

Musings on Camping Equipment for Lehigh University Field Camp

Steve Peters, July 2007

Many people react with uncertainty about having to live out of a tent and a duffel bag for a month. Rest assured it can be fun and rewarding, and not a cataclysmic battle with nature. Your primary needs are food, shelter, and clothing. The camp handles food as a group, so you need to focus on your shelter and clothing. Equipment choices are a personal decision. Some people go for the “latest and greatest” while others borrow from friends and family. No single approach is the “correct” one.

In this document, I outline the equipment I’ve acquired through the years relevant to living at field camp, with information gleaned from five years of long-term living and working above treeline in the mountains of New Hampshire. The items I use are a blend of old and new, and serve as examples of functionality, durability, and economy. I enjoy hiking and camping, so I slowly acquire good quality equipment, treat it well, and hope to use it for many years. I don’t have the latest and greatest simply because the older gear functions as well as the latest gizmo.

If you don’t ever think you’ll sleep outside again after Field Camp, then you certainly can economize by borrowing gear from a friend and sharing where possible. You DO NOT need to run out and buy all the equipment outlined here. Use this document as a guide that expands on the official field camp gear checklist.

After field camp, I’ve heard many participants offering advice about what they valued the most. For some it was the raingear. For others it was the flip-flops or tevas. Some lived and died by their solar showers. Others couldn’t survive without their favorite backpack, warm jacket, etc. Think about what you need to stay comfortable sleeping at 25-50 degrees at night, and hiking/walking in brush up and down hillsides in 80-90 degree heat. What keeps you happy?

The “House”

Your sleeping arrangements constitute an important component of your comfort. The primary items include a tent, sleeping bag, and pad.

Tent: I first used my Eureka Timberline 2 tent in 1987, and has withstood abuse for more than 20 years. The footprint is small and rectangular, giving a good amount of useful space for one person plus their gear. The ventilation is excellent, and the tent is freestanding. The small volume of the tent means that the air inside remains warmer than in a large dome tent sized for a family of 6. I’ve noticed more than a 10°F difference between inside and outside the tent on cold mornings. The aluminum poles are very strong and won’t splinter like the cheaper fiberglass poles on economy dome tents. This model is still for sale and costs ~\$99. Many other tents would work well, but use caution when considering cheap department store brands. Those \$35-45 tents may not survive one month of continuous use. When selecting a size, consider that at a few of our campsites, the flat sleeping ground occurs in small patches, so having a large dome tent may limit your choices of tenting spots, and perhaps force you to sleep on a larger open patch of slanted ground.

To protect the underside of the tent from gravel, rocks, tree sap, etc, use a polyethylene woven tarp. Check the footprint of the tent you will use and look for an inexpensive tarp like the blue or green ones from Walmart, Kmart, or Home Depot/Lowes. You don’t need the expensive manufacturer-supplied nylon ground cloths that are pre-cut to the size of your tent.

Pad: The advent of the self-inflating air mattress about 20 years ago dramatically increased the comfort of sleeping on the ground. Typically known by the brand name Thermarest, these pads are worth their weight in gold. Your body weight compresses the loft of the sleeping bag underneath your body, and therefore the thickness of your sleeping pad actually controls your insulation from the ground. You will spend many hours sleeping, and a \$99 pad will amount to approximately 25 cents per sleeping hour over the whole trip. If you decide to purchase one of these pads, go for the full length, and at least 1.5” or thicker, “base camp” or “luxury camp” style pad. While the ¾ length and ultralight pads may seem nice for trimming weight for backpacking, you will never need to carry your pad more than 500’ to your campsite. Unless your body is short enough to fit on a short pad, get the full length. You’ll thank yourself later. Many retailers sell these pads for between \$65 and \$99. Yes they’re expensive. I personally believe they’re worth it.

Sleeping bag: You will need to consider two factors when looking at sleeping bags: first is the insulating material composition, and the second is the degree rating. The choice between synthetic vs down as insulating material in sleeping bags is a hotly debated topic. Down is sometimes preferred by backpackers who must carry a bag long distances, since it is lighter per degree of insulation, but it costs more. Again, since you need only carry your bag a few hundred feet to your tent, you don’t need to pay the premium for a down bag. If you have one already, down insulation will work fine. Synthetic bags retain their insulation capacity when wet, so if you sweat a lot, you’ll stay warmer with a synthetic bag. For temperature ratings, if you are a warm sleeper, you might keep warm with a 0 or perhaps even a +20 degree bag. If you are typically a cold person, wear lots of sweaters, sometimes feel frozen at night, look for one of the

-20 degree bags. While we never see temperatures this cold, all manufacturers seem to exaggerate their ratings, particularly those in the “economy” line. I have a -20 synthetic bag from LL Bean. I’ve never been cold at night. You should be looking at prices ranging from \$70-\$99. Slumberjack is a good brand name to look for in the economy line.

Sheets: So, now that I described my sleeping bag, I will say that I’ve rarely slept inside it. Instead, I make a bed using my sleeping pad and an inexpensive sheet set. I unzip my sleeping bag and use it as a “comforter.” So add one fitted sheet and one flat sheet to your list. Often a home goods, department store or a TJ Maxx will have a discount section with cheap sheets for sale. The bonus of this arrangement is that you can very easily wash your sheets without washing your whole sleeping bag.

Pillow: Bring one. No question about it. I opt for the full size pillow from my house, or you can get one at any home goods store like Walmart or Kmart. A flannel pillowcase is a nice touch and makes sleeping in the cold much more comfortable. If you are prone to being cold at night, bring an ultra thin knit hat. I bought one at the camping store in Pinedale a few years ago, and it has been a real comfort on cold nights.

Chair: Any of the dept store brands are fine. They cost between \$8 and \$15, and should hold up for the duration of camp. Most people get the chairs that collapse into a tube-style stuff sack. Don’t go for the fancy “backpacker” chairs that are tripods or other unusual shapes; they tip over easily and are much more expensive.

Shower: Though I previously thought it would never function properly, a solar camp shower is a wonderful item to have after a hot dry dusty day in the field. I bring one every year and use it regularly. Do NOT go out to the nearest Wal-mart and buy the \$8.00 Ozark Trail model. It has a flimsy fill cap and the shower tube becomes disconnected easily. Instead stop by a Cabelas or REI and look at the Basic Designs or Stearns “Sun Shower” series. They are made to last but they do cost \$20-\$30. I’d suggest a few people share the use of a shower for the trip. If you are conservative, you will only use about half of the 4-gallon capacity per person. You will need to find a private, out of the way place to use it, as the campground is generally a populated place. A large tarp can be rigged to provide privacy.

Duffel Bag: I pack my house into an X-large duffel bag. Remember that the limit is on weight, not size, so a larger bag will be easier to pack, particularly for the items in your house.

Place all these items in the duffel bag, and this constitutes your “house” for the next month:

Sleeping bag – 7 lbs
Sleeping pad – 4 lbs
Tent – 8 lbs
Tarp – 1 lb
Pillow/Sheets – 2 lbs

Chair – 8 lbs
Shower – 2 lbs
Duffel bag – 3 lbs
Total – > 35 lbs (the limit!)

Field Daypack

Backpack: I finally found a pack I like in the Camelbak “Rim Runner.” (~\$80) Many daypacks will work fine, and this is just one example of a pack that has a moderate capacity (1500 cu in) plus space for a 2-3 liter water pouch. On many occasions, we will be out in the field for 8 hours per day, with no chance to refill water. The large camelbak reservoir is very nice to have since it keeps the water surprisingly cold and always accessible. The same result could of course be achieved with any daypack plus a refilled soda bottle, but the convenience factor is a plus. I usually leave camp wearing warm clothes and carrying a pack containing only a first aid kit, writing implements, and my lunch. I return from the field with all my warm clothes in the backpack and wearing shorts and a t-shirt.

Clipboard/Office: A small clipboard pouch can generally hold your pens and pencils plus a ruler. Geologists will have their clipboards out in the field every mapping day, so make sure you like what you bring. Environmental scientists will not need a clipboard as much, but it will be used on some sections. You will need colored pencils, the 12 or 24 color set is adequate (<\$5). A good ruler/straightedge, protractor and pencil set is critical. Look for a mechanical pencil that you like, and get spare graphite at the same time. Try out the pencil lead stiffness. Many people prefer to draft with graphite harder than a #2/HB. You may find them silly at first, but I regularly use an erasing shield (<\$1) with a non-abrasive block eraser (<\$1). For finalizing maps and graphs, I’ve used a black ultra fine sharpie and a black extra fine sharpie.

Knife: I bring a leatherman multi-tool similar to the “Fuse” (~\$40). You may not need a knife at all. The kitchen has knives for group food prep, and the silverware bin has knives for eating. No need for anything “Rambo.”

Headlamp: The advent of LED headlamps makes these an easy and affordable part of camping. The Petzl brand is very reliable, and they make the “Tikka” (~\$28) which I have and use every night in the campground. The nicest features are that it has no battery pack behind your head and it is super lightweight. Absolutely the same result can be obtained with a \$5 flashlight, but the convenience of a headlamp is worth it to me.

Sandwich box: A simple tupperware square sandwich box works for me. I get the “single” sandwich size, and pack it with two sandwiches. I find it keeps the fillings inside better if it’s packed in there tightly. We see students coming with double size boxes, and everything you can imagine, including the semi-disposable tupperware. Whatever works for you is fine. You will be able to wash it daily with the dinner/breakfast dishes.

Field Notebooks: We give you a field notebook included as part of the camp fee. We buy the orange forestry suppliers books with a table layout on one side and a grid on the other side. Handlenses and grain size charts are also provided for your use.

Rock Hammer: Rock hammers are a personal choice as to whether you get the pick style or chisel style. Visit <http://www.kooters.com/index.html> to get more information.

Clothing Duffle Bag:

Think in layers. Once we get to Wyoming, getting wet is not as critical an issue like it is in the east and far west. It can happen, but it is less frequent. Temperate zone hikers need use equipment that insulates when wet, which means using synthetic fabrics and not cotton. Cotton loses all its insulation properties when it gets wet, so typically I would never wear cotton. However, out west, you can use a variety of fabrics according to your preferences and needs. For example, if you have flannel shirts and not a fleece pullover, that's OK, bring 'em. The climate in our field areas is near 30's at night, 50's for breakfast, 80's and 90's during the midday heat, and then back to 30-40's overnight. See the attached graph for the hourly temperature in the Field Camp kitchen from 2007.

Layer 1: Underwear and Socks. Your first layer is underwear and you should bring plenty of it. Avoid wearing the same pair during the day and night. Bring enough underwear and socks so that you can change at least every day. I am a fan of the Smartwool brand, and I pick them up at an LLBean outlet store for about \$7 per pair. I bring 12 pairs underwear, and 8 prs socks.

Layer 2: Wear Layer: T-shirts, long pants, shorts. This layer absorbs some of your body funk, and should be changed every 2-3 days, and more frequently if you tend to get dirty. Depending on whether you will be hiking, or going to town you'll select from what you bring. I generally opt for shorts on most days, but nearly all other campers always wear long pants. Long pants are useful for beating your way through brush and brambles, which does happen frequently. Jeans and old khakis are my favorites for long pants. The Carhartt brand is well known for being exceptionally durable, particularly their canvas fabric line. I bring one pair old beat up khakis, two pair jeans, five shorts, and a bathing suit. For shirts, I bring 10 all cotton T-shirts.

Layer 3: Warmth Layer: Vests, jackets, zip pants. Keeping you warm is obviously the role of the warmth layer. Trapped air gives you warmth, so a flat flannel shirt will not keep you as warm as a puffy down vest. If you like flannel, bring more than 1 of them, and layer. In the morning, I typically see many students wearing everything they own. If you are prone to feeling cold, make certain you have thick warm layer(s) for your upper body, the most important part to keep warm. I bring a zip fleece vest, side zip fleece pants, a fleece jacket, a fleece lined wool hat. I don't think I've ever worn the fleece jacket, but I still bring it every year. The thickness of the fabrics is roughly Polartec 200-300.

Layer 4: Water/Windproof layer: Raingear. Shedding dirt, blocking wind/rain, and allowing sweat to escape is the challenge for the fourth layer. Some people separate these into two categories by bringing both an ultralight windbreaker and a set of completely waterproof raingear. I bring one set of gear consisting of a goretex raingear jacket and side zip rain pants. Again, I've never worn the pants, but I bring them anyway. I wear the rain jacket every morning on top of my vest to keep warm until the sun hits camp. Field camp typically gets rain 1-2 times during the month, usually on the trip out. Goretex is not necessary, but it does work well in the dryer climates of the west.

Boots: Everyone argues for their own personal preference regarding leather vs synthetics. Go with what makes you comfortable. If you roll your ankle frequently, make sure your boots provide solid ankle support. Some people opt for the Timberland “sh*t kicker” style of boots (with/without steel toe), and many choose a low hiker. Sneakers are generally not suitable as a hiking boot. We’ve been seeing a fair number of Keen’s around camp recently in place of tevas. We’ve also seen some flip-flops around camp, but you do face a higher toe-stub risk, and need to be very careful.

I bring three sets of footwear: heavyweight leather boots, lightweight nylon hikers, and tevas. I live in the lightweight hikers (LLBean Trail Hiker, low cut \$49) and change into the heavy leather boots only when I am certain to be out hiking over rough terrain all day. I do pack a pair of tevas in case I want to play in the stream next to camp, but it is a real foot injury risk. I’ve generally not worn them often.

Resources:

http://www.campmor.com	Economical, good all around
http://www.llbean.com	Excellent satisfaction guarantee
http://www.cabelas.com	Amazing product depth/breadth
http://www.sierratradingpost.com	Outlet for major brands, good value
http://www.rei.com	The EMS of the west coast
http://www.ems.com	The REI of the east coast
http://www.citysports.com	The urban EMS/REI
http://www.dickssportinggoods.com	The mall EMS/REI
http://www.titlenine.com	Women’s activewear, particularly jogbras

Remember that we will stop at Cabelas on the trip west, so if you need something minor, you can pick it up enroute.