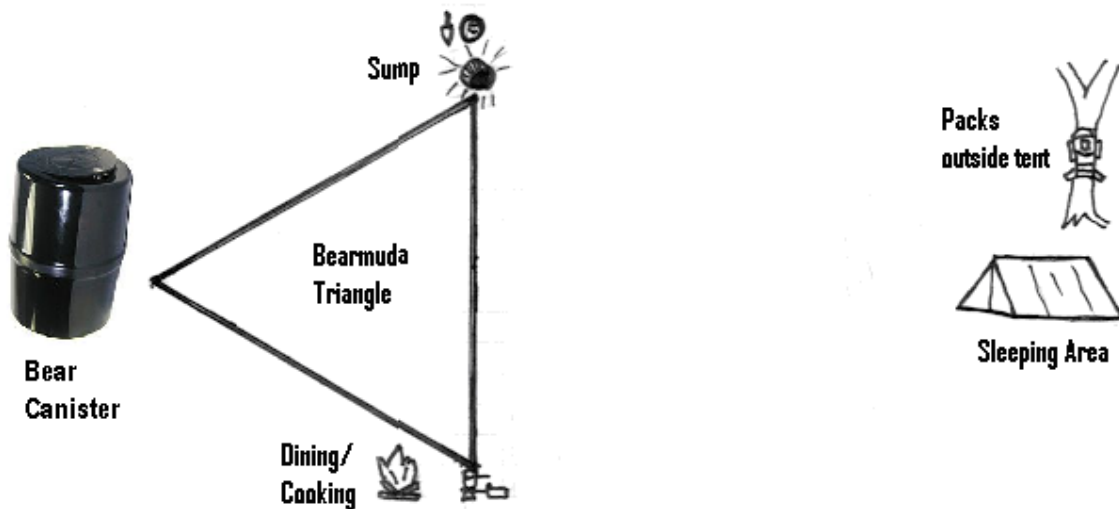


# Camp Layout and Setup (Bearmuda Triangle)

The primary objectives of laying out camp are to find a safe sleeping area and to leave as little trace that you were there as possible. This means respecting wildlife that might be interested in your "Bearmuda Triangle" and insuring that you don't contaminate ground water or leave anything behind. The Bearmuda Triangle is formed by the (1) the fire ring & cooking (dining), (2) the bear canister, and (3) the sump (cooking wastewater) "smellable/bear areas". The Backpacking Equipment List indicates which items are stored in the bear canister [BC] and sump or dining areas [SD]. The tenting area should be safely outside this triangle because animals are likely to travel between these areas, and scouts don't want to be in their path. To prevent being a bear lollipop, no food should EVER be in the tent, packs (with cover) should be hung outside, and a sleeping bag stuff sack or tent bag NEVER used as a bear bag. Shoes should not be left on the ground. Actually, in the mountains, bears are not the only "critters" to guard against. Scouts may encounter raccoons, porcupines and skunks. All are attracted to smells or salt and can "maul" a pack. Below is a simple illustration of an appropriate camp layout.



Hey! If you think this is being overly cautious or want to read more, check out the National Park Services (NPS) Bears and Leave No Trace pages, the USDA Forest Service (USFS) Outdoor Fire Safety Tips and USFS -- Safe Campfires pages, a Philmont Guidebook to Adventure (PHL) or the "Wilderness Use Policy of the Boy Scouts of America" (WUP). Since good safety procedures are pervasive, it's not surprising that they agree in almost every aspect. Here are a few guidelines from these sources:

## Washing

Do not bathe or do laundry in or near a stream. Instead, use biodegradable soap and a shower or wash bag at least 200 feet from the nearest water source, campsite, or trail.

## Waste Disposal

Dispose of waste properly. Pack out what you pack in. This common saying is a simple yet effective way to get backcountry visitors to take their trash home with them. There is no reason why people cannot carry out of the backcountry the extra food and packaging materials that they carried in with them in the first place. Trash and litter in the backcountry ranks high as a problem in the minds of many backcountry visitors. Trash and litter are human impacts that can greatly detract from the naturalness of an area.

Reduce litter at the source. Much backcountry trash and litter originates from food items. Perhaps the easiest way to practice the principle of – *pack it in, pack it out* – is to follow the principle of *planning ahead and prepare*. It is possible to leave most potential trash at home if you take the time to properly repackage food supplies. Reduce the volume of trash you have to pack out. Save weight by repackaging solid foods into plastic bags and liquids into reusable containers.

Your first preference for dealing with trash should be to pack it out. Most trash will not be entirely consumed by fire and conditions frequently make fires unacceptable. Areas are often closed to fires because of high fire hazards or excessive campsite damage. Some areas, such as desert settings, are impractical for fires because of the scarcity of firewood.

Under no circumstances should food scraps be buried! Discarded or buried food scraps attract animal life. It is common to see chipmunks, ground squirrels, and various species of birds gathering around camp kitchens. These "camp robbers" have become attracted to campers as a food source. Human food is not natural to wild animals, and their natural feeding cycles and habits become disrupted when they are fed by humans. A conscientious no-trace camper always keeps and leaves a clean camp.

### **How Long Does It Last?**

Packing out trash is increasingly important as greater numbers of people visit the backcountry. Here are some estimated life expectancies for different kinds of litter:

Paper: two to four weeks

Rubber boot sole: 50 to 80 years

Banana peel: three to five weeks

Tin can: 80 to 100 years

Wool cap: one year

Aluminum can: 200 to 400 years

Cigarette butt: two to five years

Plastic six-pack holder: 450 years

Disposable diaper: 10 to 20 years

Glass bottles: Thousands or millions of years

Hard plastic container: 20 to 30 years

**Cooking and Fires** -- It is the cooking - dining - fire corner of the bear-muda triangle that often ends up closest to the tenting area. Food spills occur and they must be cleaned up by treating the spill like any other food -- putting it in the "yummy" bag and packing it out. Lightweight fueled stoves are more efficient and faster for cooking than fires, and they leave minimal impact. Always read and follow instructions provided by the stove manufacturer. Cool stoves before refueling, refuel them and store fuel away from where the stove will be lighted or used. Let any spillage dry before lighting. Never use stoves inside a tent. Open fires are usually discouraged, and sometimes prohibited. However, when a fire is built, **always check for and follow local regulations.**

- Fires should not be built near overhanging branches, slopes, stumps, logs, dry grass, leaves or firewood. Use an existing fire ring if available. Otherwise, dig a fire pit about six inches deep, keeping the sod intact for replacement. Scrape away any burnable material within 10 feet.
- Have plenty of water handy and a shovel for throwing dirt on the fire.
- Keep the fire small to reduce impacts and the danger of a wildfire. Start with dry twigs and small sticks, followed by larger sticks and logs, pointing them toward the center to be gradually pushed in. Burn dead and down wood only and only that which is necessary.
- Be sure your match is out, holding it until it is cold, and then break it so that you feel the charred portion.
- Never leave a fire unattended, even for a few minutes.
- Allow the fire to burn down to white ash; do not try to put a fire out by scattering it. Drown the coals thoroughly with water, stir the remains, drown it again, and stir again (where water is scarce, damp dirt and sand may also be used).
- Feel all materials with your bare hand to make sure it is "dead out". Make sure that no roots are burning. Do not bury coals--they can smolder and break out.
- Only after the fire is definitely dead out, accumulated ash from the fire pit is scattered away from camp.

**Cleanup** -- Scrape off food scraps and seal them in an airtight plastic bag ("yummy bag"), store it with other food, and pack it out. Under no circumstances should food scraps be buried! Discarded or buried food scraps attract animal life. It is common to see chipmunks, ground squirrels, and various species of birds gathering around camp kitchens. These "camp robbers" have become attracted to campers as a food source. Human food is not natural to wild animals, and their natural feeding cycles and habits become disrupted when they are fed by humans. A conscientious no-trace camper always keeps and leaves a clean camp. Use a scrub pad to remove tough "cooked-on" parts. Once all visible food is removed, wash dishes at least 200 feet from water sources. If soap must be used, use biodegradable soap. Leave No Trace principles discourage campers from using any soap, if possible, because even biodegradable soap will contaminate fresh water if precautions aren't taken. Rinse dishes, pots and utensils in boiled or filtered water. Everything should be left to air-dry (even if "towel-dried" first) in the sump or dining area. These

procedures guard against inadvertently contaminating your pack or its contents. Proper washing and rinsing will prevent diarrhea, dysentery and other ailments. Anyone who has suffered from these on a backpacking trip takes cooking cleanup vveerrrry seriously! Strain dishwater through a small strainer or bandana. Put the food particles in a sealable plastic bag and pack them out. Broadcast the strained dishwater over a wide area at least 200 feet from the nearest water source, campsite, or trail. Scattering dishwater in a sunny area will cause the water to evaporate quickly, causing minimal impact. You should not wash dishes near a water spigot because of possible contamination of ground water. Any food falling into the fire must burn to ash or be removed and packed out. A bear drawn to a camp by the smell of buried food scraps or garbage in the fire pit may begin to associate food with people, a lesson it will remember all its life. Then they have to be killed. As they drill into scouts at Philmont: *"Feed a bear - Kill a bear"*.

**Bear Canisters** – In many areas where bear-human conflict repeatedly occurs, use of bear-resistant containers has been made mandatory. When the prize is your food and the setting is the wilderness, never bet against the bears. "You can't count on food being safe if you put it in a nylon sack and hang it in a tree overnight," says Harold Werner, Fish and Wildlife Biologist at Sequoia and Kings Canyon National Parks since 1980. "If you've never lost food by counterbalancing (suspending 2 bags of food high on a tree branch), it's only because you're lucky, no matter how well you do it." Too many campers and backpackers have learned this lesson the hard way. Resourceful black bears, driven by a powerful sense of smell (100 times stronger than a dog's), have become some of the cagiest, most determined creatures on earth when it comes to snitching food from humans. Increasingly drastic measures are needed to protect your food in some North American wilderness areas—and to protect bears from being put to death when their desire for human food makes them too aggressive. Other than standing guard by your trail mix all night, the preferred solution is to store food inside a bear-resistant container. In fact, some wilderness managers in the West are making the use of such containers mandatory.

### **Bears: Smart, Motivated, Relentless**

Black bears, particularly those in the Sierra Nevadas, have become "habituated" to human food. That means once they get a taste of it, bears want more of it—lots more—and will do just about anything to get it. They often succeed. Why? Because of the bear's brute strength, persistence, surprising ingenuity and, crucially, the lackadaisical food-storage practices of humans. Wildlife managers remind us that such a dilemma is not a "bear problem." The real problem occurs when humans take a casual, indifferent approach to storing food.

A bear's food-stealing repertoire includes:

- Bashing windows of locked vehicles to get to food coolers (which bears have grown to visually recognize and associate with food). Bears have broken open vehicles just because a soda can or gum wrapper was left visible. (Solution: Don't leave such items inside a vehicle, or at least conceal them thoroughly—only if no other food-storage options are available.)
- Breaking the rear windows of cars, then clawing through the back seats in order to get at aromatic items locked in trunks. (Solution: Remove food from a vehicle when you park; store it in a bear box if available.)
- Sending cubs up trees to dislodge nylon food bags dangling from limbs. (Solution: Use a portable, bear-resistant food container.)
- Gnawing through limbs several inches thick to make suspended food bags drop. (Solution: Same as above.)



"I've never seen it myself, but I've heard that some bears will walk out on a branch and make Kamikaze jumps at food bags to bring them down," says Michelle Gagnon, a bear technician at Sequoia/Kings Canyon since 1996. "I believe it. You can see blood on the branches they've chewed through to make bags drop. They'll actually hurt themselves to get at food."

### **Packing a Bear-Resistant Food Canister**

With forethought and planning, it's amazing how much food you can fit into a canister. If you choose the right foods and repackage them into baggies or small containers, you can maximize canister space. By measuring out every

meal, you can make sure you are not packing more than you need. Who wants to pack out leftovers? It takes a little effort and time but the results are rewarding. Remember, when you are using a canister ALL scented items – food, toiletries and garbage – must fit inside the canister *throughout your entire trip unless you are in attendance or actively preparing your food*. At the trailhead, make sure that ALL food, trash, toiletries and scented items will fit inside the canister the first night. Carry the first two meals outside of the canister: lunch and dinner.

**Food Choices** – Choose foods that are compact, compressible and high in calories. This includes rice, tortillas, jerky, flat pastas, dehydrated powders, nuts, dried fruits, peanut butter, candy and nutritional bars. Since you are trying to put as much food in the canister as possible, think about volume when you purchase food. For example, instead of bread rolls, buy tortillas. Instead of macaroni, choose spaghetti. You get the picture - don't waste space on bulky food items.

**Plan Your Menu** – Carefully count every meal that you will be eating. By doing this, you will save weight and space. Put all the food on a table and plan each meal, snack, drink and condiment. Pre-measure and pre-mix food.

**Repackage Your Food** – Take food out of its original package. This allows you to fit more food inside a canister and reduces the amount of garbage you generate. Repackage food from boxes, bottles, jars and cans into resealable plastic bags. These bags are flexible and fit into small spaces. Force air out of packages. Poke tiny holes in freeze-dried packages to release the air. Save instructions for cooking and put inside meal bags. Write food contents on outside of bags with a permanent marker.

**Toiletries** – Pack toiletries similarly to foods. **Put toothpaste, soap, sunscreen, bug repellent, etc. into small containers.** Stores sell small, lightweight plastic containers that work well for this. Don't take more than you need.

#### **Benefits of Using a Canister**

- Less stress, increased peace of mind
- More time at camp to relax instead of thinking of ways to store food
- Guaranteed food supply if bears or other animals visit your camp
- No aborted trips because bears ate your food
- Freedom to camp anywhere: above tree line or away from food storage lockers
- No need to search for the right tree or carry ropes and food sacs for counter-balancing
- More time at camp to relax instead of thinking of ways to store food
- A small table to use, something to sit on
- Increased safety for you and protection of wild animals

Place ALL food and scented items in a canister at least 50 feet from your tent (downwind if possible) in a depression or between rocks or logs so it cannot be rolled away. Leave the canister on the ground. Do not hang the canister from a tree. A bears' curiosity may attract them to any odor, even if it isn't food-related; so all "smellables" go in the canister. Avoid contaminating sleeping gear with food odors; do NOT use sleeping bag stuff sacks, tent bags, or clothing bags for food/smellables storage. NEVER eat or keep any food, or anything that held food, in your tent because the odor will linger (that means your backpack too!!). Do NOT sleep in clothes with food odors; they should be hung like food. Keep separate clothes inside your sleeping bag just for that purpose and only those clothes and boots remain in the tent.

**Water** -- Purify all water by using a portable water filter, bringing it to a full boil, or using water purification tablets (or liquid).

**Tenting** -- Pitch tents on high ground where they will not damage vegetation and do not dig trenches around them. Be careful not to camp too near to streams that could rise in a flash flood -- where the valley is narrow but drains a large area. Although you want to avoid low ground, you may want to avoid the tops of bald hills when there is the possibility of lightning. *Sleeping inside a closed tent is preferable because it puts a barrier between you and rodents or other animals that may carry and transmit diseases and insects whose bite hurts or may stimulate an allergic reaction* (insect repellent should be used sparingly in the evening because it is a "smellable"). Rodents are a problem at many camping shelters/grounds, because of the attraction of food remnants. Hantavirus pulmonary syndrome infections from Washington to Florida, California to New York have been linked to rodent bites and

droppings. Ticks may transmit Lyme disease. Rodents are a primary food source for snakes, which are known to snuggle up to warm objects. Reportedly, a lady hiking the Appalachian Trail awoke one morning to a tickle on her tummy, only to find that a Copperhead had crawled into her sleeping bag with her to take advantage of the warmth on a cool night. Most modern tents have good ventilation when the rain fly is left off on warm dry nights.

Every scout should follow procedures based upon Federal, State and Local Laws/Regulations and Boy Scouts of America publications covering that particular trek/tour. If you aren't following safety precautions, and insisting that those with you do likewise, you are putting yourself, those around you, and those that follow you, at risk. A scout would not knowingly do that! We are responsible for "knowing". The "Wilderness Use Policy of the Boy Scouts of America" charges us to

- Conduct pre-trip training that stresses proper wilderness behavior, rules, and skills for all the potential conditions that may be encountered", to
- Treat wildlife with respect and take precautions to avoid dangerous encounters with wildlife", and to
- Emphasize the need for minimizing impact on the land through proper camping practices ..."

Increasing the "knowing" part is a major motivation for this bit.