
SuperUltraLight: Breaking the Five-Pound Barrier

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by Ryan Jordan | 2003-08-06 03:00:00-06

Introduction

The ability to carry a pack that is not just "light" (12-20 pounds base weight*), or ultralight (6-11 pounds), but ridiculously light (< 5 pounds), and still maintain a level of comfort and safety suitable for hiking in the high mountain ranges of the lower 48 U.S., requires a bit of innovation, some compromise in durability, and, most importantly, an advanced set of backcountry skills that allows you to remain warm and dry in inclement weather with a kit of gear that offers little margin for safety.

Thus, herein I make no attempt to define a new standard for lightweight backpacking, but instead offer you some insight for pushing the sub-5-pound barrier at the ultralight fringe.

Although some skill is needed to use this kit in inclement weather, my intention is to build a kit that doesn't sacrifice a lot of function. I don't leave the toothbrush at home, I use a pack with a hip belt, I'm not using a bivy sack as sole shelter, and I'm not starving myself on cold food. I'm treating my water, I'm not wiping with pine cones, I'm not using good vibes to disperse mosquito clouds, and I'm successfully using this kit in rain and snow and wind at high elevations with nighttime temperatures below freezing in the mountains. I even advocate a synthetic insulating layer over a down vest or jacket, as a measure of insurance against wet weather.

When I was researching this topic, I found less than ten people - in the U.S. and Europe - that actually practice sub-5-pound backpacking on a consistent basis. After interviewing dozens of ultralight backpackers, I've come to the conclusion that the reason the fringe isn't being explored is simple: it's the fringe. And there is not a lot of gear or education to help people explore it.

I've found that achieving light loads can be accomplished in one of two ways. Herein, I discuss careful selection of individual ultralight items that can be used together as a system without sacrificing a great deal of comfort or

functionality. The alternative is to start throwing items out of your pack - which is the subject of another article perhaps - but that philosophy eventually results in the emergence out of traditional backpacking and into wilderness survival.

* Base Weight is herein defined as the dry weight of gear and nonconsumable supplies in your pack, excluding clothing worn, items normally carried (like trekking poles), and food, fuel, and water. We don't claim that this is the most accurate representation of one's pack weight, but it is the most popular, and we use it herein to maintain consistency with what most perceive to be their pack weight.

(Photo: Author (5'8" and 155 lbs) packed for a 10-day, 235-mile circumnavigation (no resupply, no road crossings) of Montana-Wyoming's Absaroka-Beartooth Wilderness, which boasts more contiguous land (acreage) above 10,000 feet in elevation than any location in the U.S. Total starting pack weight with food (no water) is 19.6 pounds. LT Hat by Tilley. Rodeo Shirt and Prospector Pants by Cloudveil. Stix 5.4-ounce carbon trekking poles by Bozeman Mountain Works. Vitesse shoes by Montrail. Dawn Pack by GoLite.)



Rethinking the Big Three

Most self-proclaimed lightweight backpackers carry less than six pounds of equipment for their shelter, sleeping bag, and backpack, allocating approximately two pounds for each item. The SuperUltraLighter must reduce this weight to a maximum of two or three pounds if they hope to reduce the total weight of their gear list to less than five pounds.

Sleeping Bag. You need to remain comfortable at temperatures near freezing, even midsummer, if you are going to be hiking in the Tetons, Wind Rivers, Sierras, Glacier National Park, Yellowstone, or North Cascades. Limit yourself to a sleeping bag that weighs no more than a pound (or perhaps a few ounces heavier if you're tall). That limits your options to sleeping bags using ultralight fabrics such as Pertex Quantum and high-quality down fill, so you can at least maintain an inch and a half of single layer loft over you. Combining your sleeping bag with a smart clothing selection (see below) will allow you to remain comfortable on those freezing or

sub-freezing nights.

My sleeping bag choice is a custom 15.2-ounce Arc Alpinist X with a Pertex Quantum shell with 800+ fill down offering 2.25 inches of single layer loft that tapers to 7 inches of (single layer) loft in the footbox.

Other Possibilities: Nunatak / Bozeman Mountain Works Arc Alpinist X, Western Mountaineering HighLite, Feathered Friends Vireo, Rab Quantum Top Bag, PhD Minimus Bag.

Don't forget about a waterproof stow bag to protect your precious down. My choice is a homemade spinnaker cloth stuff sack, 400 cubic inches, 0.5 ounces.

Finally, you need a sleeping pad for ground insulation. Skip the Thermo-Rest and go for closed-cell foam with a cured surface so it doesn't absorb water. A 3/8-inch foam pad cut to torso size costs only 2.0 to 3.5 ounces.

Shelter. Tents are out. Tarp tents are out. Big tarps are out. A sub-12 ounce waterproof bivy sack is a possibility, but awfully uncomfortable in inclement weather. You've got to think multi-use here and take a hard look at a poncho tarp that serves as both raingear and shelter. Silicone-coated nylon is the only material to consider. Check out poncho-tarp offerings from Integral Designs and Equinox, and you'll get by with something less than 10 ounces. Add six 1/8" x 6" titanium skewer stakes (1.5 oz) and about 35 feet of Spectra guy lines (0.5 oz). In addition, a poncho tarp is not going to provide you with enough coverage during the severe storms that make camping above the treeline in the Wind Rivers or Tetons famous, and if you want some additional warmth and insect protection, consider a bivy sack with a breathable but water resistant top and a waterproof bottom so that it serves sufficiently as a ground cloth (as well as minimizes condensation in the bivy by blocking evaporated moisture transport from wet ground). Equinox makes a 6.5 ounce nylon / silnylon bivy of this type (but it offers no hood) that must be paired with a 1.0-oz noseem headnet for bug protection. Or, go to an Epic / Silnylon bivy like that from Oware for 10 ounces or so. Coming soon to our shop: A Pertex Quantum and silnylon hooded bivy with bug netting that will cost you less than seven ounces.

My shelter system consists of an 0.9-oz spinnaker cloth poncho-tarp (5' x 8', 6.3 oz), six titanium stakes (1.5 oz), 35 feet of Spectra guylines (0.5 oz), and a Pertex Quantum / Silnylon bivy sack (6.9 oz). This 15.2-ounce package provides additional sleeping bag warmth (bivy), inclement weather protection (tarp and bivy), bug protection at night (bivy), overhead shelter protection (poncho), and rain protection (poncho). You'll be hard pressed to find a lighter system that provides this much functionality.

Pack. With a five-pound base weight, forget about frame support. Even with a week's worth of food and 3L of water (the maximum amount ever carried by a thru-hiker or recreational backpacker), you're not going to break over twenty pounds very often, if at all. Most of the time, you're going to be packing less than 12 or 15 pounds, and often, less than 10. Start thinking about unconventional packs to address your SuperUltraLight needs - you don't need much more than a bag with straps. Granite Gear makes a 10.5-ounce compression pack that holds 1,500 (M) to 1,900 (L) cubic inches, which is plenty of space for this type of load. For serious weight reduction, check out the 6.5-ounce G5 from GVP Gear, or simply make your own sub-10 ounce pack in the 2000 cubic inch range using silicone-coated nylon for the body, simple padded shoulder straps, and a 1" webbing belt to help out with those "heavy" 15-20 pound loads.

My SuperUltraLight pack choice for short trips is a GVP Gear G5 that has been restitched to reduce its volume by about one-third. The resulting pack weighs only 5.9 ounces, offers a 2400 ci main compartment, two side pockets, a back rear mesh pocket, shoulder straps (stuffed with a sock in each for padding), and hip belt (stuffed with hat and gloves for padding). For trips longer than a weekend, I prefer the more robust 15.5 oz GoLite Dawn (2400 cubic inch main compartment), which carries heavier loads a little better than the G5 and is more durable.

Clothing

Base Layers. As you increase your level of skill, you can decrease the number of pieces of clothing you bring. The SuperUltraLight philosophy requires rigid adherence to the "no duplicate item" mantra. Your base layers must function over as wide of a temperature range as possible. For the torso, a very thin wicking knit base layer, such as Silkweight Capilene or fine Merino Wool (treated with permethrin for mosquito protection) is essential, to keep you as warm as possible if your clothing gets wet. My choice is a Smartwool Aero long sleeve crew top. If I'm going into colder conditions, I prefer the Cloudveil Rodeo pullover, an 8.5-oz stretch

woven shirt with a deep neck zip for ventilation. For pants, a stretch woven fabric provides insect and sun protection, warmth, wicking, wind resistance, and enough rain protection when coupled with a poncho that additional rain pants or wicking pants are unnecessary. Schoeller Dynamic pants are a good choice, but for even lighter protection, check out Cloudveil's Prospector pants: 9.25 ounces, size Men's Medium. Add to this a pair of trail running socks and your hiking shoes, a sun hat, and a bandana, and you are dressed to cover a tremendous comfort range.

Wind Shirt. The addition of a three ounce breathable wind shirt extends the comfort range of your clothing in high winds, cool temperatures, and light rain like no other layer. A poncho, wind shirt, and your base layers provide you with enough warmth and protection while hiking to cover 90% of the inclement weather you'll ever encounter during summers in the U.S.' continental mountain ranges like the Cascades, Rockies, and Sierras. My choice is the Montane Aero Smock, 2.5 ounces.

Insulating Jacket. This is our safety piece. We probably won't need to hike in it (if we need this to remain warm while hiking, then maybe we should stop hiking and pitch our shelter!), but it extends the temperature range of our sleeping system significantly and offers some insurance, if (God forbid) our sleeping bag gets wet. Synthetic jackets are the safest, of course, and provide a level of insurance in wet conditions that can't be matched by down, but ultralight offerings are limited for these types of garments. One of the best is the 15.3-ounce hooded EP (Epic-Primaloft) jacket from Wild Things. My choice for wet conditions is the Cocoon pullover from Bozeman Mountain Works (9.0 ounces), which offers a hood, Pertex Quantum shell, partial neck zipper, and PrimaLoft insulation. Other options: Western Mountaineering is releasing a nice fat 5-ounce down vest in the fall to complement their Flight jacket (10 ounces), and Mont Bell makes an 8-ounce quilted down sweater. But, if you are hiking in inclement conditions, carefully consider whether or not you want all of your insulation to be down...

Extras. An extra pair of socks buys you the ability to continuously hike long distance days with freshly washed and lofted socks, making sure you have a dry pair every night for sleeping. A simple fleece beanie hat or thin polyester (e.g., PowerStretch) balaclava gives you a lot of comfort for hiking in cold conditions and cutting some head chill while sleeping. Finally, unless you like hiking with those stinky extra socks on your hands, you better throw in a thin pair of Thermax gloves when hiking conditions get cold and wet.

Kitchen

Going SuperUltraLight doesn't mean going SuperUltraHungry or eating SuperUltraCold food. See the companion article, "[The Lightest Kitchen?](#)" for a description of how to maintain good solo cooking functionality while sacrificing a lot of weight.

The best way to reduce your kitchen weight is to minimize the amount of water boiled that you really need. Skip the two cups of hot tea at night, cream of wheat breakfasts, and those streamside trout lunches, in lieu of a single hot meal in the evening. Reducing your fuel needs means you can go to the lightest stoves available: solid fuel tabs or alcohol. In addition, plan your meals so that they can be made with as little water as possible, so you can reduce your pot size. If you use boil-in-a-bag packaging, you could probably get away with a 12-ounce titanium cup for all of your water boiling needs. You'll need more pot volume if you mix food and water in the pot rather than a bag.

Water treatment is a must for most hikers. Aqua Mira, repackaged in small eyedropper bottles, makes a very light and effective system, and gets you through five to seven days for an ounce. There is no room for filtration

systems on this list. For water storage, hard containers are out. I like to have a 2L Platypus for water storage during long dry stretches of trail and for collecting water in the evening if I'm going to be in a dry camp, but most of my drinking is done from a 1-ounce, 1-quart Platypus bottle that weighs 1.2 ounces (with a push-pull squirt top).

Food storage is critical in most mountainous areas of the country where bears are present. Bear canisters in the Sierras aside, most wilderness areas let you get away with bear bagging. A simple silicone-coated nylon stuff sack weighs only an ounce, and combined with 35-50 feet of braided Spectra, gives you enough to rig a simple bear bagging system effective enough for most areas of the country.

Miscellaneous Items

You are now walking very close to the five pound barrier. Don't go over by adding a bunch of useless items! Be very critical with your "essentials" list here, and take only what is absolutely necessary.

Light. I like a headlamp - the Black Diamond Ion (1.1 oz) is my personal choice. Most SuperUltraLighters get away with the 0.3-oz Photon Microlights or similar keychain style LED lights.

Bug Protection. A tiny eyedropper bottle full of DEET will last two weeks and weigh less than 0.5 oz. A 1-ounce noseeum headnet may be required for hanging out during the peak of mosquito season.

Sun Protection. A \$300 pair of titanium sunglasses that weigh 0.2 oz does you no good if you have to house them in a hard case that weighs 3-4 ounces. Stick with basic, cheap sunglasses with plastic lenses that you can just toss into your pack without fear of breakage for 0.5 oz. Since you are wearing a long sleeve shirt and long pants, a bandana for the neck, and a wide-brimmed hat for sun protection, your need for sunscreen is now minimal and limited to the backs of your hands, nose, and cheeks. A Dermatone stick fits the bill, and provides lip protection to boot for 0.5 oz.

Toilet. You can save TP weight by invoking a sense of raw wilderness skill in your quest for au natural wiping methods. However, the skilled SuperUltraLighter will plan their diet accordingly with enough fiber to ensure "clean" feces that result in minimizing the number of TP squares you need. A 0.5 oz bottle of alcohol hand gel gives you some hygiene insurance if your TP in a little on the "thin" side (1-inch aspen leaves come to mind) or you miscalculate your prune intake. A prison-type finger toothbrush is only 0.05 ounces and Dr. Bronner's provides a month's supply of toothpaste if packaged into a tiny eyedropper bottle.

First Aid and Emergency. As your skill increases, your first aid kit decreases (see "[Face-Off: First Aid and Emergency Gear](#)"). The only items I carry anymore as "critical" include some blister treatment (if you are hiking long distance days), a few painkillers, and some butterfly bandages to stop bleeding from large cuts. A whistle worn around the neck gives you signaling insurance in populated areas, and some waterproof storm matches and an Esbit tab for a firestarter might get you through a surprisingly cold and wet night if all of your stuff is soaked.

Assemble Your Kit, Then Do It!

The SuperUltraLight fringe is not an exclusive club for freaks, Marines, or veteran hikers. Nor is it wilderness survival. Nor is it intended only for summertime hiking in Southwest Texas.

Review this list carefully. Many of you are already achieving the same functionality in your gear lists (e.g., using a poncho-tarp for both shelter and raingear). If you possess some basic skills, such as keeping your stuff dry, dealing with a poncho-tarp in rainy conditions, pitching a tarp, locating your camp in inclement weather, etc., then you can certainly explore this fringe.

However, you do have to understand that we are bringing less stuff here. Thus, there is little room for error. Going SuperUltraLight requires that you pay careful attention to every detail and evaluate the consequences of each choice you make while walking. You must have the ability to forecast challenging scenarios, develop contingency plans, and implement those plans when things go awry. Practice! Use this kit on fair-weather overnights where the security of a car heater is only a few feet or few miles away. Then try it on foul-weather overnights. Finally, begin to extend your mileage into the wilderness and the number of days you remain out, and eventually, you will have logged enough foul-weather nights to wonder why you ever carried that tremendously heavy 15 pound pack!

Ryan's SuperUltraLight List

I've now had the opportunity to explore this fringe for more than a year with over 700 miles of hiking and during conditions of heavy rain, spring snow, high winds, and fierce mosquitoes. It has required some iterative fiddling (in fact, it still does) but I'm comfortable enough with using the gear here that I can wholeheartedly recommend every item on the list to those wishing to explore lightweight, long-distance backpacking on a new level.

Pack - Shelter - Sleeping

- Modified GVP Gear G5 Spinnaker (5.9 oz) or GoLite Dawn (15.5 oz)
- 3/8" foam torso-sized sleeping pad (1.9 oz)
- Spinnaker cloth poncho-tarp, 5' x 8' (6.3 oz)
- Six (6) 1/8" x 6" titanium skewer stakes (1.5 oz)
- Twelve 3-foot lengths of Spectra line for guylines (0.4 oz)
- Pertex Quantum-shelled Arc Alpinist X down sleeping bag (15.2 oz)
- Spinnaker cloth sleeping bag stuff sack (0.5 oz)
- Quantum - Silnylon bivy sack (6.9 oz)

Clothing Worn and Items Carried

- Smartwool Aero long sleeve crew shirt (6.0 oz, worn)
- Spandex shorts (3.0 oz, worn)
- Cloudveil Prospector Pants (9.3 oz, worn)
- Smartwool Trail Running Socks (1.4 oz, worn)
- Montrail Vitesse shoes with Superfeet Inserts (26 oz, worn)
- Tilley LT Hat (3.0 oz, worn)
- Cotton bandana (1.0 oz, worn)
- Bozeman Mountain Works Stix X1 carbon fiber trekking poles (5.4 oz, carried)
- Emergency whistle worn on Spectra cord lanyard (0.3 oz, worn)

Extra Clothing Packed

- Montane Aero Wind Shirt (2.5 oz)
- Bozeman Mountain Works Cocoon hooded pullover / Primaloft insulation / Pertex Quantum shell (9.0 oz)
- Spare pair of Smartwool Trail Running socks (1.4 oz)
- 100-weight fleece watch cap (0.9 oz)
- Thermax gloves (0.9 oz)
- Spinnaker cloth clothing stuff sack (0.5 oz)

Kitchen

- Mini-Pepsi stove with wire pot support (0.35 oz)
- foil windscreen (0.2 oz)
- Platypus Lil' Nipper bottle for fuel (0.7 oz)
- Box of wooden matches in Ziploc (0.3 oz)
- Snow Peak 600 mug (2.8 oz)
- foil lid for mug (0.05 oz)
- Lexan spork (0.25 oz)
- Silnylon food storage bag with 35' Spectra bear bag cord (1.7 oz)
- 2L Platypus bag, 1L pop-top Platypus bottle (2.3 oz)
- Aqua Mira repackaged in eyedropper bottles, with mixing cap (1.1 oz)

Miscellany

- Black Diamond Ion Headlamp (1.1 oz)
- Noseeum mesh headnet (0.7 oz)
- Small dropper bottle of DEET (0.3 oz)
- Dermatone stick (0.5 oz)
- Sunglasses (0.5 oz)
- Finger toothbrush (0.05 oz)
- Dr. Bronner's in dropper bottle (0.25 oz)
- Alcohol hand gel in small bottle (0.5 oz)
- TP: 4" x 4" blue shop towel squares - 1 / day (0.5 oz)
- Blister & minor wound care supplies (1.0 oz)
- Small stuff sack for organizing these essentials (0.5 oz)

Total Weight in Pack: 4.34 lbs with G5 Pack (4.94 lbs with GoLite Dawn Pack)

Total Weight Worn or Carried: 3.47 lbs

Total Skin-Out Weight Less Food, Fuel, and Water: 7.81 lbs with G5 Pack (8.41 lbs with GoLite Dawn Pack)

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