to tent. As stated in Checkoff Item # 6, no tents should be set up within or adjacent to the outlines of the triangle/quadrangle; similarly, no-one should "meadow crash" (sleep out under the stars) in this area, either. The "Bearmuda Triangle" should always be well established before anyone breaks out a tent.

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## Bear-Bags

Bear bags are large sacks in which you can place all your food and smellables, for either placing in a bear-proof storage locker, or (far more commonly) for suspending from ropes with the bottoms at least 8 feet off the ground and the sides at least 4 feet from the nearest climbable tree-trunk. At Philmont, the "classic" bear-bag was a large burlap sack (now replaced by woven polyethylene sacks), but many other items can also be effectively utilized as bear-bags. These include, for example, canoe stuff sacks, duffel bags, large capacity, internal frame backpacks, large cotton or nylon laundry bags, trash-bags (contractor weight, at least 4 mil), and even large buckets or medium size trash cans.

Loading bear-bags is a matter of common sense; heavy items should be placed on the bottom, and crushable/breakable items on top. Of note, however, the first aid kits and emergency medications

(inhalers, epi-pens, etc.) should always be placed on the very top of *\*two separate bear-bags\** - on top so that they can be easily accessed at need, and in separate bear-bags so that if one slips out and falls, or is otherwise lost to a bear-raid, you still have the backup. If you have more than two bear-bags, it's also a good idea to somehow mark the bags containing the medical supplies; this is easily done by having a bandanna sticking out the necks of the critical bear-bags.

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## **"Bear-Proof" Storage Lockers**

Many campsites in bear country have installed "bear-proof" storage lockers on-site for temporary storage of bear-bags; similar containers are also in place for trash. Most of these are made of heavy duty plate steel, but others are built of railroad ties, rough-cut timber, or treated, heavy-duty commercial lumber, sometimes wrapped in heavy-duty sheet metal. Virtually all of them have a sliding or hinged access door with some form of fail-safe, double-lock system which is beyond the mental capacity of bears (and in my experience, some humans) to figure out. These are extremely effective, and a heck of a lot more convenient than suspending bear-bags, but can get awfully crowded in some campsites. Additionally, in the latter cases, their "human security" also leaves much to be desired, and theft of food and/or gear by fellow campers is always a possibility. (Of course, this is true of any form of bear-bag storage, but a thief has to be pretty brazen to take down a set of suspended bear-bags, whereas rooting around in a locker, hands unseen, is rather easy.)

Note that cars and other vehicles are NOT the equivalent of a bear-proof locker, and are NOT adequate protection against grizzlies or the much larger black bears common in the Western United States, Alaska and Canada - these bears have the physical strength (and knowledge) to pop a car windshield or tear into a door or trunk. Fortunately, such efforts appear to be beyond the physical capabilities of *\*most\** eastern bears. All things considered, however, it is always better to suspend your smellables in bear-bags when bear-proof lockers are not available. Vehicles should always be your last resort. If you have no other option, and must use vehicles for storage in areas that have known and serious bear-raid problems, two tricks which *\*may\** work (no guarantees!) are to leave the storage vehicle idling all night long, or leaving a lit Coleman Lantern on top of the storage vehicle. With respect to the latter option, note that leaving the vehicle's dome light on is ineffective; the deterrent effect with the Coleman Lantern derives from the noise and fumes - not the light.

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## **Suspending Bear-Bags**

Although many campgrounds have installed bear-proof storage lockers, most have not, and there are, of course, few storage lockers in the vast tracts of wilderness across North America. Thus, it is far more common for bear-bags to be suspended in order to keep them from bears, and anyone travelling in bear country should be familiar with standard methods for doing so. Yes, there are a variety of ways to hang bear-bags; the provided "briefs" (below) give descriptions of each, along with a quick primer on how to use them. First, however, a quick lesson on knots....

## **What Knot to Use?**

For virtually any bag-type bear-bag, the best knot to use - by far - is a lark's head, wrapped around the twisted neck of the bag. The lark's head is self-constricting, quick and easy to tie, quick and easy to untie

(very important!), and does not require access to the end of the bear bag rope to tie. Virtually any other constriction knot (like a clove hitch or slip knot) will tighten overnight to the point where untying it is extremely difficult - especially if it rained or if the bags were extremely heavy. Non-bag-type bear-bags ("cargo"-style duffel bags, internal frame backpacks, canoe bags, trashcans, etc.) are more of a pain; however, you can usually double the bear-bag rope over and tie two or three half-hitches to each container's handle. Doubled over, the ropes are usually a little easier to untie. One trick which will make your life a *\*lot\** easier is to place a small, *\*smooth\** stick (one - two inches in diameter) adjacent to the handle, and tie the knot around the both the handle and the stick. The next day, you can slide the stick out from under the knot, giving yourself extra slack for untying the knot; this works even if the knots became wet and/or super-tight overnight. Note that external frame backpacks being used as bear-bags should always have the knots tied around the frame, not the shoulder straps or suspension loop.

## Bear-Bag Suspension Methods

**Bear-Bag "Trees"** - These are sturdy, metal 10 - 14 foot high poles cemented into the ground, having 4 - 6 hanging hooks on top. They are quite common throughout the Adirondacks, but are also found in many other areas all around the country, including the Shenandoah National Park and all along the Appalachian Trail. A second free pole with a small hook on the end allows you to raise and suspend the bear-bags onto the tree-hooks. This free pole is usually hung on the main pole; in some cases, it is permanently chained onto the main pole to prevent its removal.

**Bear-Bag Cables** - In many locations, including Philmont and other quasi-wilderness locales, park authorities have installed permanent bear-bag cables at most designated campsites. These cables are made of stainless steel, and are strung between two sturdy trees, anywhere from 12 to 20 feet off the ground. The better versions have 2 - 6 small chocks clamped onto the cable (one every couple of feet), to prevent multiple bear-bag ropes from sliding into each other (and getting tangled into a horrendous mess) or into the trees (where they can be reached by a climbing bear.) In some areas, authorities will use heavy-duty polypropylene or nylon rope tied between two trees as a seasonal or temporary replacement bear-bag cable. Rarely, these latter cables will have a small pulley and secondary rope system built in for suspending bear-bags.

**Bear-Bag Racks** - This is a new system which I haven't yet seen, but have heard about. I can't find any literature on them, so they must be fairly rare at this point. They're supposedly built from two sturdy metal poles cemented into the ground, with a metal cross bar - kind of like an oversize soccer goal made from pipes, minus the net.

**(Natural) Trees** - The "original" bear-bag system. There are two different ways to suspend bear bags from trees; the first (and by far the most common) is to merely suspend the bags from a sturdy limb (greater than 4 inches in diameter.) In this case, the suspension point must be at least 10 feet high and 4 feet from the tree trunk (any closer and a climbing bear can reach out and rip the bags open.) If the limb is so thick that a bear could climb out on it, then it has to be at least 14 feet high, with the bags suspended 4 feet below the limb. The second method is used in areas where the trees do not have sturdy limbs extending horizontally from the trunk. In this case, the bear bag is suspended midpoint between two trees, again, at least 10 feet high and a minimum of 4 feet from any tree trunk.

## Bear-Bag Ropes

For small amounts of smellables (less than 50 pounds), 100 feet of any synthetic rope of at least 1/4 inch diameter, in good repair, should be adequate. For larger quantities, 100 feet of synthetic rope of 5/16ths

or 3/8ths inch diameter should be used. In general, the rope should have a breaking strain of at least five times the maximum expected load. Note that most ropes are used doubled for bear-bags, which also doubles the breaking strain; however, older ropes have decreased breaking strains. Cotton or other natural fiber ropes are less desirable, due to their propensity to pick up moisture and rot, which dramatically increases their carry weight and degrades their maximum breaking strain.

Bear-bags and bear-bag ropes are most conveniently carried inside small stuff sacks, about 6 x 12 inches, with draw strings. These stuff sacks are also very useful as aids for throwing the ropes over the bear-bag cable, rack or tree limb, as detailed below.

## How to Hang Bear-Bags

**Bear-Bag Poles** - This is the only system where non-bag-type containers with their own handles are the most convenient to use. In these cases, the handle of the container is hooked onto the free pole while on the ground, and the pole is then raised by as many people as necessary (takes more than you'd think!) and the container transferred to one of the large hooks on the suspension pole. If classic sacks are used, then a small loop needs to be fashioned out of about 3 - 4 feet of rope; this is tied around the twisted neck of the sack using a lark's head, and the free end used as the handle for suspending on one of the large hooks. Regardless of what type system is used, it is important to match the weight on the pole from side to side, as excessive weight on one side could potentially tip the pole out of the ground (they're not buried that deep, or with that much concrete), or break the pole at the ground point (where they're often rusted half-through, especially the old ones.) In addition, in my experience, any bear-bag containing more than about 40 pounds is extremely difficult to manage; in these cases, more bags containing lesser amounts is the way to go.

**Bear-Bag Cables** - *Step One* is doubling the rope, easy enough.

*Step Two* is getting the doubled rope over the cable - quite easy for the lower cables, but often difficult for the higher ones. The classic Philmont system is to wrap the throwing end of the doubled cable into a tight "softball," which is then tossed over the cable. Again, this works well for the lower cables, but in my experience rapidly results in frustration with the higher ones. As alluded to above, a much better solution is to tie the bear-bag stuff sack to the end of the rope, fill the bag with something moderately heavy (a pair of sneakers, or some items of clothing, etc.), and toss that over the cable. Much easier and much more accurate. Whatever you do, do NOT allow the Scouts to attempt to tie rocks or heavy pieces of wood to the end of the rope for throwing purposes - this will rapidly result in free flying rocks and pieces of wood high in the air above a group of Scouts, a sure-fire recipe for a potentially serious injury, especially at night. When tossing over a cable with chocks, always try to pick a section of cable which is free of other bear-bags; if you miss, it's usually easy enough to flip-curl the rope over a chock to another section.

*Step Three* - Once you have the cable properly positioned over the cable, remove the throw bag (put it inside one of the bear-bags for safekeeping, or save it for a mini-bear-bag (see below)), and start tying in the bear-bags. Again, the neck of each bear-bag should be tightly twisted, and a lark's head knot placed down over the neck as far down as possible, then tightened. If there's adequate "neck" to allow it, double it back on itself and tie the lark's head around both. Note that the draw strings of laundry bags or large stuff-sacks should never be used to tie into the bear-bag rope (a typical novice error.)

*Step Four* is hauling the bags up into the air, which generally takes one person per filled bag. Note that a common "helping" trick is for one or two people to lift the bags into the air for the initial lift - which is fine, but these helpers should then immediately get out of the way once the bags are above their heads

(another typical novice error.) If you've ever seen a 50 pound bear-bag take a 15 foot dive and smash on the ground, you'd agree that standing underneath them is not such a hot idea. In order to prevent twisting in the wind, the bear-bags should be raised right up to the cable.

*Step Five* - The doubled rope is separated into its two strands, and each is tied into *\*separate\** trees, preferably at eye level or above. The ropes are NOT wrapped endlessly around the trees; rather, they are wrapped once or twice, doubled over, and tied back into the suspension rope using two or three half-hitches. The separation of the ropes is a safety measure; bears have been known to chew through bear-bag ropes, dropping the entire Bear-bag assembly (the very first bear I ever saw at Philmont attempted to do this to our bear-bags, before we chased him off.) Tying the ropes high also helps prevent the chew-through routine.

*Step Six* is to wrap up the remaining tails of both ropes; if left on the ground, they'll get wet and dirty, and possibly tangled with other Crews' bear-bag ropes. The ropes can either be coiled or daisy-chained, whichever you prefer.

**Bear-Bag Racks** - The rack system can be used virtually identically to the cable system above. In addition, a new method can be used in areas where the bears have well learned the chew-through routine, as follows: The bear-bag-rope is tossed over as usual. The bags are divided into two piles of approximately equal weight. The first pile is tied into the rope as usual, and raised to the top of the rack. The tensioned rope is then tied into the second set of bags still lying on the ground (tough to do!), and the excess rope coiled and placed *\*on top of\** one of the bear bags. The second set of bags is then raised by hand and then with large branches until it matches the height of the descending first set of bags. When finished, the bottom of both sets of bags should be at least 8 feet off the ground. When done correctly, this gives Mr. Bear no ropes to chew on. However, it is vitally important to make sure the weights of the two sets of bags are equivalent, or else one set will slowly rock itself down to the ground overnight, if there's any wind. In addition, this method can result in a horrendous tangle if the bags can wrap around themselves in strong winds, so it's important to minimize the amount of rope between bags within each set, lest your bear-bags turn into people-proof bags. Taking the bags down requires a hooked branch or pole to pull the excess rope (coiled on top of one of the bear-bags, remember?) down. If you have any questions as to your ability to manage this, you should leave the excess rope hanging down and draped over a high nearby branch; some bears may have learned to bite through a tensioned rope, but one suspects that none of them have yet figured out how to pull a slack rope taut to pull down a set of bear-bags. For lack of any other specific term, I will refer to the above method as the "Counterbalance Technique."

**Trees** - Where a good sturdy, horizontal limb is available, either the standard bear-bag cable method or the alternate Counterbalance Technique can be utilized; however, the latter technique is more difficult with trees, because the ropes will not slide over tree bark anywhere near as easily as over a metal cable or pipe. Also remember, if the limb is greater than about 4 inches in diameter, the bags must be suspended at least 4 feet below the limb, or else a bear can climb out and tear the bags apart from above.

If no sturdy, horizontal limbs are available, proceed as follows: Find two trees about 25 feet apart which fork about 12 feet up (any major branch also works). Tie your bear-bag stuff sack into your doubled cable and toss it through the first notch. Detach the bag and tie the rope off on a branch as high as you can reach at the base of the same tree - you can also use a nearby tree if no convenient branches are available; however, don't wander too far, or you'll use too much rope. Bring the free end of the doubled rope *\*straight down to the base of the tree,\** and tie in your bear bags as usual, at the base of the tree, with about equal weights for each separate rope. Re-tie your stuff sack to the other end of the doubled rope, and toss it over the branch or through the fork of the second tree. Using most of your Crew (you'll need them!), haul the bags up as high as you can manage. Use of a good sized forked branch to prop up

the \*rope\* right next to the bear-bags but opposite the side you're hauling from, will help a lot (do NOT push against the bags, you might tear them.) When you're done, the bags should be equidistant between the two trees, with the bottoms at least 8 feet off the ground. Higher is better, but is usually impossible to achieve. Tie off the ropes separately, coil or daisy-chain the ropes, and you're done. This is by far the most difficult method for suspending bear bags, but it's the only method that works in some areas.

**"Mini-Bear-Bags"** - No, not bags to protect against the infamous mini-bears; rather, this is a small, secondary bear-bag to suspend forgotten items discovered after you've hauled the primary set(s) of bear-bags up. Not only a mechanism to prevent having to take down and re-raise a heavy set of bear-bags, this is also a means for maintaining your patience with those Scouts (and Leaders!) who have seemingly ignored a dozen calls for smellables. Most commonly, these final items will include things like toothpaste or bedtime medications, or Chapsticks, snacks or trash discovered in pockets when changing into night clothes. Remember, harshly and publicly criticizing such Scouts and Leaders will only lead to \*everyone\* hiding those last few items rather than bringing them to your attention. Unfortunately, they can hide them from you, but not from Mr. Bear. Mini-bear-bags can be small daypacks, bear-bag and rope stuff sacks, cook-kit stuff sacks, small trash bags, etc. They can be suspended by any of the standard methods, most commonly off a convenient tree limb near the bear-bag site, using parachute cord or several tied-together lengths of clothes-lines. A clever alternative (recommended by Cooper Wright) is to clip a small carabiner into your primary bear bags (that is, around the rope between two adjacent bear-bags), and run about 30 feet of parachute cord through it before raising the bear-bags. Thus, you have an instant mini-bear-bag setup for all late items and/or one set of medications - a heck of a lot easier than having to drop your entire set of bear-bags.

**Bear-Bag Tangles** - Yes, despite every possible effort to untangle lines, every once in a while a set of bear-bags become hopelessly enmeshed (many a bear-bag cable has living proof of this, forlornly hanging down from on high.) If this happens to you, and there's no hope of working it out, the only viable solution is to find a lengthy branch, duct tape or lash an open knife to the end, and start sawing. You will eventually get your bags down, although they may not be in such hot shape after doing the high dive act. Better than starving to death, though.... Make sure no-one is standing under the bags when you start cutting (and no-one should ever try to catch a falling set of bear-bags - that's begging for a serious injury.)

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As previously noted, the chances of being attacked or even challenged by an eastern black bear are virtually nonexistent. In the Western United States, Alaska and Canada, the level of risk rises all the way up to "remote." The following section should be read in the bright light of that reality. Black bears should be admired, not feared!

## What to do if Challenged by a Bear

There is an old joke about what bears can do in the woods ("Anything they damn well please!") The vast majority of black bears are nonaggressive and will not challenge human beings (even when cubs are involved), but a few will. However, as previously noted, even these latter bears are (usually) not interested in attacking or eating anyone, but are merely (temporarily) defending turf or seeing if they can back you off a cache of food.

Hiking or backpacking groups are virtually never confronted by black bears. However, solos may be, especially if they're walking quietly enough to surprise a bear. If confronted by a bear while alone on the trail (confrontation meaning they do not turn tail and walk away, but rather hold their ground and stare

you down), do not run away! - this will only excite their "chase reflex" - rather, \*break\* eye contact, talk at a moderate volume, and slowly back away, always facing the bear, and retreat out of sight. If you cannot find another trail around the confrontation site (bushwhacking is a REALLY BAD IDEA), wait at least 15 minutes before trying the original trail again, and make lots of noise the second time through. If any cubs were involved, wait at least 30 minutes before trying again. A half-hour is a damn long time to wait (try it sometime!), but it's nothing compared to the rest of your life - WAIT! One extra precaution against a sudden attack when re-trying the original trail is to walk with a large tuft of dry grass in one hand and a Bic lighter in the other, ready to go. 99.999% unnecessary, but an ounce of prevention and all that....

If a bear invades your campsite, looking for food, you have a number of options. The best is to form a large, amorphous group, with everyone waving arms and clothing and banging pots and pans while slowly advancing towards the bear. The slow approach of such a large, noisy creature is highly intimidating to bears. I have done this at least a dozen times in my life, and in every case the bear quickly retreated. Some writeups also suggest throwing items at or near invading bears, but I would personally recommend reserving this option as a last resort for attacking bears; as 1997's Boy Scouts versus bears incident in Yosemite illustrated, it is possible to kill a bear with a rock, and (even when justified) the political fallout from such a death is both extensive and intensive. Another option - one I learned from the backcountry staff at Philmont - is to immediately chase an invading bear, waving clothing and yelling or barking like a dog. I have done this twice myself (three times if you want to count my idiotic pursuit during my 1972 close encounter), and have also seen it done by staff members at Philmont at least another half-dozen times, all with great success. However, DO NOT close to within 15 feet during your pursuit, and always give the bear an escape route. If a bear has an open line of retreat available, he'll always take it. A note of warning however - if the bear you're chasing starts bawling, break off the pursuit immediately - you're chasing a cub, and mama will soon be coming, and she will be very, very unhappy when she arrives. Finally, if all else fails to back a bear off, try using fire - the smoke from burning off a tuft of dry grass is usually enough to intimidate the most aggressive bears, even a mother with cubs.

## What to do if Attacked by a Bear in the Open

As noted above, unprovoked attacks by black bears are extraordinarily unusual - so much so that I considered not including this section at all. Nonetheless, it's probably a worthwhile read just for the sake of comprehensiveness for those Troops who do deep wilderness treks in the Western United States, Canada or Alaska. Suffice it to say, however, that I have encountered over 50 black bears in my lifetime - some of them at \*very\* close range - and have not once had a problem with any of them. That's very much worth keeping in mind...

...but what if, right? Well, keeping your wits about you when confronted with 200 - 800 pounds of imminent, violent, and messy death is awfully difficult to do - but it's vital to surviving a bear attack. Stay cool! Remember, the vast majority of black bear "attacks" are bluffs - and will come to a screeching halt about 15 feet short of hand-to-paw combat - unless you do something stupid which excites a real attack. Let's review the available options:

**Option I** - "*Hold Your Ground*" - is the toughest, but by all accounts the most successful technique. As noted above, the vast majority of "attacks" are bluffs. Hold your ground, talk in a normal tone of voice, and wave your arms or pieces of clothing. Mr. Bear will generally stop well short of an attack (usually about 15 feet away), and then quickly back off.

**Option II** - "*Running Away*" - is the most obvious, but also the most dangerous and least useful

alternative. If you take off running from a charging bear, you will excite his "chase reflex," and likely stimulate a real attack. A bear can reach speeds of up to 35 miles per hour, and can easily run down a human being, regardless of the terrain, especially if that human is burdened with a heavy pack. Allegedly, the only way to outrun a chasing bear is sideways across a steep slope; their legs are set so wide apart that they have a difficult time keeping their balance while traversing such a slope. Of course, the chances of being attacked on such a slope would appear to be rather remote. Running to an immediately accessible place of safety may be worthwhile, providing you have the time - a vehicle (if it's locked, and you're out of time, get underneath it), a dwelling, an *\*extremely\** dense thicket, a very tight cave entrance or very low hanging, deep-set rock ledge. Reality Check - How likely are any of these scenarios? In most wilderness areas, climbing trees would appear to be your best option, but this can be a potentially fatal error - black bears can climb better and faster than any human, and if they really want you, climbing a tree won't help. However, Daniel Boone claimed to have jumped off a cliff into a tree to escape a pursuing bear. Others have jumped into lakes or rivers; bears can swim just fine, but reports of black bears attacking humans while swimming in deep or fast flowing water are rare. (As a sheer guess, this is likely because they can't effectively use their primary weapons on you - their front legs (arms.)) One well-known trick which might help if you choose to run is to drop a hat, a bandanna, or some other piece of equipment (**BUT NOT YOUR PACK!**); a bear may stop to investigate what you dropped, allowing you to make good your escape.

**Option III - "Drop Like a Rock"** - has been successful for many victims of actual bear attacks. However, it's critical to **NOT DROP** until a charging bear is literally on top of you - if you drop too soon, you may excite an attack just as he was about to give it up. If you drop, you should assume a fetal position, with your arms folded around your head, hands interlocked behind your neck, and knees drawn up to your chest. In many cases, the bear will do nothing more than sniff you, bat you around a little bit, and/or bite you a few times before leaving. In other cases, however, bears have thoroughly mauled individuals who have tried this, severely injuring or killing them. Unfortunately, there doesn't seem to be any rhyme or reason to what triggers an attack in these latter cases. However, all the literature on bear attacks states that if a bear continues to attack you for more than a minute after you've dropped, it's time to fight back with everything you've got left, concentrating on punches or kicks to the eyes and nose regions. [The literature, however, did not specify how you're supposed to time the length of the ongoing attack.] All I can say is, Good Luck!

**Option IV - "Fight It Out"** - has also been successful for many would-be victims of bear attacks. (Of course, the losers are rarely still around to tell their tales!) If you're still upright, you want to do whatever you can to avoid closing to hand-to-paw combat - because you will rarely win such a fight. Generally, throwing items is the most common method, followed by fending off with a large walking stick or stiff branch (again, directed at the nose and eyes.) Combatants have thrown their backpacks, rocks, pieces of wood, camping gear, and anything else at hand. Screaming, barking like a dog, and/or waving large pieces of clothing with your free hand (again, to make yourself appear larger and more intimidating) have been effective. Others have started grass fires with lighters or matches, or grabbed flaming brands from campfires - this is the most effective method of all, as fire will generally back off even an enraged bear. If you have one, use of one of these new bear-repellents (mace/red pepper-spray) may also be effective if sprayed into the eyes or nose; however, note that the jury is still very much out on these sprays. Of importance, the residual odor left after using a bear-repellent spray may actually attract other bears to the locale - so you have to leave the area and also treat the just-used can of repellent (and the clothes you were wearing) as potent smellables.

## **What to do if Attacked by a Bear While in a Tent at Night**

If you've been taking care of business, this should never happen; in fact, I cannot find any documented

incidents of unprovoked attacks (by black bears) on tenting humans who had taken proper care of their smellables. (The primary purpose of this guide is to teach you the proper precautions necessary to preclude this very situation!) However, should this ever occur, the standard procedure is to retreat all the way inside your sleeping bag, scream or bark like a dog, and wait for help from your fellow campers. No-one seems to have any suggestions if you don't have any fellow campers to come to your rescue, so this may be a situation for a bear-repellent spray (assuming you had the foresight to bring one along, and can get to it quickly.) Note that it is a very bad idea to turn on a flashlight; a sudden light seems to enrage bears, and also gives them a specific target to attack.

Of course, the best way to survive a bear attack of any sort is to never get in one in the first place. With black bears, that shouldn't be a problem....

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## **"A Fed Bear is a Dead Bear"**

Although most people consider the exclusive focus of "Bear Safety" to be the protection of humans, the reality is that it is also for the protection of the bears. As previously stated, bears are intelligent, crafty and persistent animals - and once they get into a store of human food, they will constantly raid in efforts to get more, usually with at least sporadic success. In some cases, the act itself is fatal - I have heard dozens of stories of bears eating massive amounts of dehydrated backpacking food, then rupturing their stomachs - literally exploding - after going to get a big drink to wash it all down. [Some people actually consider this amusing, which makes one wonder which are the real animals.] Other bears die from internal bleeding resulting from devouring trash containing broken glass or sharp-edged lids from cans; this is one of the reasons why bottles and cans are prohibited in many wilderness areas. Large pieces of plastic wrapping (trashbags, ziplocks, food packaging, etc.) or food-stained clothing can cause choking or intestinal blockages. None of these are particularly pleasant ways to die.

Even if a bear is able to avoid these pitfalls, he or she is in trouble. Bears who raid quickly lose their fear of humans, and confrontations with and attacks on humans (and pets) become more likely. Bears who are highly successful raiders also degrade somewhat their ability to forage for natural food, and can therefore become desperate when the supply of human food runs out (this is a particular problem with tourist-dependent bears and trash-dump bears.) Note that one of the next items allegedly searched out by hungry, human-dependent bears who cannot find human food - is human underwear, because the smell is close enough. These are the reasons why a raiding bear is considered to be such a hazard.

In the United States, bears who attack humans are almost invariably tracked down and killed; in Canada, the authorities *may* grant a bear a second chance if an attack was the result of a foolish error by the human (Scenarios 1 or 2 only.) In order to prevent the inevitable attack on a human being, bears who constantly hang out near campsites and get into repeated confrontations with humans are either killed, or trapped, tagged and transported to a more wild area. However, while the latter option is certainly more humane, it is not particularly successful, as many transported bears will quickly return to their "home turf;" in fact, there are documented cases of bears traveling over 500 miles to return "home." Most of these bears resume raiding, and are then quickly killed. Furthermore, many of those who do not return to their original haunts don't stay purely wild, but rather just migrate to a closer source of human food, and are eventually killed for raiding in their new environments. [Unfortunately, bears do not understand the concept of "Last Chance."] A sad and entirely preventable end for a once-wild animal - and all the more tragic because its root cause was often nothing more than simple (and preventable) human carelessness.

Therefore, always remember: "A Fed Bear is a Dead Bear" (or, to paraphrase a much better known

expression: "Only You Can Prevent Fed Bears.")

- Dr. Bob, SM-111

- 1999 Printing



# Bear Safety

## A Conversational Guide for Scouts

"Everything You Ever Wanted to Know About How to Protect Yourself from Bears (and more....)"  
Detailed "How-To" information for all Scout Groups, from solo campers to large Crews, and for virtually all camping environments, from car-camping ghettos to deep wilderness.

**Fact:** There is only one animal on the North American Continent that will actively track and kill human beings for food - the Polar Bear.

**Fact:** There are three other animals in North America who will (rarely) take advantage of a lone sick, injured or stupid human being, and make a meal out of them - the Grizzly Bear, the Mountain Lion, and the Wolf (the latter usually in packs.)

**Fact:** [However,] there are dozens of other animals and reptiles in North America who can and will kill or put a severe hurting on a human being if circumstances warrant - alligators, bobcats, coyotes, deer, (wild) dogs, elk, javelinos, lynx, moose, feral (wild) pigs, raccons, rattlesnakes, wolverines, etc., etc., etc. Of all these, the best known is the common black bear, *ursus americanus*.

In reality, black bears represent a more realistic threat to humans than polar bears, grizzly bears, mountain lions or wolves, because of their rapidly increasing numbers, the extensive overlap of their habitation range with human domains, their increasing familiarity with human beings, high degree of intelligence, excellent memory, legendary strength and fighting ability. On his or her turf, and his or her terms, even a small bear is a potentially deadly opponent.

Yet for all that, the threat level is almost minuscule. As implied in the three preamble "Facts," predatory black bear attacks on humans are extremely rare (less than 25 documented predatory attacks resulting in human deaths, this \*century\*), and even provoked attacks are relatively uncommon. [This from an estimated current population of half million black bears in North America.] For the most part, black bears studiously avoid human confrontation. Why? - well, bears are still hunted by humans (both legally and illegally), and we're therefore well recognized by them as being a lethal threat. Plus we've spent the last 400 years shooting most of the hyper-aggressive bears in the lower 48, so artificially induced Darwinian selection has definitely played a role in our favor. Today, there's really only three ways to get in trouble with a black bear (in order of degree of danger):

- \* Actively threaten a cub (aka: "Death Wish.")
- \* Surprise one on the trail (aka: "Close Encounters of the Worst Kind" - I had such an encounter at Philmont in 1972, but quite fortunately didn't pay the price for it.)
- \* Be careless with respect to food and other "smellables" use, cleanup and storage.

Situations 1 and 2 are easy enough to avoid, merely by paying attention to your surroundings and making noise as you travel in bear country. Bears have excellent hearing, better than reputed (color!) vision, and an extraordinarily acute sense of smell - and if a bear hears, sees, or smells you coming, you probably won't see him/her at all, or will only get a distant or passing view. Noise is your most effective defense. Everyone has heard of the rather common (albeit highly irritating) trick of attaching small bells

or similar items to backpacks in grizzly country; however, this really isn't necessary for Scout groups in black bear country. The average Scout group walking through the woods makes enough noise to be heard a quarter mile away, either from incessant chatter or from suspended gear rattling on their backpacks. However, solo hikers or small groups who are being intentionally quiet to maximize their chances of seeing wildlife, have to be a lot more cautious and alert. My close encounter in '72 arose because I was very carefully and silently stalking a small group of mule deer for a closeup picture, from uphill and downwind (perfect conditions for me.) Coming around a very large boulder that marked an right turn in the trail, I came face-to-face with a medium sized bear \*less than\* 6 feet away who was walking down the trail. If I'd have been 2 seconds later we'd have bumped heads at the intersection. Quite fortunately for me, no cubs were involved, and Mr. Bear did a quick 180 and trotted off back up the hill (a pretty typical response.) Proving how foolish a 16 year old can be, I ran after him for about 20 feet and snap-shot a photo of his retreating butt, which I still have here somewhere around my house. I supposed if he had attacked, my last photo of "full frontal bear" would have made a fine epitaph in the National Inquirer. To this day, I cannot figure out how he didn't smell me, since the wind was in his favor, and I smelled as ripe as only a Scout can after a week at Philmont.

Lucky, lucky, lucky....

Anyway, if you make noise while hiking or backpacking in the woods, and pay attention to your surroundings, you'll almost certainly never run afoul of Situations 1 or 2. Note, however, that extra caution is warranted in "white noise" situations which drown out your "bear alarms" or natural group noise; these include walking along noisy streambeds or in wooded areas during moderate to strong winds or rain. If you're walking through known bear territory under such conditions, it would be prudent to keep up the talking level or otherwise generate more noise.

Situation 3 - "smellables" safety - is by far the most common problem. Bears love human food, and will risk approaching humans in order to obtain it - especially if they have successfully raided in the past. However, taking a few common sense precautions are invariably all that's needed to protect yourself, \*and the bears!\* Make it tough, and they won't bother - but make it easy, and they'll be back for more, forever....

What are smellables? [A Quick Education] - Mention "bear safety," and most people think "food." While correct, this is only the tip of the iceberg. A bear's nose is one of the most sensitive in the entire animal kingdom - allegedly they can differentiate between identical, factory-sealed cans containing food versus sand or other similarly inert materials (if true, that's absolutely amazing!) Unfortunately, virtually \*anything\* with an unusual odor is "food" to a bear. A short list includes: bandages, Brillo Pads, canteens that have ever contained a flavored drink (unless they've been sterilized with a solution of Chlorox since that time), Chapsticks, clothing worn while eating meals or doing KP, deodorants, dryer (anti-static) sheets, feminine hygiene products, film, baby or foot powder, insect repellent, medications, scrubbies, shampoo, soap, sunscreen, toilet wipes, toothpaste, any and all trash, unclean backpacks, unclean tents, and unclean utensils, eating ware or cookware, Wet-Ones, etc., etc., etc.

*Bit of an eye-opener, isn't it?*

A bit scary - however, this also gives us the basis for bear safety: "Take Care of (All) Your 'Smellables!'" The following 15 step "Bear Safety Checkoff List" spells out how to do this, in excruciating detail.

## **The "Bear Safety Checkoff List" - when in bear country, you must ensure:**

- 1) That you never, ever intentionally feed a bear (aka: "Don't be a dumb-ass tourist!")
  - 2) That you always practice proper, low-impact cooking and cleaning procedures, and never leave dirty cookware or eating ware out overnight.
  - 3) That you never eat in or near your tent, nor go to bed wearing the clothes you had on while eating or doing KP.
  - 4) That the only items that go into your tent each night are: You, your sleeping bag and foam pad/air mattress, your pillow, a flashlight, and either your "night clothes" or tomorrow's clean clothes. Nothing else! [A real education for your average Scout, most of whom - especially your youngsters - want to bring everything they own into their tents at night.]
  - 5) That your tent, sleeping bag, foam pad/air mattress, pillow, flashlight and clothes are meticulously clean and free of trash. Note that use of a typical Troop tent in known bear country is a VERY BAD IDEA unless it has been thoroughly hosed out prior to your trip (all those soda spills, empty candy wrappers, and stray M&M's, don't you know....)
  - 6) That every member of your Crew avoids using sunscreen, insect repellent, soap/shampoo, and/or topical medications after about 5pm (some jurisdictions recommend 3pm.) That every member of your Crew avoids using any deodorants, body lotions, hair creams, or similar products (at all.)
- #s 3 - 6 are by far your most important check-offs. Your equipment can be replaced; you can't.
- 7) That you avoid burning waste or leftover food in fireplaces (rarely consumes the food entirely, but does a masterful job of spreading potent food odors downwind.)
  - 8) That if a sump (food cleanup and wastewater disposal area) is not available, that all wastewater be dispersed well away from \*any\* potential tenting sites - both the ones you're intending to use, and any other flat areas which might be used by future campers.
  - 9) That your tents are all set up well away from your cooking, eating, cleaning, food sorting, and bear-bag areas (this is the basis for the "Bearnuda Triangle," which is formally defined below.) Also, that if you're camping on an established campsite, that your tents are all set up well away from the "Bearnuda Triangle" established by previous groups (if you can tell.) Note that only heavy rains will render these areas scent-free again.
  - 10) That you check under any flat rocks laying on the ground near your tent - a rapidly growing problem all across the country is the stashing of trash under rocks, either to prevent it from blowing away in the wind (and subsequently forgotten) or out of sheer laziness. That you educate your own Scouts not to do this incredibly stupid thing.
  - 11) That your backpacks are well away from your tents, and properly wrapped in waterproof pack covers (which help keep residual pack odors down.)
  - 12) That your food, trash and all other "smellables" are properly stored in bear bags, properly stored in bear-proof containers or suspended out of reach, and well away from your campsite. (Much more on bear-bags below. Note well the comments on bear-bag storage of emergency medications such as

inhalers or epi-pens.)

# 12 is your fifth most important checkoff.

13) That you make a lot of noise when approaching bear bags, especially at night or at dusk or first light. Clapping your hands and talking in a normal tone of voice are excellent warning hints for any foraging bears (bears hate surprises!)

14) That you never publicly bitch at a Scout or Leader for failure to get a "personal smellable" into a bear-bag "on-time;" this leads to all Scouts and Leaders hiding late-discovered smellables rather than facing your wrath. Hard to resist when you've been calling for "smellables" for 30 minutes and just killed yourselves hauling 150 pounds into the air - but resist you must. [See also "Micro-Bear-Bags" below.]

15) That you always designate a responsible Scout or Adult to be your bear safety monitor while you're camping in bear country. Always remember, education and vigilance are your best defenses!

This sounds like an awful lot to be careful about - and it is! - but with proper training, all of these precautions become ingrained and second nature to you and your Troop or Crew.

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## The "Bearmuda Triangle"

The "Bearmuda Triangle" represents the area enclosed by the three points most likely to be visited by a raiding bear. At Philmont (which is where I first heard the term), these three areas are: (A) the fire-ring (food preparation and eating area, usually including the Crew tarp); (B) the sump (cleanup and wastewater disposal area); and (C) the bear-bag area. If the Crew tarp (food sorting and organization area) is for some reason set up away from the fire-ring, the "triangle" turns into a "quadrangle" (not a geometrically correct term, but you get the idea); in the latter case, the tarp should never be set up over a flat area where a future crew might choose to tent. As stated in Checkoff Item # 6, no tents should be set up within or adjacent to the outlines of the triangle/quadrangle; similarly, no-one should "meadow crash" (sleep out under the stars) in this area, either. The "Bearmuda Triangle" should always be well established before anyone breaks out a tent.

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## Bear-Bags

Bear bags are large sacks in which you can place all your food and smellables, for either placing in a bear-proof storage locker, or (far more commonly) for suspending from ropes with the bottoms at least 8 feet off the ground and the sides at least 4 feet from the nearest climbable tree-trunk. At Philmont, the "classic" bear-bag was a large burlap sack (now replaced by woven polyethylene sacks), but many other items can also be effectively utilized as bear-bags. These include, for example, canoe stuff sacks, duffel bags, large capacity, internal frame backpacks, large cotton or nylon laundry bags, trash-bags (contractor weight, at least 4 mil), and even large buckets or medium size trash cans.

Loading bear-bags is a matter of common sense; heavy items should be placed on the bottom, and crushable/breakable items on top. Of note, however, the first aid kits and emergency medications

(inhalers, epi-pens, etc.) should always be placed on the very top of *\*two separate bear-bags\** - on top so that they can be easily accessed at need, and in separate bear-bags so that if one slips out and falls, or is otherwise lost to a bear-raid, you still have the backup. If you have more than two bear-bags, it's also a good idea to somehow mark the bags containing the medical supplies; this is easily done by having a bandanna sticking out the necks of the critical bear-bags.

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## **"Bear-Proof" Storage Lockers**

Many campsites in bear country have installed "bear-proof" storage lockers on-site for temporary storage of bear-bags; similar containers are also in place for trash. Most of these are made of heavy duty plate steel, but others are built of railroad ties, rough-cut timber, or treated, heavy-duty commercial lumber, sometimes wrapped in heavy-duty sheet metal. Virtually all of them have a sliding or hinged access door with some form of fail-safe, double-lock system which is beyond the mental capacity of bears (and in my experience, some humans) to figure out. These are extremely effective, and a heck of a lot more convenient than suspending bear-bags, but can get awfully crowded in some campsites. Additionally, in the latter cases, their "human security" also leaves much to be desired, and theft of food and/or gear by fellow campers is always a possibility. (Of course, this is true of any form of bear-bag storage, but a thief has to be pretty brazen to take down a set of suspended bear-bags, whereas rooting around in a locker, hands unseen, is rather easy.)

Note that cars and other vehicles are NOT the equivalent of a bear-proof locker, and are NOT adequate protection against grizzlies or the much larger black bears common in the Western United States, Alaska and Canada - these bears have the physical strength (and knowledge) to pop a car windshield or tear into a door or trunk. Fortunately, such efforts appear to be beyond the physical capabilities of *\*most\** eastern bears. All things considered, however, it is always better to suspend your smellables in bear-bags when bear-proof lockers are not available. Vehicles should always be your last resort. If you have no other option, and must use vehicles for storage in areas that have known and serious bear-raid problems, two tricks which *\*may\** work (no guarantees!) are to leave the storage vehicle idling all night long, or leaving a lit Coleman Lantern on top of the storage vehicle. With respect to the latter option, note that leaving the vehicle's dome light on is ineffective; the deterrent effect with the Coleman Lantern derives from the noise and fumes - not the light.

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## **Suspending Bear-Bags**

Although many campgrounds have installed bear-proof storage lockers, most have not, and there are, of course, few storage lockers in the vast tracts of wilderness across North America. Thus, it is far more common for bear-bags to be suspended in order to keep them from bears, and anyone travelling in bear country should be familiar with standard methods for doing so. Yes, there are a variety of ways to hang bear-bags; the provided "briefs" (below) give descriptions of each, along with a quick primer on how to use them. First, however, a quick lesson on knots....

## **What Knot to Use?**

For virtually any bag-type bear-bag, the best knot to use - by far - is a lark's head, wrapped around the twisted neck of the bag. The lark's head is self-constricting, quick and easy to tie, quick and easy to untie

(very important!), and does not require access to the end of the bear bag rope to tie. Virtually any other constriction knot (like a clove hitch or slip knot) will tighten overnight to the point where untying it is extremely difficult - especially if it rained or if the bags were extremely heavy. Non-bag-type bear-bags ("cargo"-style duffel bags, internal frame backpacks, canoe bags, trashcans, etc.) are more of a pain; however, you can usually double the bear-bag rope over and tie two or three half-hitches to each container's handle. Doubled over, the ropes are usually a little easier to untie. One trick which will make your life a *\*lot\** easier is to place a small, *\*smooth\** stick (one - two inches in diameter) adjacent to the handle, and tie the knot around the both the handle and the stick. The next day, you can slide the stick out from under the knot, giving yourself extra slack for untying the knot; this works even if the knots became wet and/or super-tight overnight. Note that external frame backpacks being used as bear-bags should always have the knots tied around the frame, not the shoulder straps or suspension loop.

## Bear-Bag Suspension Methods

**Bear-Bag "Trees"** - These are sturdy, metal 10 - 14 foot high poles cemented into the ground, having 4 - 6 hanging hooks on top. They are quite common throughout the Adirondacks, but are also found in many other areas all around the country, including the Shenandoah National Park and all along the Appalachian Trail. A second free pole with a small hook on the end allows you to raise and suspend the bear-bags onto the tree-hooks. This free pole is usually hung on the main pole; in some cases, it is permanently chained onto the main pole to prevent its removal.

**Bear-Bag Cables** - In many locations, including Philmont and other quasi-wilderness locales, park authorities have installed permanent bear-bag cables at most designated campsites. These cables are made of stainless steel, and are strung between two sturdy trees, anywhere from 12 to 20 feet off the ground. The better versions have 2 - 6 small chocks clamped onto the cable (one every couple of feet), to prevent multiple bear-bag ropes from sliding into each other (and getting tangled into a horrendous mess) or into the trees (where they can be reached by a climbing bear.) In some areas, authorities will use heavy-duty polypropylene or nylon rope tied between two trees as a seasonal or temporary replacement bear-bag cable. Rarely, these latter cables will have a small pulley and secondary rope system built in for suspending bear-bags.

**Bear-Bag Racks** - This is a new system which I haven't yet seen, but have heard about. I can't find any literature on them, so they must be fairly rare at this point. They're supposedly built from two sturdy metal poles cemented into the ground, with a metal cross bar - kind of like an oversize soccer goal made from pipes, minus the net.

**(Natural) Trees** - The "original" bear-bag system. There are two different ways to suspend bear bags from trees; the first (and by far the most common) is to merely suspend the bags from a sturdy limb (greater than 4 inches in diameter.) In this case, the suspension point must be at least 10 feet high and 4 feet from the tree trunk (any closer and a climbing bear can reach out and rip the bags open.) If the limb is so thick that a bear could climb out on it, then it has to be at least 14 feet high, with the bags suspended 4 feet below the limb. The second method is used in areas where the trees do not have sturdy limbs extending horizontally from the trunk. In this case, the bear bag is suspended midpoint between two trees, again, at least 10 feet high and a minimum of 4 feet from any tree trunk.

## Bear-Bag Ropes

For small amounts of smellables (less than 50 pounds), 100 feet of any synthetic rope of at least 1/4 inch diameter, in good repair, should be adequate. For larger quantities, 100 feet of synthetic rope of 5/16ths

or 3/8ths inch diameter should be used. In general, the rope should have a breaking strain of at least five times the maximum expected load. Note that most ropes are used doubled for bear-bags, which also doubles the breaking strain; however, older ropes have decreased breaking strains. Cotton or other natural fiber ropes are less desirable, due to their propensity to pick up moisture and rot, which dramatically increases their carry weight and degrades their maximum breaking strain.

Bear-bags and bear-bag ropes are most conveniently carried inside small stuff sacks, about 6 x 12 inches, with draw strings. These stuff sacks are also very useful as aids for throwing the ropes over the bear-bag cable, rack or tree limb, as detailed below.

## How to Hang Bear-Bags

**Bear-Bag Poles** - This is the only system where non-bag-type containers with their own handles are the most convenient to use. In these cases, the handle of the container is hooked onto the free pole while on the ground, and the pole is then raised by as many people as necessary (takes more than you'd think!) and the container transferred to one of the large hooks on the suspension pole. If classic sacks are used, then a small loop needs to be fashioned out of about 3 - 4 feet of rope; this is tied around the twisted neck of the sack using a lark's head, and the free end used as the handle for suspending on one of the large hooks. Regardless of what type system is used, it is important to match the weight on the pole from side to side, as excessive weight on one side could potentially tip the pole out of the ground (they're not buried that deep, or with that much concrete), or break the pole at the ground point (where they're often rusted half-through, especially the old ones.) In addition, in my experience, any bear-bag containing more than about 40 pounds is extremely difficult to manage; in these cases, more bags containing lesser amounts is the way to go.

**Bear-Bag Cables** - *Step One* is doubling the rope, easy enough.

*Step Two* is getting the doubled rope over the cable - quite easy for the lower cables, but often difficult for the higher ones. The classic Philmont system is to wrap the throwing end of the doubled cable into a tight "softball," which is then tossed over the cable. Again, this works well for the lower cables, but in my experience rapidly results in frustration with the higher ones. As alluded to above, a much better solution is to tie the bear-bag stuff sack to the end of the rope, fill the bag with something moderately heavy (a pair of sneakers, or some items of clothing, etc.), and toss that over the cable. Much easier and much more accurate. Whatever you do, do NOT allow the Scouts to attempt to tie rocks or heavy pieces of wood to the end of the rope for throwing purposes - this will rapidly result in free flying rocks and pieces of wood high in the air above a group of Scouts, a sure-fire recipe for a potentially serious injury, especially at night. When tossing over a cable with chocks, always try to pick a section of cable which is free of other bear-bags; if you miss, it's usually easy enough to flip-curl the rope over a chock to another section.

*Step Three* - Once you have the cable properly positioned over the cable, remove the throw bag (put it inside one of the bear-bags for safekeeping, or save it for a mini-bear-bag (see below)), and start tying in the bear-bags. Again, the neck of each bear-bag should be tightly twisted, and a lark's head knot placed down over the neck as far down as possible, then tightened. If there's adequate "neck" to allow it, double it back on itself and tie the lark's head around both. Note that the draw strings of laundry bags or large stuff-sacks should never be used to tie into the bear-bag rope (a typical novice error.)

*Step Four* is hauling the bags up into the air, which generally takes one person per filled bag. Note that a common "helping" trick is for one or two people to lift the bags into the air for the initial lift - which is fine, but these helpers should then immediately get out of the way once the bags are above their heads

(another typical novice error.) If you've ever seen a 50 pound bear-bag take a 15 foot dive and smash on the ground, you'd agree that standing underneath them is not such a hot idea. In order to prevent twisting in the wind, the bear-bags should be raised right up to the cable.

*Step Five* - The doubled rope is separated into its two strands, and each is tied into *\*separate\** trees, preferably at eye level or above. The ropes are NOT wrapped endlessly around the trees; rather, they are wrapped once or twice, doubled over, and tied back into the suspension rope using two or three half-hitches. The separation of the ropes is a safety measure; bears have been known to chew through bear-bag ropes, dropping the entire Bear-bag assembly (the very first bear I ever saw at Philmont attempted to do this to our bear-bags, before we chased him off.) Tying the ropes high also helps prevent the chew-through routine.

*Step Six* is to wrap up the remaining tails of both ropes; if left on the ground, they'll get wet and dirty, and possibly tangled with other Crews' bear-bag ropes. The ropes can either be coiled or daisy-chained, whichever you prefer.

**Bear-Bag Racks** - The rack system can be used virtually identically to the cable system above. In addition, a new method can be used in areas where the bears have well learned the chew-through routine, as follows: The bear-bag-rope is tossed over as usual. The bags are divided into two piles of approximately equal weight. The first pile is tied into the rope as usual, and raised to the top of the rack. The tensioned rope is then tied into the second set of bags still lying on the ground (tough to do!), and the excess rope coiled and placed *\*on top of\** one of the bear bags. The second set of bags is then raised by hand and then with large branches until it matches the height of the descending first set of bags. When finished, the bottom of both sets of bags should be at least 8 feet off the ground. When done correctly, this gives Mr. Bear no ropes to chew on. However, it is vitally important to make sure the weights of the two sets of bags are equivalent, or else one set will slowly rock itself down to the ground overnight, if there's any wind. In addition, this method can result in a horrendous tangle if the bags can wrap around themselves in strong winds, so it's important to minimize the amount of rope between bags within each set, lest your bear-bags turn into people-proof bags. Taking the bags down requires a hooked branch or pole to pull the excess rope (coiled on top of one of the bear-bags, remember?) down. If you have any questions as to your ability to manage this, you should leave the excess rope hanging down and draped over a high nearby branch; some bears may have learned to bite through a tensioned rope, but one suspects that none of them have yet figured out how to pull a slack rope taut to pull down a set of bear-bags. For lack of any other specific term, I will refer to the above method as the "Counterbalance Technique."

**Trees** - Where a good sturdy, horizontal limb is available, either the standard bear-bag cable method or the alternate Counterbalance Technique can be utilized; however, the latter technique is more difficult with trees, because the ropes will not slide over tree bark anywhere near as easily as over a metal cable or pipe. Also remember, if the limb is greater than about 4 inches in diameter, the bags must be suspended at least 4 feet below the limb, or else a bear can climb out and tear the bags apart from above.

If no sturdy, horizontal limbs are available, proceed as follows: Find two trees about 25 feet apart which fork about 12 feet up (any major branch also works). Tie your bear-bag stuff sack into your doubled cable and toss it through the first notch. Detach the bag and tie the rope off on a branch as high as you can reach at the base of the same tree - you can also use a nearby tree if no convenient branches are available; however, don't wander too far, or you'll use too much rope. Bring the free end of the doubled rope *\*straight down to the base of the tree,\** and tie in your bear bags as usual, at the base of the tree, with about equal weights for each separate rope. Re-tie your stuff sack to the other end of the doubled rope, and toss it over the branch or through the fork of the second tree. Using most of your Crew (you'll need them!), haul the bags up as high as you can manage. Use of a good sized forked branch to prop up

the \*rope\* right next to the bear-bags but opposite the side you're hauling from, will help a lot (do NOT push against the bags, you might tear them.) When you're done, the bags should be equidistant between the two trees, with the bottoms at least 8 feet off the ground. Higher is better, but is usually impossible to achieve. Tie off the ropes separately, coil or daisy-chain the ropes, and you're done. This is by far the most difficult method for suspending bear bags, but it's the only method that works in some areas.

**"Mini-Bear-Bags"** - No, not bags to protect against the infamous mini-bears; rather, this is a small, secondary bear-bag to suspend forgotten items discovered after you've hauled the primary set(s) of bear-bags up. Not only a mechanism to prevent having to take down and re-raise a heavy set of bear-bags, this is also a means for maintaining your patience with those Scouts (and Leaders!) who have seemingly ignored a dozen calls for smellables. Most commonly, these final items will include things like toothpaste or bedtime medications, or Chapsticks, snacks or trash discovered in pockets when changing into night clothes. Remember, harshly and publicly criticizing such Scouts and Leaders will only lead to \*everyone\* hiding those last few items rather than bringing them to your attention. Unfortunately, they can hide them from you, but not from Mr. Bear. Mini-bear-bags can be small daypacks, bear-bag and rope stuff sacks, cook-kit stuff sacks, small trash bags, etc. They can be suspended by any of the standard methods, most commonly off a convenient tree limb near the bear-bag site, using parachute cord or several tied-together lengths of clothes-lines. A clever alternative (recommended by Cooper Wright) is to clip a small carabiner into your primary bear bags (that is, around the rope between two adjacent bear-bags), and run about 30 feet of parachute cord through it before raising the bear-bags. Thus, you have an instant mini-bear-bag setup for all late items and/or one set of medications - a heck of a lot easier than having to drop your entire set of bear-bags.

**Bear-Bag Tangles** - Yes, despite every possible effort to untangle lines, every once in a while a set of bear-bags become hopelessly enmeshed (many a bear-bag cable has living proof of this, forlornly hanging down from on high.) If this happens to you, and there's no hope of working it out, the only viable solution is to find a lengthy branch, duct tape or lash an open knife to the end, and start sawing. You will eventually get your bags down, although they may not be in such hot shape after doing the high dive act. Better than starving to death, though.... Make sure no-one is standing under the bags when you start cutting (and no-one should ever try to catch a falling set of bear-bags - that's begging for a serious injury.)

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As previously noted, the chances of being attacked or even challenged by an eastern black bear are virtually nonexistent. In the Western United States, Alaska and Canada, the level of risk rises all the way up to "remote." The following section should be read in the bright light of that reality. Black bears should be admired, not feared!

## What to do if Challenged by a Bear

There is an old joke about what bears can do in the woods ("Anything they damn well please!") The vast majority of black bears are nonaggressive and will not challenge human beings (even when cubs are involved), but a few will. However, as previously noted, even these latter bears are (usually) not interested in attacking or eating anyone, but are merely (temporarily) defending turf or seeing if they can back you off a cache of food.

Hiking or backpacking groups are virtually never confronted by black bears. However, solos may be, especially if they're walking quietly enough to surprise a bear. If confronted by a bear while alone on the trail (confrontation meaning they do not turn tail and walk away, but rather hold their ground and stare

you down), do not run away! - this will only excite their "chase reflex" - rather, \*break\* eye contact, talk at a moderate volume, and slowly back away, always facing the bear, and retreat out of sight. If you cannot find another trail around the confrontation site (bushwhacking is a REALLY BAD IDEA), wait at least 15 minutes before trying the original trail again, and make lots of noise the second time through. If any cubs were involved, wait at least 30 minutes before trying again. A half-hour is a damn long time to wait (try it sometime!), but it's nothing compared to the rest of your life - WAIT! One extra precaution against a sudden attack when re-trying the original trail is to walk with a large tuft of dry grass in one hand and a Bic lighter in the other, ready to go. 99.999% unnecessary, but an ounce of prevention and all that....

If a bear invades your campsite, looking for food, you have a number of options. The best is to form a large, amorphous group, with everyone waving arms and clothing and banging pots and pans while slowly advancing towards the bear. The slow approach of such a large, noisy creature is highly intimidating to bears. I have done this at least a dozen times in my life, and in every case the bear quickly retreated. Some writeups also suggest throwing items at or near invading bears, but I would personally recommend reserving this option as a last resort for attacking bears; as 1997's Boy Scouts versus bears incident in Yosemite illustrated, it is possible to kill a bear with a rock, and (even when justified) the political fallout from such a death is both extensive and intensive. Another option - one I learned from the backcountry staff at Philmont - is to immediately chase an invading bear, waving clothing and yelling or barking like a dog. I have done this twice myself (three times if you want to count my idiotic pursuit during my 1972 close encounter), and have also seen it done by staff members at Philmont at least another half-dozen times, all with great success. However, DO NOT close to within 15 feet during your pursuit, and always give the bear an escape route. If a bear has an open line of retreat available, he'll always take it. A note of warning however - if the bear you're chasing starts bawling, break off the pursuit immediately - you're chasing a cub, and mama will soon be coming, and she will be very, very unhappy when she arrives. Finally, if all else fails to back a bear off, try using fire - the smoke from burning off a tuft of dry grass is usually enough to intimidate the most aggressive bears, even a mother with cubs.

## What to do if Attacked by a Bear in the Open

As noted above, unprovoked attacks by black bears are extraordinarily unusual - so much so that I considered not including this section at all. Nonetheless, it's probably a worthwhile read just for the sake of comprehensiveness for those Troops who do deep wilderness treks in the Western United States, Canada or Alaska. Suffice it to say, however, that I have encountered over 50 black bears in my lifetime - some of them at \*very\* close range - and have not once had a problem with any of them. That's very much worth keeping in mind...

...but what if, right? Well, keeping your wits about you when confronted with 200 - 800 pounds of imminent, violent, and messy death is awfully difficult to do - but it's vital to surviving a bear attack. Stay cool! Remember, the vast majority of black bear "attacks" are bluffs - and will come to a screeching halt about 15 feet short of hand-to-paw combat - unless you do something stupid which excites a real attack. Let's review the available options:

**Option I** - "*Hold Your Ground*" - is the toughest, but by all accounts the most successful technique. As noted above, the vast majority of "attacks" are bluffs. Hold your ground, talk in a normal tone of voice, and wave your arms or pieces of clothing. Mr. Bear will generally stop well short of an attack (usually about 15 feet away), and then quickly back off.

**Option II** - "*Running Away*" - is the most obvious, but also the most dangerous and least useful

alternative. If you take off running from a charging bear, you will excite his "chase reflex," and likely stimulate a real attack. A bear can reach speeds of up to 35 miles per hour, and can easily run down a human being, regardless of the terrain, especially if that human is burdened with a heavy pack. Allegedly, the only way to outrun a chasing bear is sideways across a steep slope; their legs are set so wide apart that they have a difficult time keeping their balance while traversing such a slope. Of course, the chances of being attacked on such a slope would appear to be rather remote. Running to an immediately accessible place of safety may be worthwhile, providing you have the time - a vehicle (if it's locked, and you're out of time, get underneath it), a dwelling, an *\*extremely\** dense thicket, a very tight cave entrance or very low hanging, deep-set rock ledge. Reality Check - How likely are any of these scenarios? In most wilderness areas, climbing trees would appear to be your best option, but this can be a potentially fatal error - black bears can climb better and faster than any human, and if they really want you, climbing a tree won't help. However, Daniel Boone claimed to have jumped off a cliff into a tree to escape a pursuing bear. Others have jumped into lakes or rivers; bears can swim just fine, but reports of black bears attacking humans while swimming in deep or fast flowing water are rare. (As a sheer guess, this is likely because they can't effectively use their primary weapons on you - their front legs (arms.)) One well-known trick which might help if you choose to run is to drop a hat, a bandanna, or some other piece of equipment (**BUT NOT YOUR PACK!**); a bear may stop to investigate what you dropped, allowing you to make good your escape.

**Option III - "Drop Like a Rock"** - has been successful for many victims of actual bear attacks. However, it's critical to **NOT DROP** until a charging bear is literally on top of you - if you drop too soon, you may excite an attack just as he was about to give it up. If you drop, you should assume a fetal position, with your arms folded around your head, hands interlocked behind your neck, and knees drawn up to your chest. In many cases, the bear will do nothing more than sniff you, bat you around a little bit, and/or bite you a few times before leaving. In other cases, however, bears have thoroughly mauled individuals who have tried this, severely injuring or killing them. Unfortunately, there doesn't seem to be any rhyme or reason to what triggers an attack in these latter cases. However, all the literature on bear attacks states that if a bear continues to attack you for more than a minute after you've dropped, it's time to fight back with everything you've got left, concentrating on punches or kicks to the eyes and nose regions. [The literature, however, did not specify how you're supposed to time the length of the ongoing attack.] All I can say is, Good Luck!

**Option IV - "Fight It Out"** - has also been successful for many would-be victims of bear attacks. (Of course, the losers are rarely still around to tell their tales!) If you're still upright, you want to do whatever you can to avoid closing to hand-to-paw combat - because you will rarely win such a fight. Generally, throwing items is the most common method, followed by fending off with a large walking stick or stiff branch (again, directed at the nose and eyes.) Combatants have thrown their backpacks, rocks, pieces of wood, camping gear, and anything else at hand. Screaming, barking like a dog, and/or waving large pieces of clothing with your free hand (again, to make yourself appear larger and more intimidating) have been effective. Others have started grass fires with lighters or matches, or grabbed flaming brands from campfires - this is the most effective method of all, as fire will generally back off even an enraged bear. If you have one, use of one of these new bear-repellents (mace/red pepper-spray) may also be effective if sprayed into the eyes or nose; however, note that the jury is still very much out on these sprays. Of importance, the residual odor left after using a bear-repellent spray may actually attract other bears to the locale - so you have to leave the area and also treat the just-used can of repellent (and the clothes you were wearing) as potent smellables.

## **What to do if Attacked by a Bear While in a Tent at Night**

If you've been taking care of business, this should never happen; in fact, I cannot find any documented

incidents of unprovoked attacks (by black bears) on tenting humans who had taken proper care of their smellables. (The primary purpose of this guide is to teach you the proper precautions necessary to preclude this very situation!) However, should this ever occur, the standard procedure is to retreat all the way inside your sleeping bag, scream or bark like a dog, and wait for help from your fellow campers. No-one seems to have any suggestions if you don't have any fellow campers to come to your rescue, so this may be a situation for a bear-repellent spray (assuming you had the foresight to bring one along, and can get to it quickly.) Note that it is a very bad idea to turn on a flashlight; a sudden light seems to enrage bears, and also gives them a specific target to attack.

Of course, the best way to survive a bear attack of any sort is to never get in one in the first place. With black bears, that shouldn't be a problem....

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## **"A Fed Bear is a Dead Bear"**

Although most people consider the exclusive focus of "Bear Safety" to be the protection of humans, the reality is that it is also for the protection of the bears. As previously stated, bears are intelligent, crafty and persistent animals - and once they get into a store of human food, they will constantly raid in efforts to get more, usually with at least sporadic success. In some cases, the act itself is fatal - I have heard dozens of stories of bears eating massive amounts of dehydrated backpacking food, then rupturing their stomachs - literally exploding - after going to get a big drink to wash it all down. [Some people actually consider this amusing, which makes one wonder which are the real animals.] Other bears die from internal bleeding resulting from devouring trash containing broken glass or sharp-edged lids from cans; this is one of the reasons why bottles and cans are prohibited in many wilderness areas. Large pieces of plastic wrapping (trashbags, ziplocks, food packaging, etc.) or food-stained clothing can cause choking or intestinal blockages. None of these are particularly pleasant ways to die.

Even if a bear is able to avoid these pitfalls, he or she is in trouble. Bears who raid quickly lose their fear of humans, and confrontations with and attacks on humans (and pets) become more likely. Bears who are highly successful raiders also degrade somewhat their ability to forage for natural food, and can therefore become desperate when the supply of human food runs out (this is a particular problem with tourist-dependent bears and trash-dump bears.) Note that one of the next items allegedly searched out by hungry, human-dependent bears who cannot find human food - is human underwear, because the smell is close enough. These are the reasons why a raiding bear is considered to be such a hazard.

In the United States, bears who attack humans are almost invariably tracked down and killed; in Canada, the authorities *may* grant a bear a second chance if an attack was the result of a foolish error by the human (Scenarios 1 or 2 only.) In order to prevent the inevitable attack on a human being, bears who constantly hang out near campsites and get into repeated confrontations with humans are either killed, or trapped, tagged and transported to a more wild area. However, while the latter option is certainly more humane, it is not particularly successful, as many transported bears will quickly return to their "home turf;" in fact, there are documented cases of bears traveling over 500 miles to return "home." Most of these bears resume raiding, and are then quickly killed. Furthermore, many of those who do not return to their original haunts don't stay purely wild, but rather just migrate to a closer source of human food, and are eventually killed for raiding in their new environments. [Unfortunately, bears do not understand the concept of "Last Chance."] A sad and entirely preventable end for a once-wild animal - and all the more tragic because its root cause was often nothing more than simple (and preventable) human carelessness.

Therefore, always remember: "A Fed Bear is a Dead Bear" (or, to paraphrase a much better known

expression: "Only You Can Prevent Fed Bears.")

- Dr. Bob, SM-111

- 1999 Printing



# Bear Safety

## A Conversational Guide for Scouts

"Everything You Ever Wanted to Know About How to Protect Yourself from Bears (and more....)"  
Detailed "How-To" information for all Scout Groups, from solo campers to large Crews, and for virtually all camping environments, from car-camping ghettos to deep wilderness.

**Fact:** There is only one animal on the North American Continent that will actively track and kill human beings for food - the Polar Bear.

**Fact:** There are three other animals in North America who will (rarely) take advantage of a lone sick, injured or stupid human being, and make a meal out of them - the Grizzly Bear, the Mountain Lion, and the Wolf (the latter usually in packs.)

**Fact:** [However,] there are dozens of other animals and reptiles in North America who can and will kill or put a severe hurting on a human being if circumstances warrant - alligators, bobcats, coyotes, deer, (wild) dogs, elk, javelinos, lynx, moose, feral (wild) pigs, raccons, rattlesnakes, wolverines, etc., etc., etc. Of all these, the best known is the common black bear, *ursus americanus*.

In reality, black bears represent a more realistic threat to humans than polar bears, grizzly bears, mountain lions or wolves, because of their rapidly increasing numbers, the extensive overlap of their habitation range with human domains, their increasing familiarity with human beings, high degree of intelligence, excellent memory, legendary strength and fighting ability. On his or her turf, and his or her terms, even a small bear is a potentially deadly opponent.

Yet for all that, the threat level is almost minuscule. As implied in the three preamble "Facts," predatory black bear attacks on humans are extremely rare (less than 25 documented predatory attacks resulting in human deaths, this \*century\*), and even provoked attacks are relatively uncommon. [This from an estimated current population of half million black bears in North America.] For the most part, black bears studiously avoid human confrontation. Why? - well, bears are still hunted by humans (both legally and illegally), and we're therefore well recognized by them as being a lethal threat. Plus we've spent the last 400 years shooting most of the hyper-aggressive bears in the lower 48, so artificially induced Darwinian selection has definitely played a role in our favor. Today, there's really only three ways to get in trouble with a black bear (in order of degree of danger):

- \* Actively threaten a cub (aka: "Death Wish.")
- \* Surprise one on the trail (aka: "Close Encounters of the Worst Kind" - I had such an encounter at Philmont in 1972, but quite fortunately didn't pay the price for it.)
- \* Be careless with respect to food and other "smellables" use, cleanup and storage.

Situations 1 and 2 are easy enough to avoid, merely by paying attention to your surroundings and making noise as you travel in bear country. Bears have excellent hearing, better than reputed (color!) vision, and an extraordinarily acute sense of smell - and if a bear hears, sees, or smells you coming, you probably won't see him/her at all, or will only get a distant or passing view. Noise is your most effective defense. Everyone has heard of the rather common (albeit highly irritating) trick of attaching small bells

or similar items to backpacks in grizzly country; however, this really isn't necessary for Scout groups in black bear country. The average Scout group walking through the woods makes enough noise to be heard a quarter mile away, either from incessant chatter or from suspended gear rattling on their backpacks. However, solo hikers or small groups who are being intentionally quiet to maximize their chances of seeing wildlife, have to be a lot more cautious and alert. My close encounter in '72 arose because I was very carefully and silently stalking a small group of mule deer for a closeup picture, from uphill and downwind (perfect conditions for me.) Coming around a very large boulder that marked an right turn in the trail, I came face-to-face with a medium sized bear \*less than\* 6 feet away who was walking down the trail. If I'd have been 2 seconds later we'd have bumped heads at the intersection. Quite fortunately for me, no cubs were involved, and Mr. Bear did a quick 180 and trotted off back up the hill (a pretty typical response.) Proving how foolish a 16 year old can be, I ran after him for about 20 feet and snap-shot a photo of his retreating butt, which I still have here somewhere around my house. I supposed if he had attacked, my last photo of "full frontal bear" would have made a fine epitaph in the National Inquirer. To this day, I cannot figure out how he didn't smell me, since the wind was in his favor, and I smelled as ripe as only a Scout can after a week at Philmont.

Lucky, lucky, lucky....

Anyway, if you make noise while hiking or backpacking in the woods, and pay attention to your surroundings, you'll almost certainly never run afoul of Situations 1 or 2. Note, however, that extra caution is warranted in "white noise" situations which drown out your "bear alarms" or natural group noise; these include walking along noisy streambeds or in wooded areas during moderate to strong winds or rain. If you're walking through known bear territory under such conditions, it would be prudent to keep up the talking level or otherwise generate more noise.

Situation 3 - "smellables" safety - is by far the most common problem. Bears love human food, and will risk approaching humans in order to obtain it - especially if they have successfully raided in the past. However, taking a few common sense precautions are invariably all that's needed to protect yourself, \*and the bears!\* Make it tough, and they won't bother - but make it easy, and they'll be back for more, forever....

What are smellables? [A Quick Education] - Mention "bear safety," and most people think "food." While correct, this is only the tip of the iceberg. A bear's nose is one of the most sensitive in the entire animal kingdom - allegedly they can differentiate between identical, factory-sealed cans containing food versus sand or other similarly inert materials (if true, that's absolutely amazing!) Unfortunately, virtually \*anything\* with an unusual odor is "food" to a bear. A short list includes: bandages, Brillo Pads, canteens that have ever contained a flavored drink (unless they've been sterilized with a solution of Chlorox since that time), Chapsticks, clothing worn while eating meals or doing KP, deodorants, dryer (anti-static) sheets, feminine hygiene products, film, baby or foot powder, insect repellent, medications, scrubbies, shampoo, soap, sunscreen, toilet wipes, toothpaste, any and all trash, unclean backpacks, unclean tents, and unclean utensils, eating ware or cookware, Wet-Ones, etc., etc., etc.

*Bit of an eye-opener, isn't it?*

A bit scary - however, this also gives us the basis for bear safety: "Take Care of (All) Your 'Smellables!'" The following 15 step "Bear Safety Checkoff List" spells out how to do this, in excruciating detail.

## The "Bear Safety Checkoff List" - when in bear country, you must ensure:

- 1) That you never, ever intentionally feed a bear (aka: "Don't be a dumb-ass tourist!")
  - 2) That you always practice proper, low-impact cooking and cleaning procedures, and never leave dirty cookware or eating ware out overnight.
  - 3) That you never eat in or near your tent, nor go to bed wearing the clothes you had on while eating or doing KP.
  - 4) That the only items that go into your tent each night are: You, your sleeping bag and foam pad/air mattress, your pillow, a flashlight, and either your "night clothes" or tomorrow's clean clothes. Nothing else! [A real education for your average Scout, most of whom - especially your youngsters - want to bring everything they own into their tents at night.]
  - 5) That your tent, sleeping bag, foam pad/air mattress, pillow, flashlight and clothes are meticulously clean and free of trash. Note that use of a typical Troop tent in known bear country is a VERY BAD IDEA unless it has been thoroughly hosed out prior to your trip (all those soda spills, empty candy wrappers, and stray M&M's, don't you know....)
  - 6) That every member of your Crew avoids using sunscreen, insect repellent, soap/shampoo, and/or topical medications after about 5pm (some jurisdictions recommend 3pm.) That every member of your Crew avoids using any deodorants, body lotions, hair creams, or similar products (at all.)
- #s 3 - 6 are by far your most important check-offs. Your equipment can be replaced; you can't.
- 7) That you avoid burning waste or leftover food in fireplaces (rarely consumes the food entirely, but does a masterful job of spreading potent food odors downwind.)
  - 8) That if a sump (food cleanup and wastewater disposal area) is not available, that all wastewater be dispersed well away from \*any\* potential tenting sites - both the ones you're intending to use, and any other flat areas which might be used by future campers.
  - 9) That your tents are all set up well away from your cooking, eating, cleaning, food sorting, and bear-bag areas (this is the basis for the "Bearnuda Triangle," which is formally defined below.) Also, that if you're camping on an established campsite, that your tents are all set up well away from the "Bearnuda Triangle" established by previous groups (if you can tell.) Note that only heavy rains will render these areas scent-free again.
  - 10) That you check under any flat rocks laying on the ground near your tent - a rapidly growing problem all across the country is the stashing of trash under rocks, either to prevent it from blowing away in the wind (and subsequently forgotten) or out of sheer laziness. That you educate your own Scouts not to do this incredibly stupid thing.
  - 11) That your backpacks are well away from your tents, and properly wrapped in waterproof pack covers (which help keep residual pack odors down.)
  - 12) That your food, trash and all other "smellables" are properly stored in bear bags, properly stored in bear-proof containers or suspended out of reach, and well away from your campsite. (Much more on bear-bags below. Note well the comments on bear-bag storage of emergency medications such as

inhalers or epi-pens.)

# 12 is your fifth most important checkoff.

13) That you make a lot of noise when approaching bear bags, especially at night or at dusk or first light. Clapping your hands and talking in a normal tone of voice are excellent warning hints for any foraging bears (bears hate surprises!)

14) That you never publicly bitch at a Scout or Leader for failure to get a "personal smellable" into a bear-bag "on-time;" this leads to all Scouts and Leaders hiding late-discovered smellables rather than facing your wrath. Hard to resist when you've been calling for "smellables" for 30 minutes and just killed yourselves hauling 150 pounds into the air - but resist you must. [See also "Micro-Bear-Bags" below.]

15) That you always designate a responsible Scout or Adult to be your bear safety monitor while you're camping in bear country. Always remember, education and vigilance are your best defenses!

This sounds like an awful lot to be careful about - and it is! - but with proper training, all of these precautions become ingrained and second nature to you and your Troop or Crew.

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## The "Bearmuda Triangle"

The "Bearmuda Triangle" represents the area enclosed by the three points most likely to be visited by a raiding bear. At Philmont (which is where I first heard the term), these three areas are: (A) the fire-ring (food preparation and eating area, usually including the Crew tarp); (B) the sump (cleanup and wastewater disposal area); and (C) the bear-bag area. If the Crew tarp (food sorting and organization area) is for some reason set up away from the fire-ring, the "triangle" turns into a "quadrangle" (not a geometrically correct term, but you get the idea); in the latter case, the tarp should never be set up over a flat area where a future crew might choose to tent. As stated in Checkoff Item # 6, no tents should be set up within or adjacent to the outlines of the triangle/quadrangle; similarly, no-one should "meadow crash" (sleep out under the stars) in this area, either. The "Bearmuda Triangle" should always be well established before anyone breaks out a tent.

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## Bear-Bags

Bear bags are large sacks in which you can place all your food and smellables, for either placing in a bear-proof storage locker, or (far more commonly) for suspending from ropes with the bottoms at least 8 feet off the ground and the sides at least 4 feet from the nearest climbable tree-trunk. At Philmont, the "classic" bear-bag was a large burlap sack (now replaced by woven polyethylene sacks), but many other items can also be effectively utilized as bear-bags. These include, for example, canoe stuff sacks, duffel bags, large capacity, internal frame backpacks, large cotton or nylon laundry bags, trash-bags (contractor weight, at least 4 mil), and even large buckets or medium size trash cans.

Loading bear-bags is a matter of common sense; heavy items should be placed on the bottom, and crushable/breakable items on top. Of note, however, the first aid kits and emergency medications

(inhalers, epi-pens, etc.) should always be placed on the very top of *\*two separate bear-bags\** - on top so that they can be easily accessed at need, and in separate bear-bags so that if one slips out and falls, or is otherwise lost to a bear-raid, you still have the backup. If you have more than two bear-bags, it's also a good idea to somehow mark the bags containing the medical supplies; this is easily done by having a bandanna sticking out the necks of the critical bear-bags.

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## **"Bear-Proof" Storage Lockers**

Many campsites in bear country have installed "bear-proof" storage lockers on-site for temporary storage of bear-bags; similar containers are also in place for trash. Most of these are made of heavy duty plate steel, but others are built of railroad ties, rough-cut timber, or treated, heavy-duty commercial lumber, sometimes wrapped in heavy-duty sheet metal. Virtually all of them have a sliding or hinged access door with some form of fail-safe, double-lock system which is beyond the mental capacity of bears (and in my experience, some humans) to figure out. These are extremely effective, and a heck of a lot more convenient than suspending bear-bags, but can get awfully crowded in some campsites. Additionally, in the latter cases, their "human security" also leaves much to be desired, and theft of food and/or gear by fellow campers is always a possibility. (Of course, this is true of any form of bear-bag storage, but a thief has to be pretty brazen to take down a set of suspended bear-bags, whereas rooting around in a locker, hands unseen, is rather easy.)

Note that cars and other vehicles are NOT the equivalent of a bear-proof locker, and are NOT adequate protection against grizzlies or the much larger black bears common in the Western United States, Alaska and Canada - these bears have the physical strength (and knowledge) to pop a car windshield or tear into a door or trunk. Fortunately, such efforts appear to be beyond the physical capabilities of *\*most\** eastern bears. All things considered, however, it is always better to suspend your smellables in bear-bags when bear-proof lockers are not available. Vehicles should always be your last resort. If you have no other option, and must use vehicles for storage in areas that have known and serious bear-raid problems, two tricks which *\*may\** work (no guarantees!) are to leave the storage vehicle idling all night long, or leaving a lit Coleman Lantern on top of the storage vehicle. With respect to the latter option, note that leaving the vehicle's dome light on is ineffective; the deterrent effect with the Coleman Lantern derives from the noise and fumes - not the light.

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## **Suspending Bear-Bags**

Although many campgrounds have installed bear-proof storage lockers, most have not, and there are, of course, few storage lockers in the vast tracts of wilderness across North America. Thus, it is far more common for bear-bags to be suspended in order to keep them from bears, and anyone travelling in bear country should be familiar with standard methods for doing so. Yes, there are a variety of ways to hang bear-bags; the provided "briefs" (below) give descriptions of each, along with a quick primer on how to use them. First, however, a quick lesson on knots....

## **What Knot to Use?**

For virtually any bag-type bear-bag, the best knot to use - by far - is a lark's head, wrapped around the twisted neck of the bag. The lark's head is self-constricting, quick and easy to tie, quick and easy to untie

(very important!), and does not require access to the end of the bear bag rope to tie. Virtually any other constriction knot (like a clove hitch or slip knot) will tighten overnight to the point where untying it is extremely difficult - especially if it rained or if the bags were extremely heavy. Non-bag-type bear-bags ("cargo"-style duffel bags, internal frame backpacks, canoe bags, trashcans, etc.) are more of a pain; however, you can usually double the bear-bag rope over and tie two or three half-hitches to each container's handle. Doubled over, the ropes are usually a little easier to untie. One trick which will make your life a *\*lot\** easier is to place a small, *\*smooth\** stick (one - two inches in diameter) adjacent to the handle, and tie the knot around the both the handle and the stick. The next day, you can slide the stick out from under the knot, giving yourself extra slack for untying the knot; this works even if the knots became wet and/or super-tight overnight. Note that external frame backpacks being used as bear-bags should always have the knots tied around the frame, not the shoulder straps or suspension loop.

## Bear-Bag Suspension Methods

**Bear-Bag "Trees"** - These are sturdy, metal 10 - 14 foot high poles cemented into the ground, having 4 - 6 hanging hooks on top. They are quite common throughout the Adirondacks, but are also found in many other areas all around the country, including the Shenandoah National Park and all along the Appalachian Trail. A second free pole with a small hook on the end allows you to raise and suspend the bear-bags onto the tree-hooks. This free pole is usually hung on the main pole; in some cases, it is permanently chained onto the main pole to prevent its removal.

**Bear-Bag Cables** - In many locations, including Philmont and other quasi-wilderness locales, park authorities have installed permanent bear-bag cables at most designated campsites. These cables are made of stainless steel, and are strung between two sturdy trees, anywhere from 12 to 20 feet off the ground. The better versions have 2 - 6 small chocks clamped onto the cable (one every couple of feet), to prevent multiple bear-bag ropes from sliding into each other (and getting tangled into a horrendous mess) or into the trees (where they can be reached by a climbing bear.) In some areas, authorities will use heavy-duty polypropylene or nylon rope tied between two trees as a seasonal or temporary replacement bear-bag cable. Rarely, these latter cables will have a small pulley and secondary rope system built in for suspending bear-bags.

**Bear-Bag Racks** - This is a new system which I haven't yet seen, but have heard about. I can't find any literature on them, so they must be fairly rare at this point. They're supposedly built from two sturdy metal poles cemented into the ground, with a metal cross bar - kind of like an oversize soccer goal made from pipes, minus the net.

**(Natural) Trees** - The "original" bear-bag system. There are two different ways to suspend bear bags from trees; the first (and by far the most common) is to merely suspend the bags from a sturdy limb (greater than 4 inches in diameter.) In this case, the suspension point must be at least 10 feet high and 4 feet from the tree trunk (any closer and a climbing bear can reach out and rip the bags open.) If the limb is so thick that a bear could climb out on it, then it has to be at least 14 feet high, with the bags suspended 4 feet below the limb. The second method is used in areas where the trees do not have sturdy limbs extending horizontally from the trunk. In this case, the bear bag is suspended midpoint between two trees, again, at least 10 feet high and a minimum of 4 feet from any tree trunk.

## Bear-Bag Ropes

For small amounts of smellables (less than 50 pounds), 100 feet of any synthetic rope of at least 1/4 inch diameter, in good repair, should be adequate. For larger quantities, 100 feet of synthetic rope of 5/16ths

or 3/8ths inch diameter should be used. In general, the rope should have a breaking strain of at least five times the maximum expected load. Note that most ropes are used doubled for bear-bags, which also doubles the breaking strain; however, older ropes have decreased breaking strains. Cotton or other natural fiber ropes are less desirable, due to their propensity to pick up moisture and rot, which dramatically increases their carry weight and degrades their maximum breaking strain.

Bear-bags and bear-bag ropes are most conveniently carried inside small stuff sacks, about 6 x 12 inches, with draw strings. These stuff sacks are also very useful as aids for throwing the ropes over the bear-bag cable, rack or tree limb, as detailed below.

## How to Hang Bear-Bags

**Bear-Bag Poles** - This is the only system where non-bag-type containers with their own handles are the most convenient to use. In these cases, the handle of the container is hooked onto the free pole while on the ground, and the pole is then raised by as many people as necessary (takes more than you'd think!) and the container transferred to one of the large hooks on the suspension pole. If classic sacks are used, then a small loop needs to be fashioned out of about 3 - 4 feet of rope; this is tied around the twisted neck of the sack using a lark's head, and the free end used as the handle for suspending on one of the large hooks. Regardless of what type system is used, it is important to match the weight on the pole from side to side, as excessive weight on one side could potentially tip the pole out of the ground (they're not buried that deep, or with that much concrete), or break the pole at the ground point (where they're often rusted half-through, especially the old ones.) In addition, in my experience, any bear-bag containing more than about 40 pounds is extremely difficult to manage; in these cases, more bags containing lesser amounts is the way to go.

**Bear-Bag Cables** - *Step One* is doubling the rope, easy enough.

*Step Two* is getting the doubled rope over the cable - quite easy for the lower cables, but often difficult for the higher ones. The classic Philmont system is to wrap the throwing end of the doubled cable into a tight "softball," which is then tossed over the cable. Again, this works well for the lower cables, but in my experience rapidly results in frustration with the higher ones. As alluded to above, a much better solution is to tie the bear-bag stuff sack to the end of the rope, fill the bag with something moderately heavy (a pair of sneakers, or some items of clothing, etc.), and toss that over the cable. Much easier and much more accurate. Whatever you do, do NOT allow the Scouts to attempt to tie rocks or heavy pieces of wood to the end of the rope for throwing purposes - this will rapidly result in free flying rocks and pieces of wood high in the air above a group of Scouts, a sure-fire recipe for a potentially serious injury, especially at night. When tossing over a cable with chocks, always try to pick a section of cable which is free of other bear-bags; if you miss, it's usually easy enough to flip-curl the rope over a chock to another section.

*Step Three* - Once you have the cable properly positioned over the cable, remove the throw bag (put it inside one of the bear-bags for safekeeping, or save it for a mini-bear-bag (see below)), and start tying in the bear-bags. Again, the neck of each bear-bag should be tightly twisted, and a lark's head knot placed down over the neck as far down as possible, then tightened. If there's adequate "neck" to allow it, double it back on itself and tie the lark's head around both. Note that the draw strings of laundry bags or large stuff-sacks should never be used to tie into the bear-bag rope (a typical novice error.)

*Step Four* is hauling the bags up into the air, which generally takes one person per filled bag. Note that a common "helping" trick is for one or two people to lift the bags into the air for the initial lift - which is fine, but these helpers should then immediately get out of the way once the bags are above their heads

(another typical novice error.) If you've ever seen a 50 pound bear-bag take a 15 foot dive and smash on the ground, you'd agree that standing underneath them is not such a hot idea. In order to prevent twisting in the wind, the bear-bags should be raised right up to the cable.

*Step Five* - The doubled rope is separated into its two strands, and each is tied into *\*separate\** trees, preferably at eye level or above. The ropes are NOT wrapped endlessly around the trees; rather, they are wrapped once or twice, doubled over, and tied back into the suspension rope using two or three half-hitches. The separation of the ropes is a safety measure; bears have been known to chew through bear-bag ropes, dropping the entire Bear-bag assembly (the very first bear I ever saw at Philmont attempted to do this to our bear-bags, before we chased him off.) Tying the ropes high also helps prevent the chew-through routine.

*Step Six* is to wrap up the remaining tails of both ropes; if left on the ground, they'll get wet and dirty, and possibly tangled with other Crews' bear-bag ropes. The ropes can either be coiled or daisy-chained, whichever you prefer.

**Bear-Bag Racks** - The rack system can be used virtually identically to the cable system above. In addition, a new method can be used in areas where the bears have well learned the chew-through routine, as follows: The bear-bag-rope is tossed over as usual. The bags are divided into two piles of approximately equal weight. The first pile is tied into the rope as usual, and raised to the top of the rack. The tensioned rope is then tied into the second set of bags still lying on the ground (tough to do!), and the excess rope coiled and placed *\*on top of\** one of the bear bags. The second set of bags is then raised by hand and then with large branches until it matches the height of the descending first set of bags. When finished, the bottom of both sets of bags should be at least 8 feet off the ground. When done correctly, this gives Mr. Bear no ropes to chew on. However, it is vitally important to make sure the weights of the two sets of bags are equivalent, or else one set will slowly rock itself down to the ground overnight, if there's any wind. In addition, this method can result in a horrendous tangle if the bags can wrap around themselves in strong winds, so it's important to minimize the amount of rope between bags within each set, lest your bear-bags turn into people-proof bags. Taking the bags down requires a hooked branch or pole to pull the excess rope (coiled on top of one of the bear-bags, remember?) down. If you have any questions as to your ability to manage this, you should leave the excess rope hanging down and draped over a high nearby branch; some bears may have learned to bite through a tensioned rope, but one suspects that none of them have yet figured out how to pull a slack rope taut to pull down a set of bear-bags. For lack of any other specific term, I will refer to the above method as the "Counterbalance Technique."

**Trees** - Where a good sturdy, horizontal limb is available, either the standard bear-bag cable method or the alternate Counterbalance Technique can be utilized; however, the latter technique is more difficult with trees, because the ropes will not slide over tree bark anywhere near as easily as over a metal cable or pipe. Also remember, if the limb is greater than about 4 inches in diameter, the bags must be suspended at least 4 feet below the limb, or else a bear can climb out and tear the bags apart from above.

If no sturdy, horizontal limbs are available, proceed as follows: Find two trees about 25 feet apart which fork about 12 feet up (any major branch also works). Tie your bear-bag stuff sack into your doubled cable and toss it through the first notch. Detach the bag and tie the rope off on a branch as high as you can reach at the base of the same tree - you can also use a nearby tree if no convenient branches are available; however, don't wander too far, or you'll use too much rope. Bring the free end of the doubled rope *\*straight down to the base of the tree,\** and tie in your bear bags as usual, at the base of the tree, with about equal weights for each separate rope. Re-tie your stuff sack to the other end of the doubled rope, and toss it over the branch or through the fork of the second tree. Using most of your Crew (you'll need them!), haul the bags up as high as you can manage. Use of a good sized forked branch to prop up

the \*rope\* right next to the bear-bags but opposite the side you're hauling from, will help a lot (do NOT push against the bags, you might tear them.) When you're done, the bags should be equidistant between the two trees, with the bottoms at least 8 feet off the ground. Higher is better, but is usually impossible to achieve. Tie off the ropes separately, coil or daisy-chain the ropes, and you're done. This is by far the most difficult method for suspending bear bags, but it's the only method that works in some areas.

**"Mini-Bear-Bags"** - No, not bags to protect against the infamous mini-bears; rather, this is a small, secondary bear-bag to suspend forgotten items discovered after you've hauled the primary set(s) of bear-bags up. Not only a mechanism to prevent having to take down and re-raise a heavy set of bear-bags, this is also a means for maintaining your patience with those Scouts (and Leaders!) who have seemingly ignored a dozen calls for smellables. Most commonly, these final items will include things like toothpaste or bedtime medications, or Chapsticks, snacks or trash discovered in pockets when changing into night clothes. Remember, harshly and publicly criticizing such Scouts and Leaders will only lead to \*everyone\* hiding those last few items rather than bringing them to your attention. Unfortunately, they can hide them from you, but not from Mr. Bear. Mini-bear-bags can be small daypacks, bear-bag and rope stuff sacks, cook-kit stuff sacks, small trash bags, etc. They can be suspended by any of the standard methods, most commonly off a convenient tree limb near the bear-bag site, using parachute cord or several tied-together lengths of clothes-lines. A clever alternative (recommended by Cooper Wright) is to clip a small carabiner into your primary bear bags (that is, around the rope between two adjacent bear-bags), and run about 30 feet of parachute cord through it before raising the bear-bags. Thus, you have an instant mini-bear-bag setup for all late items and/or one set of medications - a heck of a lot easier than having to drop your entire set of bear-bags.

**Bear-Bag Tangles** - Yes, despite every possible effort to untangle lines, every once in a while a set of bear-bags become hopelessly enmeshed (many a bear-bag cable has living proof of this, forlornly hanging down from on high.) If this happens to you, and there's no hope of working it out, the only viable solution is to find a lengthy branch, duct tape or lash an open knife to the end, and start sawing. You will eventually get your bags down, although they may not be in such hot shape after doing the high dive act. Better than starving to death, though.... Make sure no-one is standing under the bags when you start cutting (and no-one should ever try to catch a falling set of bear-bags - that's begging for a serious injury.)

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As previously noted, the chances of being attacked or even challenged by an eastern black bear are virtually nonexistent. In the Western United States, Alaska and Canada, the level of risk rises all the way up to "remote." The following section should be read in the bright light of that reality. Black bears should be admired, not feared!

## What to do if Challenged by a Bear

There is an old joke about what bears can do in the woods ("Anything they damn well please!") The vast majority of black bears are nonaggressive and will not challenge human beings (even when cubs are involved), but a few will. However, as previously noted, even these latter bears are (usually) not interested in attacking or eating anyone, but are merely (temporarily) defending turf or seeing if they can back you off a cache of food.

Hiking or backpacking groups are virtually never confronted by black bears. However, solos may be, especially if they're walking quietly enough to surprise a bear. If confronted by a bear while alone on the trail (confrontation meaning they do not turn tail and walk away, but rather hold their ground and stare

you down), do not run away! - this will only excite their "chase reflex" - rather, \*break\* eye contact, talk at a moderate volume, and slowly back away, always facing the bear, and retreat out of sight. If you cannot find another trail around the confrontation site (bushwhacking is a REALLY BAD IDEA), wait at least 15 minutes before trying the original trail again, and make lots of noise the second time through. If any cubs were involved, wait at least 30 minutes before trying again. A half-hour is a damn long time to wait (try it sometime!), but it's nothing compared to the rest of your life - WAIT! One extra precaution against a sudden attack when re-trying the original trail is to walk with a large tuft of dry grass in one hand and a Bic lighter in the other, ready to go. 99.999% unnecessary, but an ounce of prevention and all that....

If a bear invades your campsite, looking for food, you have a number of options. The best is to form a large, amorphous group, with everyone waving arms and clothing and banging pots and pans while slowly advancing towards the bear. The slow approach of such a large, noisy creature is highly intimidating to bears. I have done this at least a dozen times in my life, and in every case the bear quickly retreated. Some writeups also suggest throwing items at or near invading bears, but I would personally recommend reserving this option as a last resort for attacking bears; as 1997's Boy Scouts versus bears incident in Yosemite illustrated, it is possible to kill a bear with a rock, and (even when justified) the political fallout from such a death is both extensive and intensive. Another option - one I learned from the backcountry staff at Philmont - is to immediately chase an invading bear, waving clothing and yelling or barking like a dog. I have done this twice myself (three times if you want to count my idiotic pursuit during my 1972 close encounter), and have also seen it done by staff members at Philmont at least another half-dozen times, all with great success. However, DO NOT close to within 15 feet during your pursuit, and always give the bear an escape route. If a bear has an open line of retreat available, he'll always take it. A note of warning however - if the bear you're chasing starts bawling, break off the pursuit immediately - you're chasing a cub, and mama will soon be coming, and she will be very, very unhappy when she arrives. Finally, if all else fails to back a bear off, try using fire - the smoke from burning off a tuft of dry grass is usually enough to intimidate the most aggressive bears, even a mother with cubs.

## What to do if Attacked by a Bear in the Open

As noted above, unprovoked attacks by black bears are extraordinarily unusual - so much so that I considered not including this section at all. Nonetheless, it's probably a worthwhile read just for the sake of comprehensiveness for those Troops who do deep wilderness treks in the Western United States, Canada or Alaska. Suffice it to say, however, that I have encountered over 50 black bears in my lifetime - some of them at \*very\* close range - and have not once had a problem with any of them. That's very much worth keeping in mind...

...but what if, right? Well, keeping your wits about you when confronted with 200 - 800 pounds of imminent, violent, and messy death is awfully difficult to do - but it's vital to surviving a bear attack. Stay cool! Remember, the vast majority of black bear "attacks" are bluffs - and will come to a screeching halt about 15 feet short of hand-to-paw combat - unless you do something stupid which excites a real attack. Let's review the available options:

**Option I** - "*Hold Your Ground*" - is the toughest, but by all accounts the most successful technique. As noted above, the vast majority of "attacks" are bluffs. Hold your ground, talk in a normal tone of voice, and wave your arms or pieces of clothing. Mr. Bear will generally stop well short of an attack (usually about 15 feet away), and then quickly back off.

**Option II** - "*Running Away*" - is the most obvious, but also the most dangerous and least useful

alternative. If you take off running from a charging bear, you will excite his "chase reflex," and likely stimulate a real attack. A bear can reach speeds of up to 35 miles per hour, and can easily run down a human being, regardless of the terrain, especially if that human is burdened with a heavy pack. Allegedly, the only way to outrun a chasing bear is sideways across a steep slope; their legs are set so wide apart that they have a difficult time keeping their balance while traversing such a slope. Of course, the chances of being attacked on such a slope would appear to be rather remote. Running to an immediately accessible place of safety may be worthwhile, providing you have the time - a vehicle (if it's locked, and you're out of time, get underneath it), a dwelling, an *\*extremely\** dense thicket, a very tight cave entrance or very low hanging, deep-set rock ledge. Reality Check - How likely are any of these scenarios? In most wilderness areas, climbing trees would appear to be your best option, but this can be a potentially fatal error - black bears can climb better and faster than any human, and if they really want you, climbing a tree won't help. However, Daniel Boone claimed to have jumped off a cliff into a tree to escape a pursuing bear. Others have jumped into lakes or rivers; bears can swim just fine, but reports of black bears attacking humans while swimming in deep or fast flowing water are rare. (As a sheer guess, this is likely because they can't effectively use their primary weapons on you - their front legs (arms.)) One well-known trick which might help if you choose to run is to drop a hat, a bandanna, or some other piece of equipment (**BUT NOT YOUR PACK!**); a bear may stop to investigate what you dropped, allowing you to make good your escape.

**Option III - "Drop Like a Rock"** - has been successful for many victims of actual bear attacks. However, it's critical to **NOT DROP** until a charging bear is literally on top of you - if you drop too soon, you may excite an attack just as he was about to give it up. If you drop, you should assume a fetal position, with your arms folded around your head, hands interlocked behind your neck, and knees drawn up to your chest. In many cases, the bear will do nothing more than sniff you, bat you around a little bit, and/or bite you a few times before leaving. In other cases, however, bears have thoroughly mauled individuals who have tried this, severely injuring or killing them. Unfortunately, there doesn't seem to be any rhyme or reason to what triggers an attack in these latter cases. However, all the literature on bear attacks states that if a bear continues to attack you for more than a minute after you've dropped, it's time to fight back with everything you've got left, concentrating on punches or kicks to the eyes and nose regions. [The literature, however, did not specify how you're supposed to time the length of the ongoing attack.] All I can say is, Good Luck!

**Option IV - "Fight It Out"** - has also been successful for many would-be victims of bear attacks. (Of course, the losers are rarely still around to tell their tales!) If you're still upright, you want to do whatever you can to avoid closing to hand-to-paw combat - because you will rarely win such a fight. Generally, throwing items is the most common method, followed by fending off with a large walking stick or stiff branch (again, directed at the nose and eyes.) Combatants have thrown their backpacks, rocks, pieces of wood, camping gear, and anything else at hand. Screaming, barking like a dog, and/or waving large pieces of clothing with your free hand (again, to make yourself appear larger and more intimidating) have been effective. Others have started grass fires with lighters or matches, or grabbed flaming brands from campfires - this is the most effective method of all, as fire will generally back off even an enraged bear. If you have one, use of one of these new bear-repellents (mace/red pepper-spray) may also be effective if sprayed into the eyes or nose; however, note that the jury is still very much out on these sprays. Of importance, the residual odor left after using a bear-repellent spray may actually attract other bears to the locale - so you have to leave the area and also treat the just-used can of repellent (and the clothes you were wearing) as potent smellables.

## **What to do if Attacked by a Bear While in a Tent at Night**

If you've been taking care of business, this should never happen; in fact, I cannot find any documented

incidents of unprovoked attacks (by black bears) on tenting humans who had taken proper care of their smellables. (The primary purpose of this guide is to teach you the proper precautions necessary to preclude this very situation!) However, should this ever occur, the standard procedure is to retreat all the way inside your sleeping bag, scream or bark like a dog, and wait for help from your fellow campers. No-one seems to have any suggestions if you don't have any fellow campers to come to your rescue, so this may be a situation for a bear-repellent spray (assuming you had the foresight to bring one along, and can get to it quickly.) Note that it is a very bad idea to turn on a flashlight; a sudden light seems to enrage bears, and also gives them a specific target to attack.

Of course, the best way to survive a bear attack of any sort is to never get in one in the first place. With black bears, that shouldn't be a problem....

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## **"A Fed Bear is a Dead Bear"**

Although most people consider the exclusive focus of "Bear Safety" to be the protection of humans, the reality is that it is also for the protection of the bears. As previously stated, bears are intelligent, crafty and persistent animals - and once they get into a store of human food, they will constantly raid in efforts to get more, usually with at least sporadic success. In some cases, the act itself is fatal - I have heard dozens of stories of bears eating massive amounts of dehydrated backpacking food, then rupturing their stomachs - literally exploding - after going to get a big drink to wash it all down. [Some people actually consider this amusing, which makes one wonder which are the real animals.] Other bears die from internal bleeding resulting from devouring trash containing broken glass or sharp-edged lids from cans; this is one of the reasons why bottles and cans are prohibited in many wilderness areas. Large pieces of plastic wrapping (trashbags, ziplocks, food packaging, etc.) or food-stained clothing can cause choking or intestinal blockages. None of these are particularly pleasant ways to die.

Even if a bear is able to avoid these pitfalls, he or she is in trouble. Bears who raid quickly lose their fear of humans, and confrontations with and attacks on humans (and pets) become more likely. Bears who are highly successful raiders also degrade somewhat their ability to forage for natural food, and can therefore become desperate when the supply of human food runs out (this is a particular problem with tourist-dependent bears and trash-dump bears.) Note that one of the next items allegedly searched out by hungry, human-dependent bears who cannot find human food - is human underwear, because the smell is close enough. These are the reasons why a raiding bear is considered to be such a hazard.

In the United States, bears who attack humans are almost invariably tracked down and killed; in Canada, the authorities *may* grant a bear a second chance if an attack was the result of a foolish error by the human (Scenarios 1 or 2 only.) In order to prevent the inevitable attack on a human being, bears who constantly hang out near campsites and get into repeated confrontations with humans are either killed, or trapped, tagged and transported to a more wild area. However, while the latter option is certainly more humane, it is not particularly successful, as many transported bears will quickly return to their "home turf;" in fact, there are documented cases of bears traveling over 500 miles to return "home." Most of these bears resume raiding, and are then quickly killed. Furthermore, many of those who do not return to their original haunts don't stay purely wild, but rather just migrate to a closer source of human food, and are eventually killed for raiding in their new environments. [Unfortunately, bears do not understand the concept of "Last Chance."] A sad and entirely preventable end for a once-wild animal - and all the more tragic because its root cause was often nothing more than simple (and preventable) human carelessness.

Therefore, always remember: "A Fed Bear is a Dead Bear" (or, to paraphrase a much better known

expression: "Only You Can Prevent Fed Bears.")

- Dr. Bob, SM-111

- 1999 Printing



# Bear Safety

## A Conversational Guide for Scouts

"Everything You Ever Wanted to Know About How to Protect Yourself from Bears (and more....)"  
Detailed "How-To" information for all Scout Groups, from solo campers to large Crews, and for virtually all camping environments, from car-camping ghettos to deep wilderness.

**Fact:** There is only one animal on the North American Continent that will actively track and kill human beings for food - the Polar Bear.

**Fact:** There are three other animals in North America who will (rarely) take advantage of a lone sick, injured or stupid human being, and make a meal out of them - the Grizzly Bear, the Mountain Lion, and the Wolf (the latter usually in packs.)

**Fact:** [However,] there are dozens of other animals and reptiles in North America who can and will kill or put a severe hurting on a human being if circumstances warrant - alligators, bobcats, coyotes, deer, (wild) dogs, elk, javelinos, lynx, moose, feral (wild) pigs, raccons, rattlesnakes, wolverines, etc., etc., etc. Of all these, the best known is the common black bear, *ursus americanus*.

In reality, black bears represent a more realistic threat to humans than polar bears, grizzly bears, mountain lions or wolves, because of their rapidly increasing numbers, the extensive overlap of their habitation range with human domains, their increasing familiarity with human beings, high degree of intelligence, excellent memory, legendary strength and fighting ability. On his or her turf, and his or her terms, even a small bear is a potentially deadly opponent.

Yet for all that, the threat level is almost minuscule. As implied in the three preamble "Facts," predatory black bear attacks on humans are extremely rare (less than 25 documented predatory attacks resulting in human deaths, this \*century\*), and even provoked attacks are relatively uncommon. [This from an estimated current population of half million black bears in North America.] For the most part, black bears studiously avoid human confrontation. Why? - well, bears are still hunted by humans (both legally and illegally), and we're therefore well recognized by them as being a lethal threat. Plus we've spent the last 400 years shooting most of the hyper-aggressive bears in the lower 48, so artificially induced Darwinian selection has definitely played a role in our favor. Today, there's really only three ways to get in trouble with a black bear (in order of degree of danger):

- \* Actively threaten a cub (aka: "Death Wish.")
- \* Surprise one on the trail (aka: "Close Encounters of the Worst Kind" - I had such an encounter at Philmont in 1972, but quite fortunately didn't pay the price for it.)
- \* Be careless with respect to food and other "smellables" use, cleanup and storage.

Situations 1 and 2 are easy enough to avoid, merely by paying attention to your surroundings and making noise as you travel in bear country. Bears have excellent hearing, better than reputed (color!) vision, and an extraordinarily acute sense of smell - and if a bear hears, sees, or smells you coming, you probably won't see him/her at all, or will only get a distant or passing view. Noise is your most effective defense. Everyone has heard of the rather common (albeit highly irritating) trick of attaching small bells

or similar items to backpacks in grizzly country; however, this really isn't necessary for Scout groups in black bear country. The average Scout group walking through the woods makes enough noise to be heard a quarter mile away, either from incessant chatter or from suspended gear rattling on their backpacks. However, solo hikers or small groups who are being intentionally quiet to maximize their chances of seeing wildlife, have to be a lot more cautious and alert. My close encounter in '72 arose because I was very carefully and silently stalking a small group of mule deer for a closeup picture, from uphill and downwind (perfect conditions for me.) Coming around a very large boulder that marked an right turn in the trail, I came face-to-face with a medium sized bear \*less than\* 6 feet away who was walking down the trail. If I'd have been 2 seconds later we'd have bumped heads at the intersection. Quite fortunately for me, no cubs were involved, and Mr. Bear did a quick 180 and trotted off back up the hill (a pretty typical response.) Proving how foolish a 16 year old can be, I ran after him for about 20 feet and snap-shot a photo of his retreating butt, which I still have here somewhere around my house. I supposed if he had attacked, my last photo of "full frontal bear" would have made a fine epitaph in the National Inquirer. To this day, I cannot figure out how he didn't smell me, since the wind was in his favor, and I smelled as ripe as only a Scout can after a week at Philmont.

Lucky, lucky, lucky....

Anyway, if you make noise while hiking or backpacking in the woods, and pay attention to your surroundings, you'll almost certainly never run afoul of Situations 1 or 2. Note, however, that extra caution is warranted in "white noise" situations which drown out your "bear alarms" or natural group noise; these include walking along noisy streambeds or in wooded areas during moderate to strong winds or rain. If you're walking through known bear territory under such conditions, it would be prudent to keep up the talking level or otherwise generate more noise.

Situation 3 - "smellables" safety - is by far the most common problem. Bears love human food, and will risk approaching humans in order to obtain it - especially if they have successfully raided in the past. However, taking a few common sense precautions are invariably all that's needed to protect yourself, \*and the bears!\* Make it tough, and they won't bother - but make it easy, and they'll be back for more, forever....

What are smellables? [A Quick Education] - Mention "bear safety," and most people think "food." While correct, this is only the tip of the iceberg. A bear's nose is one of the most sensitive in the entire animal kingdom - allegedly they can differentiate between identical, factory-sealed cans containing food versus sand or other similarly inert materials (if true, that's absolutely amazing!) Unfortunately, virtually \*anything\* with an unusual odor is "food" to a bear. A short list includes: bandages, Brillo Pads, canteens that have ever contained a flavored drink (unless they've been sterilized with a solution of Chlorox since that time), Chapsticks, clothing worn while eating meals or doing KP, deodorants, dryer (anti-static) sheets, feminine hygiene products, film, baby or foot powder, insect repellent, medications, scrubbies, shampoo, soap, sunscreen, toilet wipes, toothpaste, any and all trash, unclean backpacks, unclean tents, and unclean utensils, eating ware or cookware, Wet-Ones, etc., etc., etc.

*Bit of an eye-opener, isn't it?*

A bit scary - however, this also gives us the basis for bear safety: "Take Care of (All) Your 'Smellables!'" The following 15 step "Bear Safety Checkoff List" spells out how to do this, in excruciating detail.

## The "Bear Safety Checkoff List" - when in bear country, you must ensure:

- 1) That you never, ever intentionally feed a bear (aka: "Don't be a dumb-ass tourist!")
  - 2) That you always practice proper, low-impact cooking and cleaning procedures, and never leave dirty cookware or eating ware out overnight.
  - 3) That you never eat in or near your tent, nor go to bed wearing the clothes you had on while eating or doing KP.
  - 4) That the only items that go into your tent each night are: You, your sleeping bag and foam pad/air mattress, your pillow, a flashlight, and either your "night clothes" or tomorrow's clean clothes. Nothing else! [A real education for your average Scout, most of whom - especially your youngsters - want to bring everything they own into their tents at night.]
  - 5) That your tent, sleeping bag, foam pad/air mattress, pillow, flashlight and clothes are meticulously clean and free of trash. Note that use of a typical Troop tent in known bear country is a VERY BAD IDEA unless it has been thoroughly hosed out prior to your trip (all those soda spills, empty candy wrappers, and stray M&M's, don't you know....)
  - 6) That every member of your Crew avoids using sunscreen, insect repellent, soap/shampoo, and/or topical medications after about 5pm (some jurisdictions recommend 3pm.) That every member of your Crew avoids using any deodorants, body lotions, hair creams, or similar products (at all.)
- #s 3 - 6 are by far your most important check-offs. Your equipment can be replaced; you can't.
- 7) That you avoid burning waste or leftover food in fireplaces (rarely consumes the food entirely, but does a masterful job of spreading potent food odors downwind.)
  - 8) That if a sump (food cleanup and wastewater disposal area) is not available, that all wastewater be dispersed well away from \*any\* potential tenting sites - both the ones you're intending to use, and any other flat areas which might be used by future campers.
  - 9) That your tents are all set up well away from your cooking, eating, cleaning, food sorting, and bear-bag areas (this is the basis for the "Bearnuda Triangle," which is formally defined below.) Also, that if you're camping on an established campsite, that your tents are all set up well away from the "Bearnuda Triangle" established by previous groups (if you can tell.) Note that only heavy rains will render these areas scent-free again.
  - 10) That you check under any flat rocks laying on the ground near your tent - a rapidly growing problem all across the country is the stashing of trash under rocks, either to prevent it from blowing away in the wind (and subsequently forgotten) or out of sheer laziness. That you educate your own Scouts not to do this incredibly stupid thing.
  - 11) That your backpacks are well away from your tents, and properly wrapped in waterproof pack covers (which help keep residual pack odors down.)
  - 12) That your food, trash and all other "smellables" are properly stored in bear bags, properly stored in bear-proof containers or suspended out of reach, and well away from your campsite. (Much more on bear-bags below. Note well the comments on bear-bag storage of emergency medications such as

inhalers or epi-pens.)

# 12 is your fifth most important checkoff.

13) That you make a lot of noise when approaching bear bags, especially at night or at dusk or first light. Clapping your hands and talking in a normal tone of voice are excellent warning hints for any foraging bears (bears hate surprises!)

14) That you never publicly bitch at a Scout or Leader for failure to get a "personal smellable" into a bear-bag "on-time;" this leads to all Scouts and Leaders hiding late-discovered smellables rather than facing your wrath. Hard to resist when you've been calling for "smellables" for 30 minutes and just killed yourselves hauling 150 pounds into the air - but resist you must. [See also "Micro-Bear-Bags" below.]

15) That you always designate a responsible Scout or Adult to be your bear safety monitor while you're camping in bear country. Always remember, education and vigilance are your best defenses!

This sounds like an awful lot to be careful about - and it is! - but with proper training, all of these precautions become ingrained and second nature to you and your Troop or Crew.

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## The "Bearmuda Triangle"

The "Bearmuda Triangle" represents the area enclosed by the three points most likely to be visited by a raiding bear. At Philmont (which is where I first heard the term), these three areas are: (A) the fire-ring (food preparation and eating area, usually including the Crew tarp); (B) the sump (cleanup and wastewater disposal area); and (C) the bear-bag area. If the Crew tarp (food sorting and organization area) is for some reason set up away from the fire-ring, the "triangle" turns into a "quadrangle" (not a geometrically correct term, but you get the idea); in the latter case, the tarp should never be set up over a flat area where a future crew might choose to tent. As stated in Checkoff Item # 6, no tents should be set up within or adjacent to the outlines of the triangle/quadrangle; similarly, no-one should "meadow crash" (sleep out under the stars) in this area, either. The "Bearmuda Triangle" should always be well established before anyone breaks out a tent.

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## Bear-Bags

Bear bags are large sacks in which you can place all your food and smellables, for either placing in a bear-proof storage locker, or (far more commonly) for suspending from ropes with the bottoms at least 8 feet off the ground and the sides at least 4 feet from the nearest climbable tree-trunk. At Philmont, the "classic" bear-bag was a large burlap sack (now replaced by woven polyethylene sacks), but many other items can also be effectively utilized as bear-bags. These include, for example, canoe stuff sacks, duffel bags, large capacity, internal frame backpacks, large cotton or nylon laundry bags, trash-bags (contractor weight, at least 4 mil), and even large buckets or medium size trash cans.

Loading bear-bags is a matter of common sense; heavy items should be placed on the bottom, and crushable/breakable items on top. Of note, however, the first aid kits and emergency medications

(inhalers, epi-pens, etc.) should always be placed on the very top of *\*two separate bear-bags\** - on top so that they can be easily accessed at need, and in separate bear-bags so that if one slips out and falls, or is otherwise lost to a bear-raid, you still have the backup. If you have more than two bear-bags, it's also a good idea to somehow mark the bags containing the medical supplies; this is easily done by having a bandanna sticking out the necks of the critical bear-bags.

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## **"Bear-Proof" Storage Lockers**

Many campsites in bear country have installed "bear-proof" storage lockers on-site for temporary storage of bear-bags; similar containers are also in place for trash. Most of these are made of heavy duty plate steel, but others are built of railroad ties, rough-cut timber, or treated, heavy-duty commercial lumber, sometimes wrapped in heavy-duty sheet metal. Virtually all of them have a sliding or hinged access door with some form of fail-safe, double-lock system which is beyond the mental capacity of bears (and in my experience, some humans) to figure out. These are extremely effective, and a heck of a lot more convenient than suspending bear-bags, but can get awfully crowded in some campsites. Additionally, in the latter cases, their "human security" also leaves much to be desired, and theft of food and/or gear by fellow campers is always a possibility. (Of course, this is true of any form of bear-bag storage, but a thief has to be pretty brazen to take down a set of suspended bear-bags, whereas rooting around in a locker, hands unseen, is rather easy.)

Note that cars and other vehicles are NOT the equivalent of a bear-proof locker, and are NOT adequate protection against grizzlies or the much larger black bears common in the Western United States, Alaska and Canada - these bears have the physical strength (and knowledge) to pop a car windshield or tear into a door or trunk. Fortunately, such efforts appear to be beyond the physical capabilities of *\*most\** eastern bears. All things considered, however, it is always better to suspend your smellables in bear-bags when bear-proof lockers are not available. Vehicles should always be your last resort. If you have no other option, and must use vehicles for storage in areas that have known and serious bear-raid problems, two tricks which *\*may\** work (no guarantees!) are to leave the storage vehicle idling all night long, or leaving a lit Coleman Lantern on top of the storage vehicle. With respect to the latter option, note that leaving the vehicle's dome light on is ineffective; the deterrent effect with the Coleman Lantern derives from the noise and fumes - not the light.

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## **Suspending Bear-Bags**

Although many campgrounds have installed bear-proof storage lockers, most have not, and there are, of course, few storage lockers in the vast tracts of wilderness across North America. Thus, it is far more common for bear-bags to be suspended in order to keep them from bears, and anyone travelling in bear country should be familiar with standard methods for doing so. Yes, there are a variety of ways to hang bear-bags; the provided "briefs" (below) give descriptions of each, along with a quick primer on how to use them. First, however, a quick lesson on knots....

## **What Knot to Use?**

For virtually any bag-type bear-bag, the best knot to use - by far - is a lark's head, wrapped around the twisted neck of the bag. The lark's head is self-constricting, quick and easy to tie, quick and easy to untie

(very important!), and does not require access to the end of the bear bag rope to tie. Virtually any other constriction knot (like a clove hitch or slip knot) will tighten overnight to the point where untying it is extremely difficult - especially if it rained or if the bags were extremely heavy. Non-bag-type bear-bags ("cargo"-style duffel bags, internal frame backpacks, canoe bags, trashcans, etc.) are more of a pain; however, you can usually double the bear-bag rope over and tie two or three half-hitches to each container's handle. Doubled over, the ropes are usually a little easier to untie. One trick which will make your life a *\*lot\** easier is to place a small, *\*smooth\** stick (one - two inches in diameter) adjacent to the handle, and tie the knot around the both the handle and the stick. The next day, you can slide the stick out from under the knot, giving yourself extra slack for untying the knot; this works even if the knots became wet and/or super-tight overnight. Note that external frame backpacks being used as bear-bags should always have the knots tied around the frame, not the shoulder straps or suspension loop.

## Bear-Bag Suspension Methods

**Bear-Bag "Trees"** - These are sturdy, metal 10 - 14 foot high poles cemented into the ground, having 4 - 6 hanging hooks on top. They are quite common throughout the Adirondacks, but are also found in many other areas all around the country, including the Shenandoah National Park and all along the Appalachian Trail. A second free pole with a small hook on the end allows you to raise and suspend the bear-bags onto the tree-hooks. This free pole is usually hung on the main pole; in some cases, it is permanently chained onto the main pole to prevent its removal.

**Bear-Bag Cables** - In many locations, including Philmont and other quasi-wilderness locales, park authorities have installed permanent bear-bag cables at most designated campsites. These cables are made of stainless steel, and are strung between two sturdy trees, anywhere from 12 to 20 feet off the ground. The better versions have 2 - 6 small chocks clamped onto the cable (one every couple of feet), to prevent multiple bear-bag ropes from sliding into each other (and getting tangled into a horrendous mess) or into the trees (where they can be reached by a climbing bear.) In some areas, authorities will use heavy-duty polypropylene or nylon rope tied between two trees as a seasonal or temporary replacement bear-bag cable. Rarely, these latter cables will have a small pulley and secondary rope system built in for suspending bear-bags.

**Bear-Bag Racks** - This is a new system which I haven't yet seen, but have heard about. I can't find any literature on them, so they must be fairly rare at this point. They're supposedly built from two sturdy metal poles cemented into the ground, with a metal cross bar - kind of like an oversize soccer goal made from pipes, minus the net.

**(Natural) Trees** - The "original" bear-bag system. There are two different ways to suspend bear bags from trees; the first (and by far the most common) is to merely suspend the bags from a sturdy limb (greater than 4 inches in diameter.) In this case, the suspension point must be at least 10 feet high and 4 feet from the tree trunk (any closer and a climbing bear can reach out and rip the bags open.) If the limb is so thick that a bear could climb out on it, then it has to be at least 14 feet high, with the bags suspended 4 feet below the limb. The second method is used in areas where the trees do not have sturdy limbs extending horizontally from the trunk. In this case, the bear bag is suspended midpoint between two trees, again, at least 10 feet high and a minimum of 4 feet from any tree trunk.

## Bear-Bag Ropes

For small amounts of smellables (less than 50 pounds), 100 feet of any synthetic rope of at least 1/4 inch diameter, in good repair, should be adequate. For larger quantities, 100 feet of synthetic rope of 5/16ths

or 3/8ths inch diameter should be used. In general, the rope should have a breaking strain of at least five times the maximum expected load. Note that most ropes are used doubled for bear-bags, which also doubles the breaking strain; however, older ropes have decreased breaking strains. Cotton or other natural fiber ropes are less desirable, due to their propensity to pick up moisture and rot, which dramatically increases their carry weight and degrades their maximum breaking strain.

Bear-bags and bear-bag ropes are most conveniently carried inside small stuff sacks, about 6 x 12 inches, with draw strings. These stuff sacks are also very useful as aids for throwing the ropes over the bear-bag cable, rack or tree limb, as detailed below.

## How to Hang Bear-Bags

**Bear-Bag Poles** - This is the only system where non-bag-type containers with their own handles are the most convenient to use. In these cases, the handle of the container is hooked onto the free pole while on the ground, and the pole is then raised by as many people as necessary (takes more than you'd think!) and the container transferred to one of the large hooks on the suspension pole. If classic sacks are used, then a small loop needs to be fashioned out of about 3 - 4 feet of rope; this is tied around the twisted neck of the sack using a lark's head, and the free end used as the handle for suspending on one of the large hooks. Regardless of what type system is used, it is important to match the weight on the pole from side to side, as excessive weight on one side could potentially tip the pole out of the ground (they're not buried that deep, or with that much concrete), or break the pole at the ground point (where they're often rusted half-through, especially the old ones.) In addition, in my experience, any bear-bag containing more than about 40 pounds is extremely difficult to manage; in these cases, more bags containing lesser amounts is the way to go.

**Bear-Bag Cables** - *Step One* is doubling the rope, easy enough.

*Step Two* is getting the doubled rope over the cable - quite easy for the lower cables, but often difficult for the higher ones. The classic Philmont system is to wrap the throwing end of the doubled cable into a tight "softball," which is then tossed over the cable. Again, this works well for the lower cables, but in my experience rapidly results in frustration with the higher ones. As alluded to above, a much better solution is to tie the bear-bag stuff sack to the end of the rope, fill the bag with something moderately heavy (a pair of sneakers, or some items of clothing, etc.), and toss that over the cable. Much easier and much more accurate. Whatever you do, do NOT allow the Scouts to attempt to tie rocks or heavy pieces of wood to the end of the rope for throwing purposes - this will rapidly result in free flying rocks and pieces of wood high in the air above a group of Scouts, a sure-fire recipe for a potentially serious injury, especially at night. When tossing over a cable with chocks, always try to pick a section of cable which is free of other bear-bags; if you miss, it's usually easy enough to flip-curl the rope over a chock to another section.

*Step Three* - Once you have the cable properly positioned over the cable, remove the throw bag (put it inside one of the bear-bags for safekeeping, or save it for a mini-bear-bag (see below)), and start tying in the bear-bags. Again, the neck of each bear-bag should be tightly twisted, and a lark's head knot placed down over the neck as far down as possible, then tightened. If there's adequate "neck" to allow it, double it back on itself and tie the lark's head around both. Note that the draw strings of laundry bags or large stuff-sacks should never be used to tie into the bear-bag rope (a typical novice error.)

*Step Four* is hauling the bags up into the air, which generally takes one person per filled bag. Note that a common "helping" trick is for one or two people to lift the bags into the air for the initial lift - which is fine, but these helpers should then immediately get out of the way once the bags are above their heads

(another typical novice error.) If you've ever seen a 50 pound bear-bag take a 15 foot dive and smash on the ground, you'd agree that standing underneath them is not such a hot idea. In order to prevent twisting in the wind, the bear-bags should be raised right up to the cable.

*Step Five* - The doubled rope is separated into its two strands, and each is tied into *\*separate\** trees, preferably at eye level or above. The ropes are NOT wrapped endlessly around the trees; rather, they are wrapped once or twice, doubled over, and tied back into the suspension rope using two or three half-hitches. The separation of the ropes is a safety measure; bears have been known to chew through bear-bag ropes, dropping the entire Bear-bag assembly (the very first bear I ever saw at Philmont attempted to do this to our bear-bags, before we chased him off.) Tying the ropes high also helps prevent the chew-through routine.

*Step Six* is to wrap up the remaining tails of both ropes; if left on the ground, they'll get wet and dirty, and possibly tangled with other Crews' bear-bag ropes. The ropes can either be coiled or daisy-chained, whichever you prefer.

**Bear-Bag Racks** - The rack system can be used virtually identically to the cable system above. In addition, a new method can be used in areas where the bears have well learned the chew-through routine, as follows: The bear-bag-rope is tossed over as usual. The bags are divided into two piles of approximately equal weight. The first pile is tied into the rope as usual, and raised to the top of the rack. The tensioned rope is then tied into the second set of bags still lying on the ground (tough to do!), and the excess rope coiled and placed *\*on top of\** one of the bear bags. The second set of bags is then raised by hand and then with large branches until it matches the height of the descending first set of bags. When finished, the bottom of both sets of bags should be at least 8 feet off the ground. When done correctly, this gives Mr. Bear no ropes to chew on. However, it is vitally important to make sure the weights of the two sets of bags are equivalent, or else one set will slowly rock itself down to the ground overnight, if there's any wind. In addition, this method can result in a horrendous tangle if the bags can wrap around themselves in strong winds, so it's important to minimize the amount of rope between bags within each set, lest your bear-bags turn into people-proof bags. Taking the bags down requires a hooked branch or pole to pull the excess rope (coiled on top of one of the bear-bags, remember?) down. If you have any questions as to your ability to manage this, you should leave the excess rope hanging down and draped over a high nearby branch; some bears may have learned to bite through a tensioned rope, but one suspects that none of them have yet figured out how to pull a slack rope taut to pull down a set of bear-bags. For lack of any other specific term, I will refer to the above method as the "Counterbalance Technique."

**Trees** - Where a good sturdy, horizontal limb is available, either the standard bear-bag cable method or the alternate Counterbalance Technique can be utilized; however, the latter technique is more difficult with trees, because the ropes will not slide over tree bark anywhere near as easily as over a metal cable or pipe. Also remember, if the limb is greater than about 4 inches in diameter, the bags must be suspended at least 4 feet below the limb, or else a bear can climb out and tear the bags apart from above.

If no sturdy, horizontal limbs are available, proceed as follows: Find two trees about 25 feet apart which fork about 12 feet up (any major branch also works). Tie your bear-bag stuff sack into your doubled cable and toss it through the first notch. Detach the bag and tie the rope off on a branch as high as you can reach at the base of the same tree - you can also use a nearby tree if no convenient branches are available; however, don't wander too far, or you'll use too much rope. Bring the free end of the doubled rope *\*straight down to the base of the tree,\** and tie in your bear bags as usual, at the base of the tree, with about equal weights for each separate rope. Re-tie your stuff sack to the other end of the doubled rope, and toss it over the branch or through the fork of the second tree. Using most of your Crew (you'll need them!), haul the bags up as high as you can manage. Use of a good sized forked branch to prop up

the \*rope\* right next to the bear-bags but opposite the side you're hauling from, will help a lot (do NOT push against the bags, you might tear them.) When you're done, the bags should be equidistant between the two trees, with the bottoms at least 8 feet off the ground. Higher is better, but is usually impossible to achieve. Tie off the ropes separately, coil or daisy-chain the ropes, and you're done. This is by far the most difficult method for suspending bear bags, but it's the only method that works in some areas.

**"Mini-Bear-Bags"** - No, not bags to protect against the infamous mini-bears; rather, this is a small, secondary bear-bag to suspend forgotten items discovered after you've hauled the primary set(s) of bear-bags up. Not only a mechanism to prevent having to take down and re-raise a heavy set of bear-bags, this is also a means for maintaining your patience with those Scouts (and Leaders!) who have seemingly ignored a dozen calls for smellables. Most commonly, these final items will include things like toothpaste or bedtime medications, or Chapsticks, snacks or trash discovered in pockets when changing into night clothes. Remember, harshly and publicly criticizing such Scouts and Leaders will only lead to \*everyone\* hiding those last few items rather than bringing them to your attention. Unfortunately, they can hide them from you, but not from Mr. Bear. Mini-bear-bags can be small daypacks, bear-bag and rope stuff sacks, cook-kit stuff sacks, small trash bags, etc. They can be suspended by any of the standard methods, most commonly off a convenient tree limb near the bear-bag site, using parachute cord or several tied-together lengths of clothes-lines. A clever alternative (recommended by Cooper Wright) is to clip a small carabiner into your primary bear bags (that is, around the rope between two adjacent bear-bags), and run about 30 feet of parachute cord through it before raising the bear-bags. Thus, you have an instant mini-bear-bag setup for all late items and/or one set of medications - a heck of a lot easier than having to drop your entire set of bear-bags.

**Bear-Bag Tangles** - Yes, despite every possible effort to untangle lines, every once in a while a set of bear-bags become hopelessly enmeshed (many a bear-bag cable has living proof of this, forlornly hanging down from on high.) If this happens to you, and there's no hope of working it out, the only viable solution is to find a lengthy branch, duct tape or lash an open knife to the end, and start sawing. You will eventually get your bags down, although they may not be in such hot shape after doing the high dive act. Better than starving to death, though.... Make sure no-one is standing under the bags when you start cutting (and no-one should ever try to catch a falling set of bear-bags - that's begging for a serious injury.)

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As previously noted, the chances of being attacked or even challenged by an eastern black bear are virtually nonexistent. In the Western United States, Alaska and Canada, the level of risk rises all the way up to "remote." The following section should be read in the bright light of that reality. Black bears should be admired, not feared!

## What to do if Challenged by a Bear

There is an old joke about what bears can do in the woods ("Anything they damn well please!") The vast majority of black bears are nonaggressive and will not challenge human beings (even when cubs are involved), but a few will. However, as previously noted, even these latter bears are (usually) not interested in attacking or eating anyone, but are merely (temporarily) defending turf or seeing if they can back you off a cache of food.

Hiking or backpacking groups are virtually never confronted by black bears. However, solos may be, especially if they're walking quietly enough to surprise a bear. If confronted by a bear while alone on the trail (confrontation meaning they do not turn tail and walk away, but rather hold their ground and stare

you down), do not run away! - this will only excite their "chase reflex" - rather, \*break\* eye contact, talk at a moderate volume, and slowly back away, always facing the bear, and retreat out of sight. If you cannot find another trail around the confrontation site (bushwhacking is a REALLY BAD IDEA), wait at least 15 minutes before trying the original trail again, and make lots of noise the second time through. If any cubs were involved, wait at least 30 minutes before trying again. A half-hour is a damn long time to wait (try it sometime!), but it's nothing compared to the rest of your life - WAIT! One extra precaution against a sudden attack when re-trying the original trail is to walk with a large tuft of dry grass in one hand and a Bic lighter in the other, ready to go. 99.999% unnecessary, but an ounce of prevention and all that....

If a bear invades your campsite, looking for food, you have a number of options. The best is to form a large, amorphous group, with everyone waving arms and clothing and banging pots and pans while slowly advancing towards the bear. The slow approach of such a large, noisy creature is highly intimidating to bears. I have done this at least a dozen times in my life, and in every case the bear quickly retreated. Some writeups also suggest throwing items at or near invading bears, but I would personally recommend reserving this option as a last resort for attacking bears; as 1997's Boy Scouts versus bears incident in Yosemite illustrated, it is possible to kill a bear with a rock, and (even when justified) the political fallout from such a death is both extensive and intensive. Another option - one I learned from the backcountry staff at Philmont - is to immediately chase an invading bear, waving clothing and yelling or barking like a dog. I have done this twice myself (three times if you want to count my idiotic pursuit during my 1972 close encounter), and have also seen it done by staff members at Philmont at least another half-dozen times, all with great success. However, DO NOT close to within 15 feet during your pursuit, and always give the bear an escape route. If a bear has an open line of retreat available, he'll always take it. A note of warning however - if the bear you're chasing starts bawling, break off the pursuit immediately - you're chasing a cub, and mama will soon be coming, and she will be very, very unhappy when she arrives. Finally, if all else fails to back a bear off, try using fire - the smoke from burning off a tuft of dry grass is usually enough to intimidate the most aggressive bears, even a mother with cubs.

## What to do if Attacked by a Bear in the Open

As noted above, unprovoked attacks by black bears are extraordinarily unusual - so much so that I considered not including this section at all. Nonetheless, it's probably a worthwhile read just for the sake of comprehensiveness for those Troops who do deep wilderness treks in the Western United States, Canada or Alaska. Suffice it to say, however, that I have encountered over 50 black bears in my lifetime - some of them at \*very\* close range - and have not once had a problem with any of them. That's very much worth keeping in mind...

...but what if, right? Well, keeping your wits about you when confronted with 200 - 800 pounds of imminent, violent, and messy death is awfully difficult to do - but it's vital to surviving a bear attack. Stay cool! Remember, the vast majority of black bear "attacks" are bluffs - and will come to a screeching halt about 15 feet short of hand-to-paw combat - unless you do something stupid which excites a real attack. Let's review the available options:

**Option I** - "*Hold Your Ground*" - is the toughest, but by all accounts the most successful technique. As noted above, the vast majority of "attacks" are bluffs. Hold your ground, talk in a normal tone of voice, and wave your arms or pieces of clothing. Mr. Bear will generally stop well short of an attack (usually about 15 feet away), and then quickly back off.

**Option II** - "*Running Away*" - is the most obvious, but also the most dangerous and least useful

alternative. If you take off running from a charging bear, you will excite his "chase reflex," and likely stimulate a real attack. A bear can reach speeds of up to 35 miles per hour, and can easily run down a human being, regardless of the terrain, especially if that human is burdened with a heavy pack. Allegedly, the only way to outrun a chasing bear is sideways across a steep slope; their legs are set so wide apart that they have a difficult time keeping their balance while traversing such a slope. Of course, the chances of being attacked on such a slope would appear to be rather remote. Running to an immediately accessible place of safety may be worthwhile, providing you have the time - a vehicle (if it's locked, and you're out of time, get underneath it), a dwelling, an *\*extremely\** dense thicket, a very tight cave entrance or very low hanging, deep-set rock ledge. Reality Check - How likely are any of these scenarios? In most wilderness areas, climbing trees would appear to be your best option, but this can be a potentially fatal error - black bears can climb better and faster than any human, and if they really want you, climbing a tree won't help. However, Daniel Boone claimed to have jumped off a cliff into a tree to escape a pursuing bear. Others have jumped into lakes or rivers; bears can swim just fine, but reports of black bears attacking humans while swimming in deep or fast flowing water are rare. (As a sheer guess, this is likely because they can't effectively use their primary weapons on you - their front legs (arms.)) One well-known trick which might help if you choose to run is to drop a hat, a bandanna, or some other piece of equipment (**BUT NOT YOUR PACK!**); a bear may stop to investigate what you dropped, allowing you to make good your escape.

**Option III - "Drop Like a Rock"** - has been successful for many victims of actual bear attacks. However, it's critical to **NOT DROP** until a charging bear is literally on top of you - if you drop too soon, you may excite an attack just as he was about to give it up. If you drop, you should assume a fetal position, with your arms folded around your head, hands interlocked behind your neck, and knees drawn up to your chest. In many cases, the bear will do nothing more than sniff you, bat you around a little bit, and/or bite you a few times before leaving. In other cases, however, bears have thoroughly mauled individuals who have tried this, severely injuring or killing them. Unfortunately, there doesn't seem to be any rhyme or reason to what triggers an attack in these latter cases. However, all the literature on bear attacks states that if a bear continues to attack you for more than a minute after you've dropped, it's time to fight back with everything you've got left, concentrating on punches or kicks to the eyes and nose regions. [The literature, however, did not specify how you're supposed to time the length of the ongoing attack.] All I can say is, Good Luck!

**Option IV - "Fight It Out"** - has also been successful for many would-be victims of bear attacks. (Of course, the losers are rarely still around to tell their tales!) If you're still upright, you want to do whatever you can to avoid closing to hand-to-paw combat - because you will rarely win such a fight. Generally, throwing items is the most common method, followed by fending off with a large walking stick or stiff branch (again, directed at the nose and eyes.) Combatants have thrown their backpacks, rocks, pieces of wood, camping gear, and anything else at hand. Screaming, barking like a dog, and/or waving large pieces of clothing with your free hand (again, to make yourself appear larger and more intimidating) have been effective. Others have started grass fires with lighters or matches, or grabbed flaming brands from campfires - this is the most effective method of all, as fire will generally back off even an enraged bear. If you have one, use of one of these new bear-repellents (mace/red pepper-spray) may also be effective if sprayed into the eyes or nose; however, note that the jury is still very much out on these sprays. Of importance, the residual odor left after using a bear-repellent spray may actually attract other bears to the locale - so you have to leave the area and also treat the just-used can of repellent (and the clothes you were wearing) as potent smellables.

## **What to do if Attacked by a Bear While in a Tent at Night**

If you've been taking care of business, this should never happen; in fact, I cannot find any documented

incidents of unprovoked attacks (by black bears) on tenting humans who had taken proper care of their smellables. (The primary purpose of this guide is to teach you the proper precautions necessary to preclude this very situation!) However, should this ever occur, the standard procedure is to retreat all the way inside your sleeping bag, scream or bark like a dog, and wait for help from your fellow campers. No-one seems to have any suggestions if you don't have any fellow campers to come to your rescue, so this may be a situation for a bear-repellent spray (assuming you had the foresight to bring one along, and can get to it quickly.) Note that it is a very bad idea to turn on a flashlight; a sudden light seems to enrage bears, and also gives them a specific target to attack.

Of course, the best way to survive a bear attack of any sort is to never get in one in the first place. With black bears, that shouldn't be a problem....

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## **"A Fed Bear is a Dead Bear"**

Although most people consider the exclusive focus of "Bear Safety" to be the protection of humans, the reality is that it is also for the protection of the bears. As previously stated, bears are intelligent, crafty and persistent animals - and once they get into a store of human food, they will constantly raid in efforts to get more, usually with at least sporadic success. In some cases, the act itself is fatal - I have heard dozens of stories of bears eating massive amounts of dehydrated backpacking food, then rupturing their stomachs - literally exploding - after going to get a big drink to wash it all down. [Some people actually consider this amusing, which makes one wonder which are the real animals.] Other bears die from internal bleeding resulting from devouring trash containing broken glass or sharp-edged lids from cans; this is one of the reasons why bottles and cans are prohibited in many wilderness areas. Large pieces of plastic wrapping (trashbags, ziplocks, food packaging, etc.) or food-stained clothing can cause choking or intestinal blockages. None of these are particularly pleasant ways to die.

Even if a bear is able to avoid these pitfalls, he or she is in trouble. Bears who raid quickly lose their fear of humans, and confrontations with and attacks on humans (and pets) become more likely. Bears who are highly successful raiders also degrade somewhat their ability to forage for natural food, and can therefore become desperate when the supply of human food runs out (this is a particular problem with tourist-dependent bears and trash-dump bears.) Note that one of the next items allegedly searched out by hungry, human-dependent bears who cannot find human food - is human underwear, because the smell is close enough. These are the reasons why a raiding bear is considered to be such a hazard.

In the United States, bears who attack humans are almost invariably tracked down and killed; in Canada, the authorities *may* grant a bear a second chance if an attack was the result of a foolish error by the human (Scenarios 1 or 2 only.) In order to prevent the inevitable attack on a human being, bears who constantly hang out near campsites and get into repeated confrontations with humans are either killed, or trapped, tagged and transported to a more wild area. However, while the latter option is certainly more humane, it is not particularly successful, as many transported bears will quickly return to their "home turf;" in fact, there are documented cases of bears traveling over 500 miles to return "home." Most of these bears resume raiding, and are then quickly killed. Furthermore, many of those who do not return to their original haunts don't stay purely wild, but rather just migrate to a closer source of human food, and are eventually killed for raiding in their new environments. [Unfortunately, bears do not understand the concept of "Last Chance."] A sad and entirely preventable end for a once-wild animal - and all the more tragic because its root cause was often nothing more than simple (and preventable) human carelessness.

Therefore, always remember: "A Fed Bear is a Dead Bear" (or, to paraphrase a much better known

expression: "Only You Can Prevent Fed Bears.")

- Dr. Bob, SM-111

- 1999 Printing



# Bear Safety

## A Conversational Guide for Scouts

"Everything You Ever Wanted to Know About How to Protect Yourself from Bears (and more....)"  
Detailed "How-To" information for all Scout Groups, from solo campers to large Crews, and for virtually all camping environments, from car-camping ghettos to deep wilderness.

**Fact:** There is only one animal on the North American Continent that will actively track and kill human beings for food - the Polar Bear.

**Fact:** There are three other animals in North America who will (rarely) take advantage of a lone sick, injured or stupid human being, and make a meal out of them - the Grizzly Bear, the Mountain Lion, and the Wolf (the latter usually in packs.)

**Fact:** [However,] there are dozens of other animals and reptiles in North America who can and will kill or put a severe hurting on a human being if circumstances warrant - alligators, bobcats, coyotes, deer, (wild) dogs, elk, javelinos, lynx, moose, feral (wild) pigs, raccons, rattlesnakes, wolverines, etc., etc., etc. Of all these, the best known is the common black bear, *ursus americanus*.

In reality, black bears represent a more realistic threat to humans than polar bears, grizzly bears, mountain lions or wolves, because of their rapidly increasing numbers, the extensive overlap of their habitation range with human domains, their increasing familiarity with human beings, high degree of intelligence, excellent memory, legendary strength and fighting ability. On his or her turf, and his or her terms, even a small bear is a potentially deadly opponent.

Yet for all that, the threat level is almost minuscule. As implied in the three preamble "Facts," predatory black bear attacks on humans are extremely rare (less than 25 documented predatory attacks resulting in human deaths, this \*century\*), and even provoked attacks are relatively uncommon. [This from an estimated current population of half million black bears in North America.] For the most part, black bears studiously avoid human confrontation. Why? - well, bears are still hunted by humans (both legally and illegally), and we're therefore well recognized by them as being a lethal threat. Plus we've spent the last 400 years shooting most of the hyper-aggressive bears in the lower 48, so artificially induced Darwinian selection has definitely played a role in our favor. Today, there's really only three ways to get in trouble with a black bear (in order of degree of danger):

- \* Actively threaten a cub (aka: "Death Wish.")
- \* Surprise one on the trail (aka: "Close Encounters of the Worst Kind" - I had such an encounter at Philmont in 1972, but quite fortunately didn't pay the price for it.)
- \* Be careless with respect to food and other "smellables" use, cleanup and storage.

Situations 1 and 2 are easy enough to avoid, merely by paying attention to your surroundings and making noise as you travel in bear country. Bears have excellent hearing, better than reputed (color!) vision, and an extraordinarily acute sense of smell - and if a bear hears, sees, or smells you coming, you probably won't see him/her at all, or will only get a distant or passing view. Noise is your most effective defense. Everyone has heard of the rather common (albeit highly irritating) trick of attaching small bells

or similar items to backpacks in grizzly country; however, this really isn't necessary for Scout groups in black bear country. The average Scout group walking through the woods makes enough noise to be heard a quarter mile away, either from incessant chatter or from suspended gear rattling on their backpacks. However, solo hikers or small groups who are being intentionally quiet to maximize their chances of seeing wildlife, have to be a lot more cautious and alert. My close encounter in '72 arose because I was very carefully and silently stalking a small group of mule deer for a closeup picture, from uphill and downwind (perfect conditions for me.) Coming around a very large boulder that marked an right turn in the trail, I came face-to-face with a medium sized bear \*less than\* 6 feet away who was walking down the trail. If I'd have been 2 seconds later we'd have bumped heads at the intersection. Quite fortunately for me, no cubs were involved, and Mr. Bear did a quick 180 and trotted off back up the hill (a pretty typical response.) Proving how foolish a 16 year old can be, I ran after him for about 20 feet and snap-shot a photo of his retreating butt, which I still have here somewhere around my house. I supposed if he had attacked, my last photo of "full frontal bear" would have made a fine epitaph in the National Inquirer. To this day, I cannot figure out how he didn't smell me, since the wind was in his favor, and I smelled as ripe as only a Scout can after a week at Philmont.

Lucky, lucky, lucky....

Anyway, if you make noise while hiking or backpacking in the woods, and pay attention to your surroundings, you'll almost certainly never run afoul of Situations 1 or 2. Note, however, that extra caution is warranted in "white noise" situations which drown out your "bear alarms" or natural group noise; these include walking along noisy streambeds or in wooded areas during moderate to strong winds or rain. If you're walking through known bear territory under such conditions, it would be prudent to keep up the talking level or otherwise generate more noise.

Situation 3 - "smellables" safety - is by far the most common problem. Bears love human food, and will risk approaching humans in order to obtain it - especially if they have successfully raided in the past. However, taking a few common sense precautions are invariably all that's needed to protect yourself, \*and the bears!\* Make it tough, and they won't bother - but make it easy, and they'll be back for more, forever....

What are smellables? [A Quick Education] - Mention "bear safety," and most people think "food." While correct, this is only the tip of the iceberg. A bear's nose is one of the most sensitive in the entire animal kingdom - allegedly they can differentiate between identical, factory-sealed cans containing food versus sand or other similarly inert materials (if true, that's absolutely amazing!) Unfortunately, virtually \*anything\* with an unusual odor is "food" to a bear. A short list includes: bandages, Brillo Pads, canteens that have ever contained a flavored drink (unless they've been sterilized with a solution of Chlorox since that time), Chapsticks, clothing worn while eating meals or doing KP, deodorants, dryer (anti-static) sheets, feminine hygiene products, film, baby or foot powder, insect repellent, medications, scrubbies, shampoo, soap, sunscreen, toilet wipes, toothpaste, any and all trash, unclean backpacks, unclean tents, and unclean utensils, eating ware or cookware, Wet-Ones, etc., etc., etc.

*Bit of an eye-opener, isn't it?*

A bit scary - however, this also gives us the basis for bear safety: "Take Care of (All) Your 'Smellables!'" The following 15 step "Bear Safety Checkoff List" spells out how to do this, in excruciating detail.

## The "Bear Safety Checkoff List" - when in bear country, you must ensure:

- 1) That you never, ever intentionally feed a bear (aka: "Don't be a dumb-ass tourist!")
  - 2) That you always practice proper, low-impact cooking and cleaning procedures, and never leave dirty cookware or eating ware out overnight.
  - 3) That you never eat in or near your tent, nor go to bed wearing the clothes you had on while eating or doing KP.
  - 4) That the only items that go into your tent each night are: You, your sleeping bag and foam pad/air mattress, your pillow, a flashlight, and either your "night clothes" or tomorrow's clean clothes. Nothing else! [A real education for your average Scout, most of whom - especially your youngsters - want to bring everything they own into their tents at night.]
  - 5) That your tent, sleeping bag, foam pad/air mattress, pillow, flashlight and clothes are meticulously clean and free of trash. Note that use of a typical Troop tent in known bear country is a VERY BAD IDEA unless it has been thoroughly hosed out prior to your trip (all those soda spills, empty candy wrappers, and stray M&M's, don't you know....)
  - 6) That every member of your Crew avoids using sunscreen, insect repellent, soap/shampoo, and/or topical medications after about 5pm (some jurisdictions recommend 3pm.) That every member of your Crew avoids using any deodorants, body lotions, hair creams, or similar products (at all.)
- #s 3 - 6 are by far your most important check-offs. Your equipment can be replaced; you can't.
- 7) That you avoid burning waste or leftover food in fireplaces (rarely consumes the food entirely, but does a masterful job of spreading potent food odors downwind.)
  - 8) That if a sump (food cleanup and wastewater disposal area) is not available, that all wastewater be dispersed well away from \*any\* potential tenting sites - both the ones you're intending to use, and any other flat areas which might be used by future campers.
  - 9) That your tents are all set up well away from your cooking, eating, cleaning, food sorting, and bear-bag areas (this is the basis for the "Bearnuda Triangle," which is formally defined below.) Also, that if you're camping on an established campsite, that your tents are all set up well away from the "Bearnuda Triangle" established by previous groups (if you can tell.) Note that only heavy rains will render these areas scent-free again.
  - 10) That you check under any flat rocks laying on the ground near your tent - a rapidly growing problem all across the country is the stashing of trash under rocks, either to prevent it from blowing away in the wind (and subsequently forgotten) or out of sheer laziness. That you educate your own Scouts not to do this incredibly stupid thing.
  - 11) That your backpacks are well away from your tents, and properly wrapped in waterproof pack covers (which help keep residual pack odors down.)
  - 12) That your food, trash and all other "smellables" are properly stored in bear bags, properly stored in bear-proof containers or suspended out of reach, and well away from your campsite. (Much more on bear-bags below. Note well the comments on bear-bag storage of emergency medications such as

inhalers or epi-pens.)

# 12 is your fifth most important checkoff.

13) That you make a lot of noise when approaching bear bags, especially at night or at dusk or first light. Clapping your hands and talking in a normal tone of voice are excellent warning hints for any foraging bears (bears hate surprises!)

14) That you never publicly bitch at a Scout or Leader for failure to get a "personal smellable" into a bear-bag "on-time;" this leads to all Scouts and Leaders hiding late-discovered smellables rather than facing your wrath. Hard to resist when you've been calling for "smellables" for 30 minutes and just killed yourselves hauling 150 pounds into the air - but resist you must. [See also "Micro-Bear-Bags" below.]

15) That you always designate a responsible Scout or Adult to be your bear safety monitor while you're camping in bear country. Always remember, education and vigilance are your best defenses!

This sounds like an awful lot to be careful about - and it is! - but with proper training, all of these precautions become ingrained and second nature to you and your Troop or Crew.

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## The "Bearmuda Triangle"

The "Bearmuda Triangle" represents the area enclosed by the three points most likely to be visited by a raiding bear. At Philmont (which is where I first heard the term), these three areas are: (A) the fire-ring (food preparation and eating area, usually including the Crew tarp); (B) the sump (cleanup and wastewater disposal area); and (C) the bear-bag area. If the Crew tarp (food sorting and organization area) is for some reason set up away from the fire-ring, the "triangle" turns into a "quadrangle" (not a geometrically correct term, but you get the idea); in the latter case, the tarp should never be set up over a flat area where a future crew might choose to tent. As stated in Checkoff Item # 6, no tents should be set up within or adjacent to the outlines of the triangle/quadrangle; similarly, no-one should "meadow crash" (sleep out under the stars) in this area, either. The "Bearmuda Triangle" should always be well established before anyone breaks out a tent.

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## Bear-Bags

Bear bags are large sacks in which you can place all your food and smellables, for either placing in a bear-proof storage locker, or (far more commonly) for suspending from ropes with the bottoms at least 8 feet off the ground and the sides at least 4 feet from the nearest climbable tree-trunk. At Philmont, the "classic" bear-bag was a large burlap sack (now replaced by woven polyethylene sacks), but many other items can also be effectively utilized as bear-bags. These include, for example, canoe stuff sacks, duffel bags, large capacity, internal frame backpacks, large cotton or nylon laundry bags, trash-bags (contractor weight, at least 4 mil), and even large buckets or medium size trash cans.

Loading bear-bags is a matter of common sense; heavy items should be placed on the bottom, and crushable/breakable items on top. Of note, however, the first aid kits and emergency medications

(inhalers, epi-pens, etc.) should always be placed on the very top of *\*two separate bear-bags\** - on top so that they can be easily accessed at need, and in separate bear-bags so that if one slips out and falls, or is otherwise lost to a bear-raid, you still have the backup. If you have more than two bear-bags, it's also a good idea to somehow mark the bags containing the medical supplies; this is easily done by having a bandanna sticking out the necks of the critical bear-bags.

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## **"Bear-Proof" Storage Lockers**

Many campsites in bear country have installed "bear-proof" storage lockers on-site for temporary storage of bear-bags; similar containers are also in place for trash. Most of these are made of heavy duty plate steel, but others are built of railroad ties, rough-cut timber, or treated, heavy-duty commercial lumber, sometimes wrapped in heavy-duty sheet metal. Virtually all of them have a sliding or hinged access door with some form of fail-safe, double-lock system which is beyond the mental capacity of bears (and in my experience, some humans) to figure out. These are extremely effective, and a heck of a lot more convenient than suspending bear-bags, but can get awfully crowded in some campsites. Additionally, in the latter cases, their "human security" also leaves much to be desired, and theft of food and/or gear by fellow campers is always a possibility. (Of course, this is true of any form of bear-bag storage, but a thief has to be pretty brazen to take down a set of suspended bear-bags, whereas rooting around in a locker, hands unseen, is rather easy.)

Note that cars and other vehicles are NOT the equivalent of a bear-proof locker, and are NOT adequate protection against grizzlies or the much larger black bears common in the Western United States, Alaska and Canada - these bears have the physical strength (and knowledge) to pop a car windshield or tear into a door or trunk. Fortunately, such efforts appear to be beyond the physical capabilities of *\*most\** eastern bears. All things considered, however, it is always better to suspend your smellables in bear-bags when bear-proof lockers are not available. Vehicles should always be your last resort. If you have no other option, and must use vehicles for storage in areas that have known and serious bear-raid problems, two tricks which *\*may\** work (no guarantees!) are to leave the storage vehicle idling all night long, or leaving a lit Coleman Lantern on top of the storage vehicle. With respect to the latter option, note that leaving the vehicle's dome light on is ineffective; the deterrent effect with the Coleman Lantern derives from the noise and fumes - not the light.

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## **Suspending Bear-Bags**

Although many campgrounds have installed bear-proof storage lockers, most have not, and there are, of course, few storage lockers in the vast tracts of wilderness across North America. Thus, it is far more common for bear-bags to be suspended in order to keep them from bears, and anyone travelling in bear country should be familiar with standard methods for doing so. Yes, there are a variety of ways to hang bear-bags; the provided "briefs" (below) give descriptions of each, along with a quick primer on how to use them. First, however, a quick lesson on knots....

### **What Knot to Use?**

For virtually any bag-type bear-bag, the best knot to use - by far - is a lark's head, wrapped around the twisted neck of the bag. The lark's head is self-constricting, quick and easy to tie, quick and easy to untie

(very important!), and does not require access to the end of the bear bag rope to tie. Virtually any other constriction knot (like a clove hitch or slip knot) will tighten overnight to the point where untying it is extremely difficult - especially if it rained or if the bags were extremely heavy. Non-bag-type bear-bags ("cargo"-style duffel bags, internal frame backpacks, canoe bags, trashcans, etc.) are more of a pain; however, you can usually double the bear-bag rope over and tie two or three half-hitches to each container's handle. Doubled over, the ropes are usually a little easier to untie. One trick which will make your life a *\*lot\** easier is to place a small, *\*smooth\** stick (one - two inches in diameter) adjacent to the handle, and tie the knot around the both the handle and the stick. The next day, you can slide the stick out from under the knot, giving yourself extra slack for untying the knot; this works even if the knots became wet and/or super-tight overnight. Note that external frame backpacks being used as bear-bags should always have the knots tied around the frame, not the shoulder straps or suspension loop.

## Bear-Bag Suspension Methods

**Bear-Bag "Trees"** - These are sturdy, metal 10 - 14 foot high poles cemented into the ground, having 4 - 6 hanging hooks on top. They are quite common throughout the Adirondacks, but are also found in many other areas all around the country, including the Shenandoah National Park and all along the Appalachian Trail. A second free pole with a small hook on the end allows you to raise and suspend the bear-bags onto the tree-hooks. This free pole is usually hung on the main pole; in some cases, it is permanently chained onto the main pole to prevent its removal.

**Bear-Bag Cables** - In many locations, including Philmont and other quasi-wilderness locales, park authorities have installed permanent bear-bag cables at most designated campsites. These cables are made of stainless steel, and are strung between two sturdy trees, anywhere from 12 to 20 feet off the ground. The better versions have 2 - 6 small chocks clamped onto the cable (one every couple of feet), to prevent multiple bear-bag ropes from sliding into each other (and getting tangled into a horrendous mess) or into the trees (where they can be reached by a climbing bear.) In some areas, authorities will use heavy-duty polypropylene or nylon rope tied between two trees as a seasonal or temporary replacement bear-bag cable. Rarely, these latter cables will have a small pulley and secondary rope system built in for suspending bear-bags.

**Bear-Bag Racks** - This is a new system which I haven't yet seen, but have heard about. I can't find any literature on them, so they must be fairly rare at this point. They're supposedly built from two sturdy metal poles cemented into the ground, with a metal cross bar - kind of like an oversize soccer goal made from pipes, minus the net.

**(Natural) Trees** - The "original" bear-bag system. There are two different ways to suspend bear bags from trees; the first (and by far the most common) is to merely suspend the bags from a sturdy limb (greater than 4 inches in diameter.) In this case, the suspension point must be at least 10 feet high and 4 feet from the tree trunk (any closer and a climbing bear can reach out and rip the bags open.) If the limb is so thick that a bear could climb out on it, then it has to be at least 14 feet high, with the bags suspended 4 feet below the limb. The second method is used in areas where the trees do not have sturdy limbs extending horizontally from the trunk. In this case, the bear bag is suspended midpoint between two trees, again, at least 10 feet high and a minimum of 4 feet from any tree trunk.

## Bear-Bag Ropes

For small amounts of smellables (less than 50 pounds), 100 feet of any synthetic rope of at least 1/4 inch diameter, in good repair, should be adequate. For larger quantities, 100 feet of synthetic rope of 5/16ths

or 3/8ths inch diameter should be used. In general, the rope should have a breaking strain of at least five times the maximum expected load. Note that most ropes are used doubled for bear-bags, which also doubles the breaking strain; however, older ropes have decreased breaking strains. Cotton or other natural fiber ropes are less desirable, due to their propensity to pick up moisture and rot, which dramatically increases their carry weight and degrades their maximum breaking strain.

Bear-bags and bear-bag ropes are most conveniently carried inside small stuff sacks, about 6 x 12 inches, with draw strings. These stuff sacks are also very useful as aids for throwing the ropes over the bear-bag cable, rack or tree limb, as detailed below.

## How to Hang Bear-Bags

**Bear-Bag Poles** - This is the only system where non-bag-type containers with their own handles are the most convenient to use. In these cases, the handle of the container is hooked onto the free pole while on the ground, and the pole is then raised by as many people as necessary (takes more than you'd think!) and the container transferred to one of the large hooks on the suspension pole. If classic sacks are used, then a small loop needs to be fashioned out of about 3 - 4 feet of rope; this is tied around the twisted neck of the sack using a lark's head, and the free end used as the handle for suspending on one of the large hooks. Regardless of what type system is used, it is important to match the weight on the pole from side to side, as excessive weight on one side could potentially tip the pole out of the ground (they're not buried that deep, or with that much concrete), or break the pole at the ground point (where they're often rusted half-through, especially the old ones.) In addition, in my experience, any bear-bag containing more than about 40 pounds is extremely difficult to manage; in these cases, more bags containing lesser amounts is the way to go.

**Bear-Bag Cables** - *Step One* is doubling the rope, easy enough.

*Step Two* is getting the doubled rope over the cable - quite easy for the lower cables, but often difficult for the higher ones. The classic Philmont system is to wrap the throwing end of the doubled cable into a tight "softball," which is then tossed over the cable. Again, this works well for the lower cables, but in my experience rapidly results in frustration with the higher ones. As alluded to above, a much better solution is to tie the bear-bag stuff sack to the end of the rope, fill the bag with something moderately heavy (a pair of sneakers, or some items of clothing, etc.), and toss that over the cable. Much easier and much more accurate. Whatever you do, do NOT allow the Scouts to attempt to tie rocks or heavy pieces of wood to the end of the rope for throwing purposes - this will rapidly result in free flying rocks and pieces of wood high in the air above a group of Scouts, a sure-fire recipe for a potentially serious injury, especially at night. When tossing over a cable with chocks, always try to pick a section of cable which is free of other bear-bags; if you miss, it's usually easy enough to flip-curl the rope over a chock to another section.

*Step Three* - Once you have the cable properly positioned over the cable, remove the throw bag (put it inside one of the bear-bags for safekeeping, or save it for a mini-bear-bag (see below)), and start tying in the bear-bags. Again, the neck of each bear-bag should be tightly twisted, and a lark's head knot placed down over the neck as far down as possible, then tightened. If there's adequate "neck" to allow it, double it back on itself and tie the lark's head around both. Note that the draw strings of laundry bags or large stuff-sacks should never be used to tie into the bear-bag rope (a typical novice error.)

*Step Four* is hauling the bags up into the air, which generally takes one person per filled bag. Note that a common "helping" trick is for one or two people to lift the bags into the air for the initial lift - which is fine, but these helpers should then immediately get out of the way once the bags are above their heads

(another typical novice error.) If you've ever seen a 50 pound bear-bag take a 15 foot dive and smash on the ground, you'd agree that standing underneath them is not such a hot idea. In order to prevent twisting in the wind, the bear-bags should be raised right up to the cable.

*Step Five* - The doubled rope is separated into its two strands, and each is tied into *\*separate\** trees, preferably at eye level or above. The ropes are NOT wrapped endlessly around the trees; rather, they are wrapped once or twice, doubled over, and tied back into the suspension rope using two or three half-hitches. The separation of the ropes is a safety measure; bears have been known to chew through bear-bag ropes, dropping the entire Bear-bag assembly (the very first bear I ever saw at Philmont attempted to do this to our bear-bags, before we chased him off.) Tying the ropes high also helps prevent the chew-through routine.

*Step Six* is to wrap up the remaining tails of both ropes; if left on the ground, they'll get wet and dirty, and possibly tangled with other Crews' bear-bag ropes. The ropes can either be coiled or daisy-chained, whichever you prefer.

**Bear-Bag Racks** - The rack system can be used virtually identically to the cable system above. In addition, a new method can be used in areas where the bears have well learned the chew-through routine, as follows: The bear-bag-rope is tossed over as usual. The bags are divided into two piles of approximately equal weight. The first pile is tied into the rope as usual, and raised to the top of the rack. The tensioned rope is then tied into the second set of bags still lying on the ground (tough to do!), and the excess rope coiled and placed *\*on top of\** one of the bear bags. The second set of bags is then raised by hand and then with large branches until it matches the height of the descending first set of bags. When finished, the bottom of both sets of bags should be at least 8 feet off the ground. When done correctly, this gives Mr. Bear no ropes to chew on. However, it is vitally important to make sure the weights of the two sets of bags are equivalent, or else one set will slowly rock itself down to the ground overnight, if there's any wind. In addition, this method can result in a horrendous tangle if the bags can wrap around themselves in strong winds, so it's important to minimize the amount of rope between bags within each set, lest your bear-bags turn into people-proof bags. Taking the bags down requires a hooked branch or pole to pull the excess rope (coiled on top of one of the bear-bags, remember?) down. If you have any questions as to your ability to manage this, you should leave the excess rope hanging down and draped over a high nearby branch; some bears may have learned to bite through a tensioned rope, but one suspects that none of them have yet figured out how to pull a slack rope taut to pull down a set of bear-bags. For lack of any other specific term, I will refer to the above method as the "Counterbalance Technique."

**Trees** - Where a good sturdy, horizontal limb is available, either the standard bear-bag cable method or the alternate Counterbalance Technique can be utilized; however, the latter technique is more difficult with trees, because the ropes will not slide over tree bark anywhere near as easily as over a metal cable or pipe. Also remember, if the limb is greater than about 4 inches in diameter, the bags must be suspended at least 4 feet below the limb, or else a bear can climb out and tear the bags apart from above.

If no sturdy, horizontal limbs are available, proceed as follows: Find two trees about 25 feet apart which fork about 12 feet up (any major branch also works). Tie your bear-bag stuff sack into your doubled cable and toss it through the first notch. Detach the bag and tie the rope off on a branch as high as you can reach at the base of the same tree - you can also use a nearby tree if no convenient branches are available; however, don't wander too far, or you'll use too much rope. Bring the free end of the doubled rope *\*straight down to the base of the tree,\** and tie in your bear bags as usual, at the base of the tree, with about equal weights for each separate rope. Re-tie your stuff sack to the other end of the doubled rope, and toss it over the branch or through the fork of the second tree. Using most of your Crew (you'll need them!), haul the bags up as high as you can manage. Use of a good sized forked branch to prop up

the \*rope\* right next to the bear-bags but opposite the side you're hauling from, will help a lot (do NOT push against the bags, you might tear them.) When you're done, the bags should be equidistant between the two trees, with the bottoms at least 8 feet off the ground. Higher is better, but is usually impossible to achieve. Tie off the ropes separately, coil or daisy-chain the ropes, and you're done. This is by far the most difficult method for suspending bear bags, but it's the only method that works in some areas.

**"Mini-Bear-Bags"** - No, not bags to protect against the infamous mini-bears; rather, this is a small, secondary bear-bag to suspend forgotten items discovered after you've hauled the primary set(s) of bear-bags up. Not only a mechanism to prevent having to take down and re-raise a heavy set of bear-bags, this is also a means for maintaining your patience with those Scouts (and Leaders!) who have seemingly ignored a dozen calls for smellables. Most commonly, these final items will include things like toothpaste or bedtime medications, or Chapsticks, snacks or trash discovered in pockets when changing into night clothes. Remember, harshly and publicly criticizing such Scouts and Leaders will only lead to \*everyone\* hiding those last few items rather than bringing them to your attention. Unfortunately, they can hide them from you, but not from Mr. Bear. Mini-bear-bags can be small daypacks, bear-bag and rope stuff sacks, cook-kit stuff sacks, small trash bags, etc. They can be suspended by any of the standard methods, most commonly off a convenient tree limb near the bear-bag site, using parachute cord or several tied-together lengths of clothes-lines. A clever alternative (recommended by Cooper Wright) is to clip a small carabiner into your primary bear bags (that is, around the rope between two adjacent bear-bags), and run about 30 feet of parachute cord through it before raising the bear-bags. Thus, you have an instant mini-bear-bag setup for all late items and/or one set of medications - a heck of a lot easier than having to drop your entire set of bear-bags.

**Bear-Bag Tangles** - Yes, despite every possible effort to untangle lines, every once in a while a set of bear-bags become hopelessly enmeshed (many a bear-bag cable has living proof of this, forlornly hanging down from on high.) If this happens to you, and there's no hope of working it out, the only viable solution is to find a lengthy branch, duct tape or lash an open knife to the end, and start sawing. You will eventually get your bags down, although they may not be in such hot shape after doing the high dive act. Better than starving to death, though.... Make sure no-one is standing under the bags when you start cutting (and no-one should ever try to catch a falling set of bear-bags - that's begging for a serious injury.)

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As previously noted, the chances of being attacked or even challenged by an eastern black bear are virtually nonexistent. In the Western United States, Alaska and Canada, the level of risk rises all the way up to "remote." The following section should be read in the bright light of that reality. Black bears should be admired, not feared!

## What to do if Challenged by a Bear

There is an old joke about what bears can do in the woods ("Anything they damn well please!") The vast majority of black bears are nonaggressive and will not challenge human beings (even when cubs are involved), but a few will. However, as previously noted, even these latter bears are (usually) not interested in attacking or eating anyone, but are merely (temporarily) defending turf or seeing if they can back you off a cache of food.

Hiking or backpacking groups are virtually never confronted by black bears. However, solos may be, especially if they're walking quietly enough to surprise a bear. If confronted by a bear while alone on the trail (confrontation meaning they do not turn tail and walk away, but rather hold their ground and stare

you down), do not run away! - this will only excite their "chase reflex" - rather, \*break\* eye contact, talk at a moderate volume, and slowly back away, always facing the bear, and retreat out of sight. If you cannot find another trail around the confrontation site (bushwhacking is a REALLY BAD IDEA), wait at least 15 minutes before trying the original trail again, and make lots of noise the second time through. If any cubs were involved, wait at least 30 minutes before trying again. A half-hour is a damn long time to wait (try it sometime!), but it's nothing compared to the rest of your life - WAIT! One extra precaution against a sudden attack when re-trying the original trail is to walk with a large tuft of dry grass in one hand and a Bic lighter in the other, ready to go. 99.999% unnecessary, but an ounce of prevention and all that....

If a bear invades your campsite, looking for food, you have a number of options. The best is to form a large, amorphous group, with everyone waving arms and clothing and banging pots and pans while slowly advancing towards the bear. The slow approach of such a large, noisy creature is highly intimidating to bears. I have done this at least a dozen times in my life, and in every case the bear quickly retreated. Some writeups also suggest throwing items at or near invading bears, but I would personally recommend reserving this option as a last resort for attacking bears; as 1997's Boy Scouts versus bears incident in Yosemite illustrated, it is possible to kill a bear with a rock, and (even when justified) the political fallout from such a death is both extensive and intensive. Another option - one I learned from the backcountry staff at Philmont - is to immediately chase an invading bear, waving clothing and yelling or barking like a dog. I have done this twice myself (three times if you want to count my idiotic pursuit during my 1972 close encounter), and have also seen it done by staff members at Philmont at least another half-dozen times, all with great success. However, DO NOT close to within 15 feet during your pursuit, and always give the bear an escape route. If a bear has an open line of retreat available, he'll always take it. A note of warning however - if the bear you're chasing starts bawling, break off the pursuit immediately - you're chasing a cub, and mama will soon be coming, and she will be very, very unhappy when she arrives. Finally, if all else fails to back a bear off, try using fire - the smoke from burning off a tuft of dry grass is usually enough to intimidate the most aggressive bears, even a mother with cubs.

## What to do if Attacked by a Bear in the Open

As noted above, unprovoked attacks by black bears are extraordinarily unusual - so much so that I considered not including this section at all. Nonetheless, it's probably a worthwhile read just for the sake of comprehensiveness for those Troops who do deep wilderness treks in the Western United States, Canada or Alaska. Suffice it to say, however, that I have encountered over 50 black bears in my lifetime - some of them at \*very\* close range - and have not once had a problem with any of them. That's very much worth keeping in mind...

...but what if, right? Well, keeping your wits about you when confronted with 200 - 800 pounds of imminent, violent, and messy death is awfully difficult to do - but it's vital to surviving a bear attack. Stay cool! Remember, the vast majority of black bear "attacks" are bluffs - and will come to a screeching halt about 15 feet short of hand-to-paw combat - unless you do something stupid which excites a real attack. Let's review the available options:

**Option I** - "*Hold Your Ground*" - is the toughest, but by all accounts the most successful technique. As noted above, the vast majority of "attacks" are bluffs. Hold your ground, talk in a normal tone of voice, and wave your arms or pieces of clothing. Mr. Bear will generally stop well short of an attack (usually about 15 feet away), and then quickly back off.

**Option II** - "*Running Away*" - is the most obvious, but also the most dangerous and least useful

alternative. If you take off running from a charging bear, you will excite his "chase reflex," and likely stimulate a real attack. A bear can reach speeds of up to 35 miles per hour, and can easily run down a human being, regardless of the terrain, especially if that human is burdened with a heavy pack. Allegedly, the only way to outrun a chasing bear is sideways across a steep slope; their legs are set so wide apart that they have a difficult time keeping their balance while traversing such a slope. Of course, the chances of being attacked on such a slope would appear to be rather remote. Running to an immediately accessible place of safety may be worthwhile, providing you have the time - a vehicle (if it's locked, and you're out of time, get underneath it), a dwelling, an *\*extremely\** dense thicket, a very tight cave entrance or very low hanging, deep-set rock ledge. Reality Check - How likely are any of these scenarios? In most wilderness areas, climbing trees would appear to be your best option, but this can be a potentially fatal error - black bears can climb better and faster than any human, and if they really want you, climbing a tree won't help. However, Daniel Boone claimed to have jumped off a cliff into a tree to escape a pursuing bear. Others have jumped into lakes or rivers; bears can swim just fine, but reports of black bears attacking humans while swimming in deep or fast flowing water are rare. (As a sheer guess, this is likely because they can't effectively use their primary weapons on you - their front legs (arms.)) One well-known trick which might help if you choose to run is to drop a hat, a bandanna, or some other piece of equipment (**BUT NOT YOUR PACK!**); a bear may stop to investigate what you dropped, allowing you to make good your escape.

**Option III - "Drop Like a Rock"** - has been successful for many victims of actual bear attacks. However, it's critical to **NOT DROP** until a charging bear is literally on top of you - if you drop too soon, you may excite an attack just as he was about to give it up. If you drop, you should assume a fetal position, with your arms folded around your head, hands interlocked behind your neck, and knees drawn up to your chest. In many cases, the bear will do nothing more than sniff you, bat you around a little bit, and/or bite you a few times before leaving. In other cases, however, bears have thoroughly mauled individuals who have tried this, severely injuring or killing them. Unfortunately, there doesn't seem to be any rhyme or reason to what triggers an attack in these latter cases. However, all the literature on bear attacks states that if a bear continues to attack you for more than a minute after you've dropped, it's time to fight back with everything you've got left, concentrating on punches or kicks to the eyes and nose regions. [The literature, however, did not specify how you're supposed to time the length of the ongoing attack.] All I can say is, Good Luck!

**Option IV - "Fight It Out"** - has also been successful for many would-be victims of bear attacks. (Of course, the losers are rarely still around to tell their tales!) If you're still upright, you want to do whatever you can to avoid closing to hand-to-paw combat - because you will rarely win such a fight. Generally, throwing items is the most common method, followed by fending off with a large walking stick or stiff branch (again, directed at the nose and eyes.) Combatants have thrown their backpacks, rocks, pieces of wood, camping gear, and anything else at hand. Screaming, barking like a dog, and/or waving large pieces of clothing with your free hand (again, to make yourself appear larger and more intimidating) have been effective. Others have started grass fires with lighters or matches, or grabbed flaming brands from campfires - this is the most effective method of all, as fire will generally back off even an enraged bear. If you have one, use of one of these new bear-repellents (mace/red pepper-spray) may also be effective if sprayed into the eyes or nose; however, note that the jury is still very much out on these sprays. Of importance, the residual odor left after using a bear-repellent spray may actually attract other bears to the locale - so you have to leave the area and also treat the just-used can of repellent (and the clothes you were wearing) as potent smellables.

## **What to do if Attacked by a Bear While in a Tent at Night**

If you've been taking care of business, this should never happen; in fact, I cannot find any documented

incidents of unprovoked attacks (by black bears) on tenting humans who had taken proper care of their smellables. (The primary purpose of this guide is to teach you the proper precautions necessary to preclude this very situation!) However, should this ever occur, the standard procedure is to retreat all the way inside your sleeping bag, scream or bark like a dog, and wait for help from your fellow campers. No-one seems to have any suggestions if you don't have any fellow campers to come to your rescue, so this may be a situation for a bear-repellent spray (assuming you had the foresight to bring one along, and can get to it quickly.) Note that it is a very bad idea to turn on a flashlight; a sudden light seems to enrage bears, and also gives them a specific target to attack.

Of course, the best way to survive a bear attack of any sort is to never get in one in the first place. With black bears, that shouldn't be a problem....

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## **"A Fed Bear is a Dead Bear"**

Although most people consider the exclusive focus of "Bear Safety" to be the protection of humans, the reality is that it is also for the protection of the bears. As previously stated, bears are intelligent, crafty and persistent animals - and once they get into a store of human food, they will constantly raid in efforts to get more, usually with at least sporadic success. In some cases, the act itself is fatal - I have heard dozens of stories of bears eating massive amounts of dehydrated backpacking food, then rupturing their stomachs - literally exploding - after going to get a big drink to wash it all down. [Some people actually consider this amusing, which makes one wonder which are the real animals.] Other bears die from internal bleeding resulting from devouring trash containing broken glass or sharp-edged lids from cans; this is one of the reasons why bottles and cans are prohibited in many wilderness areas. Large pieces of plastic wrapping (trashbags, ziplocks, food packaging, etc.) or food-stained clothing can cause choking or intestinal blockages. None of these are particularly pleasant ways to die.

Even if a bear is able to avoid these pitfalls, he or she is in trouble. Bears who raid quickly lose their fear of humans, and confrontations with and attacks on humans (and pets) become more likely. Bears who are highly successful raiders also degrade somewhat their ability to forage for natural food, and can therefore become desperate when the supply of human food runs out (this is a particular problem with tourist-dependent bears and trash-dump bears.) Note that one of the next items allegedly searched out by hungry, human-dependent bears who cannot find human food - is human underwear, because the smell is close enough. These are the reasons why a raiding bear is considered to be such a hazard.

In the United States, bears who attack humans are almost invariably tracked down and killed; in Canada, the authorities *may* grant a bear a second chance if an attack was the result of a foolish error by the human (Scenarios 1 or 2 only.) In order to prevent the inevitable attack on a human being, bears who constantly hang out near campsites and get into repeated confrontations with humans are either killed, or trapped, tagged and transported to a more wild area. However, while the latter option is certainly more humane, it is not particularly successful, as many transported bears will quickly return to their "home turf;" in fact, there are documented cases of bears traveling over 500 miles to return "home." Most of these bears resume raiding, and are then quickly killed. Furthermore, many of those who do not return to their original haunts don't stay purely wild, but rather just migrate to a closer source of human food, and are eventually killed for raiding in their new environments. [Unfortunately, bears do not understand the concept of "Last Chance."] A sad and entirely preventable end for a once-wild animal - and all the more tragic because its root cause was often nothing more than simple (and preventable) human carelessness.

Therefore, always remember: "A Fed Bear is a Dead Bear" (or, to paraphrase a much better known

expression: "Only You Can Prevent Fed Bears.")

- Dr. Bob, SM-111

- 1999 Printing

