

# ultralight backpacking

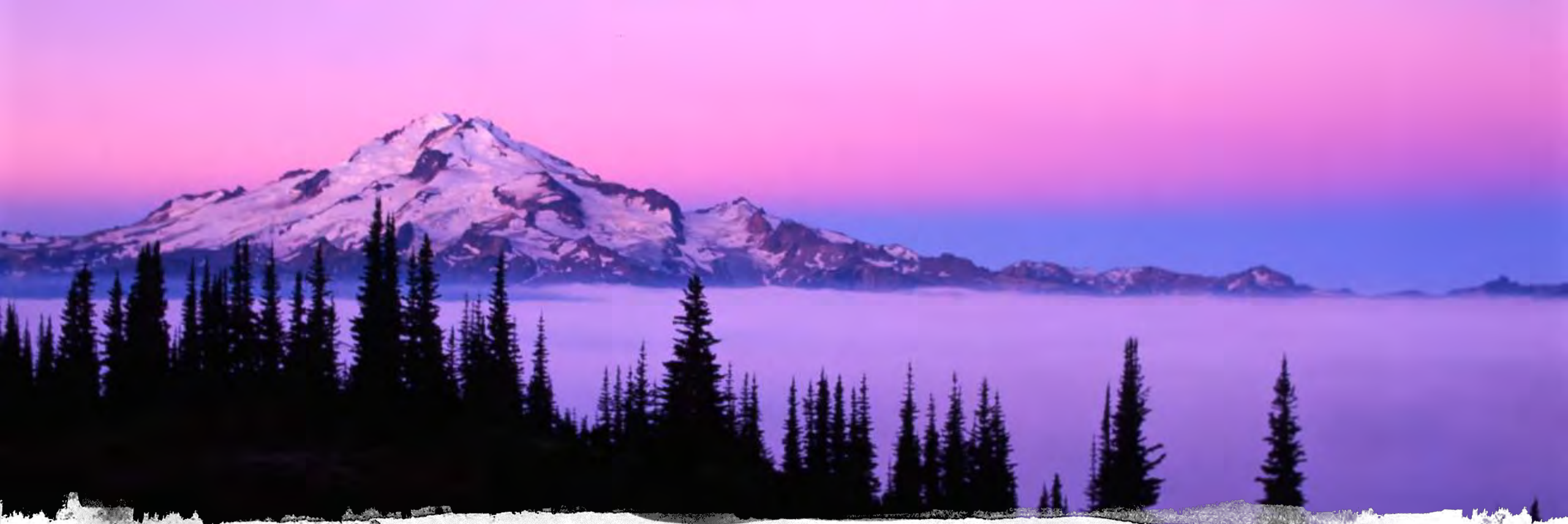


course 413  
shane watts, instructor

# We'll cover:

- definitions & rationale
- ultralight principles
- the big ~~three~~ four
- what's in my pack?
- tips & tricks
- gear recommendations
- resources





## definitions

- **base weight:** full pack weight minus food, water, fuel
- **lightweight:** base weight  $\leq 20$  lbs
- **ultralight:** base weight  $\leq 10$  lbs
- **super ultralight:** base weight  $\leq 5$  lbs
- **stupid light:** not taking necessary gear given the conditions





## paths to ultralight:

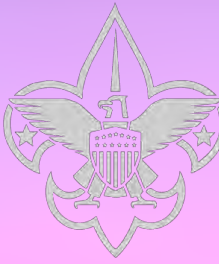
1. carry less stuff\*
2. carry lighter stuff\*

*\*note that these are not the goals of ultralight. They are the means to an end.*



# ultralight goals

- comfort
- focus on the journey
- travel faster
- travel farther
- fewer injuries
- enable young and old
- grow skills and planning



# common concerns

- price
- durability
- safety
- comfort
- fad





# 7 ultralight principles

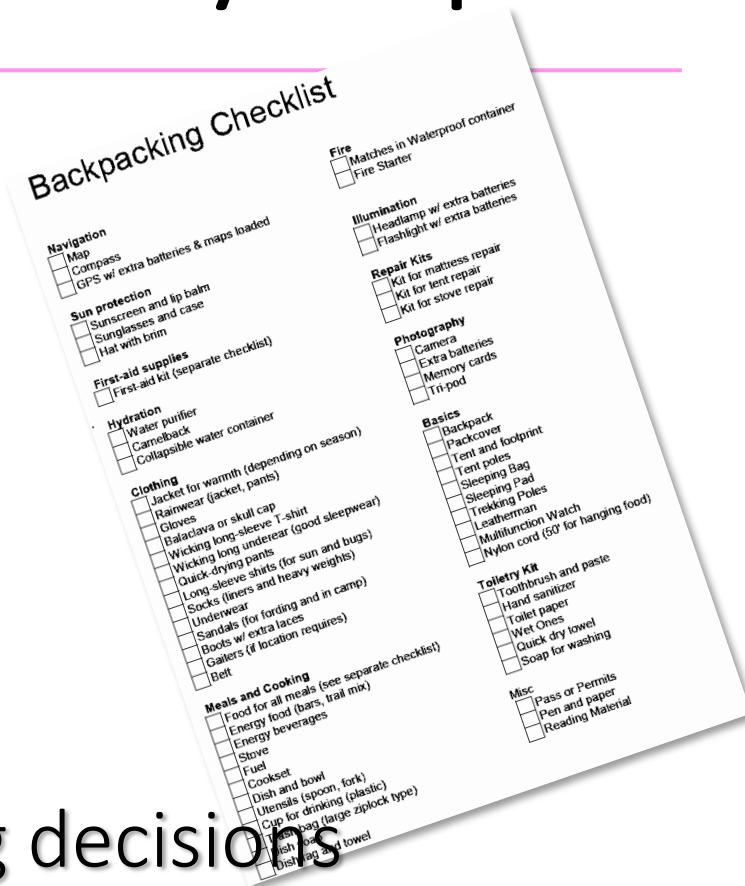
1. know what's in your pack
2. knowledge and skills over gear
3. take only what you need
4. take lighter, smaller stuff
5. take multipurpose gear
6. limit contingencies
7. keep learning





# 1. know what's in your pack

- inventory
  - count
  - weight
  - volume
  - condition
- checklists
- better purchasing decisions
- quick and easy storage system







## 2. knowledge & skills over gear

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→ I should  
have bought  
a floating  
tent!





## 2. knowledge & skills over gear

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- knowledge + skills = less fear
- less fear = fewer dependencies (i.e. gear)
- “don’t pack your fears.”
- learn your way to ultralight
- planning increases knowledge
  - conditions, distances, water sources, terrain, etc.



### 3. take only what you need

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- know what you need
- varies from trip to trip
- mindful reduction
- reduce and repack
- portion control

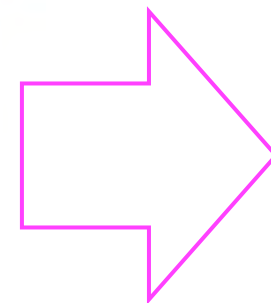




## 4. take lighter, smaller stuff

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- focus on core function
- lightest item that does the job
- smallest item that does the job







## 5. take multi-purpose stuff

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- one item, multiple uses
- don't take this too far





## 6. limit contingencies

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- weigh probabilities
- pack for the probable, plan for the possible
- plan better
- you and your companions are the biggest variable





## 7. keep learning

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- experiment and adapt
- ask questions:
  - what didn't I use?
  - what worked, what didn't?
- full pack day hikes
- back yard test runs
- read and watch videos





packing light is a **skill**, one that often develops with **time**, **experience**, and lots of **mistakes**. experience will teach you how to identify the unnecessary weight—and the gear you simply cannot (and should not) do without.





Spider  
Meadow  
*Glacier Peak  
Wilderness*

-  
2019

ultralight gear



# the big ~~three~~ four



shelter



sleep system

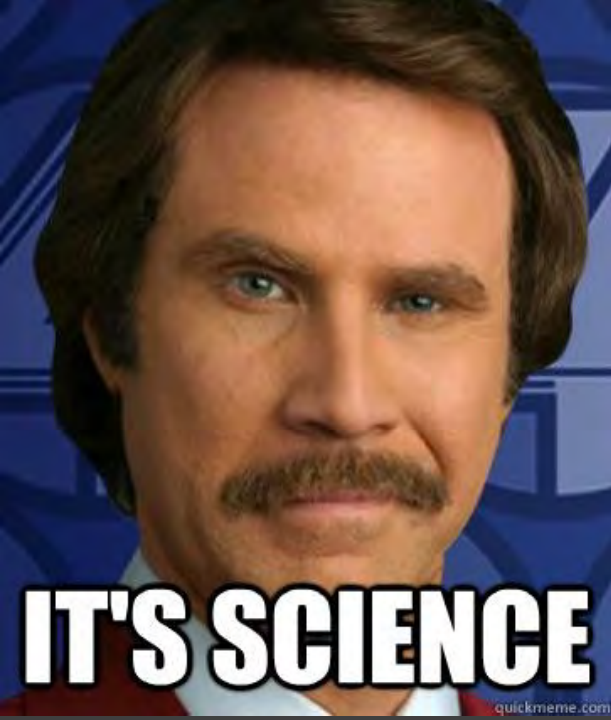


backpack



footwear





# why not boots?



- weight (actual & biomechanical)
- comfort
- no more blisters
- water management
- support vs. agility
- cost
- maintenance
- multi-purpose



# the big ~~three~~ four



shelter



sleep system



backpack



footwear

item	traditional weight	UL weight	weight savings
shelter (2 person)	4-8 lbs	2-3 lbs	2-5 lbs
sleep system	4-8 lbs	2-3 lbs	2-5 lbs
backpack	3-8 lbs	1-2 lbs	2-6 lbs
footwear	3-4 lbs (15-20 lbs)	1 lb (5 lbs)	2-3 lbs (10-15 lbs)
TOTAL	14-28 lbs (15-20 lbs)	6-8 lbs (5 lbs)	8-20 lbs (10-15 lbs)





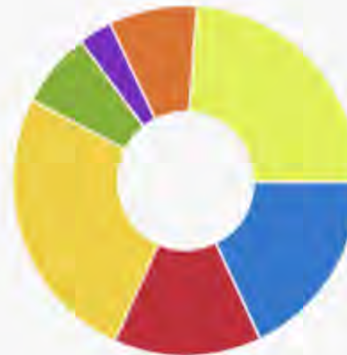
what's in my  
backpack?





# checklist tools

lighterpack.com



Category	Price	Weight
Backpack & Tent	\$639.00	3.13 lb
Sleep System	\$490.00	2.4 lb
Clothing	\$1047.00	4.49 lb
Cook System	\$144.00	1.21 lb
Ditties	\$38.00	0.55 lb
Other Items	\$469.50	1.43 lb
Food & Water	\$0.00	4.14 lb
Total	\$2827.50	17.35 lb ▼
Consumable	\$11.00	4.71 lb
Worn		2.77 lb
Base Weight		9.87 lb

## Backpack & Tent

				Price	Weight	qty
Backpack	Zpacks Arc Blast w/added pockets	<a href="#">link</a>	★	325.00	19 oz ▼	1
Tent	Tarptent Notch w/ground sheet + stakes	<a href="#">link</a> <a href="#">photo</a> <a href="#">icon</a> <a href="#">icon</a>	★	314.00	31 oz ▼	1 ▲ ×
+ Add new item				\$639.00	3.13 lb	2

## Sleep System

				Price	Weight	qty
Sleeping Quilt	EE Enigma (custom)	<a href="#">link</a>	★	295.00	19.4 oz ▼	1
Pad	Nemo Tensor (regular, insulated)	<a href="#">link</a>	★	130.00	15 oz ▼	1
Pillow	Sea to Summit UL	<a href="#">link</a>	★	40.00	2.5 oz ▼	1
Dry Bag	S2S 13L dry sack (for sleeping bag, pillow and clo	<a href="#">link</a>	★	25.00	1.5 oz ▼	1
+ Add new item				\$490.00	2.4 lb	4

## Clothing

				Price	Weight	qty
Rain Shell	EE Visp with pit zips (L)	<a href="#">link</a>	★	190.00	6.2 oz ▼	1
Puffy	EE Torrid APEX	<a href="#">link</a>	★	170.00	8.4 oz ▼	1
Buff	CoolNet UV+	<a href="#">link</a>	★	25.00	1.2 oz ▼	1
Sleep Top	Nike, Dri-Fit, Long sleeve		★	45.00	4.7 oz ▼	1
Sleep Bottom	Nike running shorts (knee length)		★	40.00	5.2 oz ▼	1
Mittens	EE Visp Rain Mitts	<a href="#">link</a>	★	30.00	0.7 oz ▼	1
Socks	Darn Tough - Vertex 1/4 Ultra-Light Cushion	<a href="#">link</a>	★	18.00	1.2 oz ▼	1



# gear bag storage system

## Bag 1: Clothes & Sleeping

- 1 Underwear
- 1-2 socks
- 1 Insulating layer
- 1 Sleeping top
- 1 Sleeping bottom
- 1 T-shirt
- Sleeping bag
- Inflatable pillow

## Bag 2: Ditties

- Hygiene kit
- First aid kit
- Sunscreen
- Bug repellent
- Fire starter

## Bag 3: TP

- 1 Toilet Paper
- 1 Hand sanitizer

## Bag 4: Cooking Kit

- 1 Stove\*
- 1 Fuel\*
- 1 Pot\*
- 1 Fire starter

*\* Group gear items*

## Bag 5: Food

- # Breakfasts
- # Lunches
- # Dinners
- # Snack bags

## Bag 6: Tent

- 1 Tent (or part)\*
- Stakes\*

*\* Group gear items*



# gear worn

## item

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shirt (long sleeve)

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shorts or pants (zip-off legs are great!)

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underwear

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socks

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hat (with brim)

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shoes

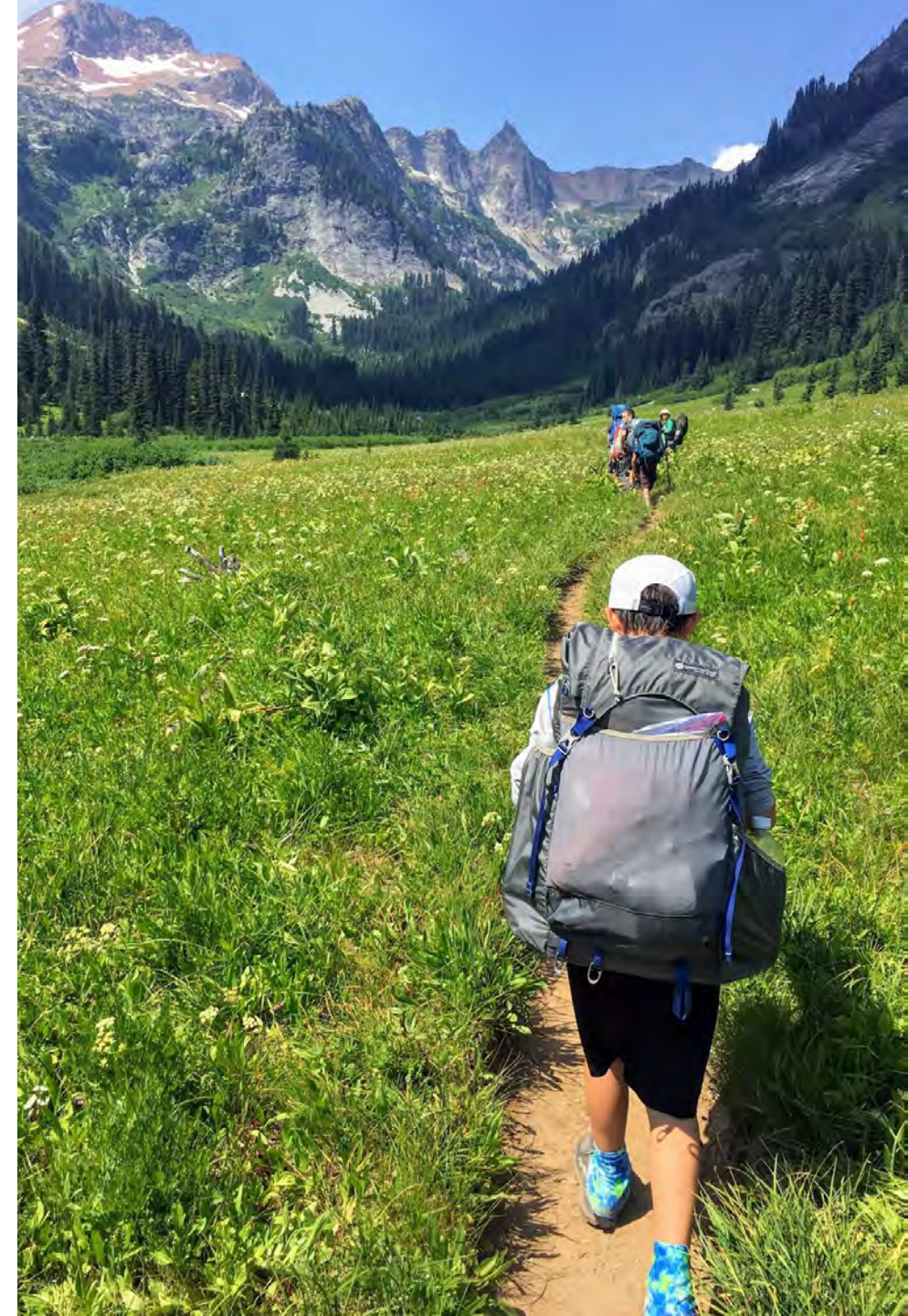
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running gaiters (optional)

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trekking poles

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# gear stored separately

item	recommended location
1 sleeping pad	main compartment
1 rain shell	top of main compartment or outer mesh pocket
1 gloves/mittens	inside rain shell pocket
1 bandana	inside pot or an outer pocket
1-2 water containers	side pockets
1 water filter*	side or mesh pocket
2-5 ziploc bags (1-gallon size)	main compartment
1 knife	shorts/pants pocket
1 headlamp	shoulder pocket
1 map	outer mesh pocket
1 gps*	shoulder strap
snacks for the day	hip belt pocket

\* one per patrol, so scouts may carry one but not all, of these items.

let's pack my  
backpack!

---







tips & tricks

Cloudy Pass

*Lyman Lakes  
Basin*

-  
2019



# tips & tricks



## top tips

- ✧ buy a scale—weigh everything
- ✧ ask “what didn’t I use?” at the end of each trip
- ✧ experiment and learn on short trips

## food & water

- ✧ carry less water (know your water sources)
- ✧ replace Nalgene with 1 liter plastic bottles
- ✧ drink-up at water sources
- ✧ carry less water in food
- ✧ only cook dinner (less fuel)
- ✧ don’t cook (lose the stove and fuel)
- ✧ choose calorie-dense foods
- ✧ replace water filter with tablets
- ✧ snacks in labeled ziplocs
- ✧ remove packaging

## clothing & gear

- ✧ single set of pants/shirt
- ✧ replace pots with a mug
- ✧ short sleeping pad
- ✧ small, custom first aid kit
- ✧ use clothes bag for a pillow
- ✧ castile soap for toothpaste, washing everything

## other ultralight hacks

- ✧ limit amounts—do you need the whole thing?
- ✧ leave deodorant at home
- ✧ pack fresh (not extra) batteries
- ✧ leave unnecessary bags
- ✧ layer proactively to sweat less
- ✧ share the load
- ✧ dry/shake out wet gear





# gear recommendations

Gothic Basin

-  
2020



gear recommendations



six moon designs  
deschutes plus



budget setup  
gossamer gear  
kumo 36



item	pick	weight	price	details
shelter	<a href="#">six moon designs – deschutes plus</a>	1 lb 0 oz	\$195	tarp shelter with vestibule, mesh skirt
backpack	<a href="#">gossamer gear – kumo 36</a>	1 lb 5 oz	\$165	36L, mesh shoulder strap pockets
sleeping bag	<a href="#">enlightened equipment – revelation apex</a>	1 lb 8 oz	\$190	Quilt, 30° EN rating, synthetic fill
sleeping pad	<a href="#">outdoorsman lab - UL pad</a>	0 lb 14 oz	\$39	2.2 R value, 2.2 inches thick
rain shell	<a href="#">frogg togs – ultra-lite2</a>	0 lb 6 oz	\$15	waterproof, not breathable or durable
water filter	<a href="#">potable aqua - purification tablets</a>	0 lb 0.2 oz	\$11	two 50 tablet bottles
stove	<a href="#">brs - 3000T</a>	0 lb 0.9 oz	\$17	low efficiency, low weight, low price
TOTAL		5 lb 3.1 oz	\$632	



gear recommendations



tarptent  
notch

zpacks  
arc blast



katadyn  
befree

my setup



item	pick	weight	price	details
shelter	<a href="#">tarptent - notch</a>	1 lb 15 oz	\$314	silnylon, fully enclosed, two vestibules
backpack	<a href="#">zpacks – arc blast</a>	1 lb 3 oz	\$325	55L, dcf, hybrid external frame
sleeping quilt	<a href="#">enlightened equipment - enigma</a>	0 lb 19 oz	\$295	900 fill down, sewn in foot box
sleeping pad	<a href="#">nemo - tensor</a>	0 lb 15 oz	\$160	3.5 r-value, 3-inch thickness
rain shell	<a href="#">enlightened equipment - visp</a>	0 lb 6.2 oz	\$190	pit zips, mvtr = 75,000 g/m²/24hr
water filter	<a href="#">katadyn - befree</a>	0 lb 2.2 oz	\$35	1 liter, fast flow, easy to clean
stove	<a href="#">msr – pocketrocket deluxe</a>	0 lb 2.9 oz	\$69	fuel efficient, built-in piezo igniter
TOTAL		5 lb 15.3oz	\$1,388	

gear recommendations



zpacks  
nero



zpacks  
duplex

fantasy setup



item	pick	weight	price	details
shelter	<a href="#">zpacks - duplex</a>	1 lb 3 oz	\$599	CDF, 2 person, fully enclosed
backpack	<a href="#">zpacks - nero</a>	0 lb 10.7 oz	\$199	38L, DCF, frameless
sleeping quilt	<a href="#">katabatic gear – flex 22</a>	1 lb 6 oz	\$395	Quilt, 22° EN rating, 900 fill down,
sleeping pad	<a href="#">therm-a-rest - uberlite</a>	0 lb 8.8 oz	\$195	2.3 r-value, prone to punctures
rain shell	<a href="#">enlightened equipment - visp</a>	0 lb 5.9 oz	\$190	pit zips, mvtr = 75,000 g/m²/24hr
water filter	<a href="#">katadyn - befree</a>	0 lb 2.2 oz	\$35	1 liter, fast flow, easy to clean
stove	<a href="#">msr – pocketrocket deluxe</a>	0 lb 2.9 oz	\$69	fuel efficient, built-in piezo igniter
TOTAL		4 lb 7.5oz	\$1,682	





Mt. Rainier  
*from second  
burroughs*  
-  
2016


resources



# my favorite ultralight retailers\*

- ✧ [enlightened equipment](#)
- ✧ [gossamer gear](#)
- ✧ [hyperlite mountain gear](#)
- ✧ [katabatic gear](#)
- ✧ [mountain laurel designs](#)
- ✧ [six moon designs](#)
- ✧ [tarptent](#)
- ✧ [ula equipment](#)
- ✧ [zpacks](#)

*\* this is by no means an exhaustive list.*



silver peak  
snoqualmie  
pass area  
-  
2020



# resources

✧ [adventurealen.com](http://adventurealen.com)



✧ [outdoorgearlab.com](http://outdoorgearlab.com)



✧ [backpackinglight.com](http://backpackinglight.com)



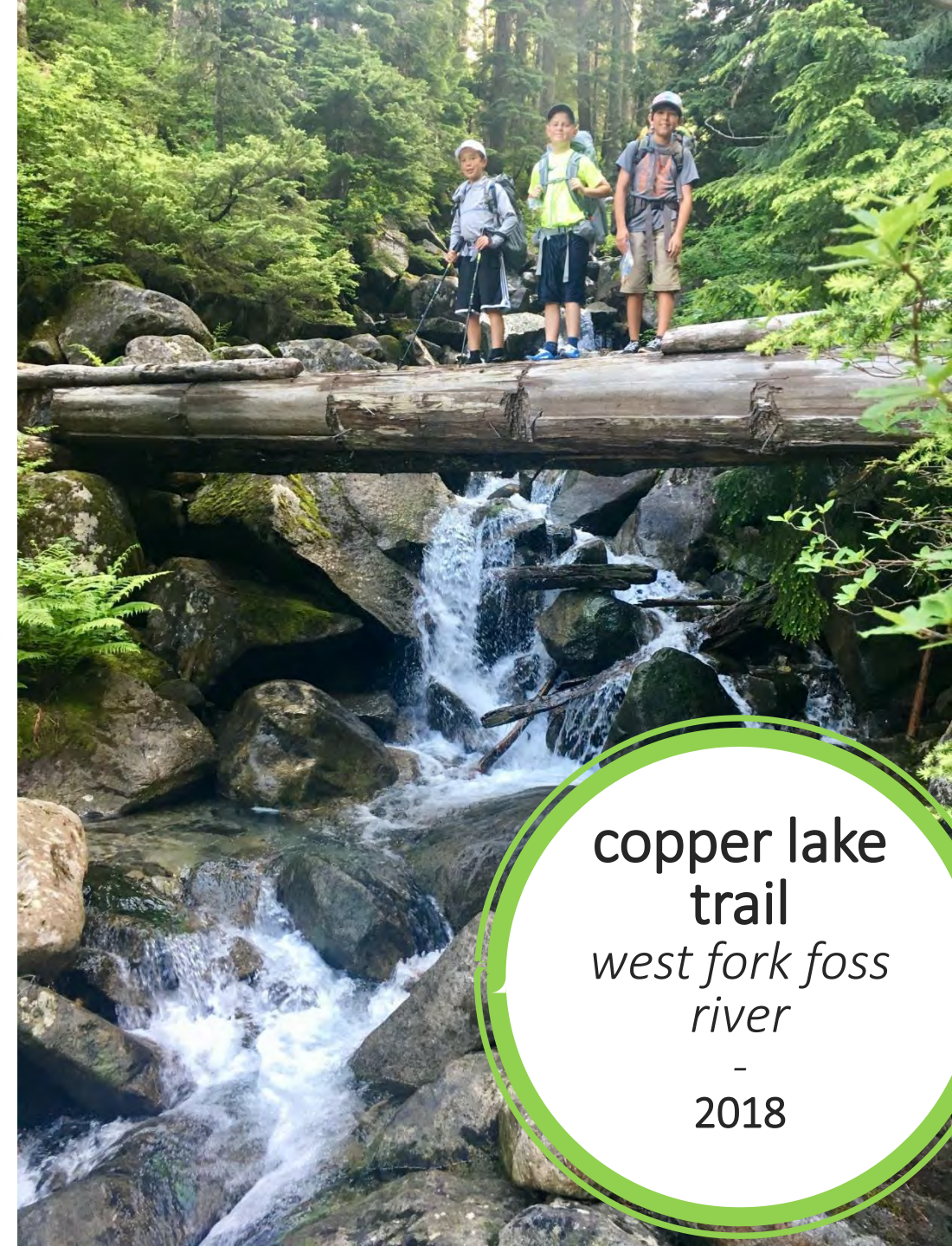
✧ [cleverhiker.com](http://cleverhiker.com)



✧ [backpackingnorth.com](http://backpackingnorth.com)



✧ [darwinonthetrail.com](http://darwinonthetrail.com)



copper lake  
trail  
west fork foss  
river  
-  
2018





thank you!





# appendix a

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gear recommendations  
(2019)



shelter recommendations

tarptent  
stratospire li



tarptent  
notch



Zpacks  
duplex 2



pick		shelter	sleeps	material	weight	price
best buy	<a href="#">tarptent</a>	- notch	1	silnylon	1 lb 11 oz	\$314
high-end choice	<a href="#">zpacks</a>	- duplex 2	2	DCF	1 lb 5 oz	\$599
best freestanding	<a href="#">big agnes</a>	- tiger wall UL2	2	silnylon, nylon	2 lb 3 oz	\$399
honorable mention	<a href="#">tarptent</a>	- StratoSpire Li	2	DCF	1 lb 10 oz	\$689
best hammock	<a href="#">hennessy hammock</a>	- hyperlite	1	silnylon, nylon	1 lb 12 oz*	\$260



# tent vs. hammock



*big agnes*  
**tiger wall UL2**

## **pros**

- space--can sit, kneel, move around in it
- privacy
- sleeps more than one

## **cons**

- flat ground required
- setup in the mud
- large footprint

*hennessy*  
**hyperlight**



## **pros**

- setup anywhere (there are trees)
- lack of privacy, space
- comfort

## **cons**

- trees required
- sleeps one person
- comfort (for some)

given an ultralight, three-season setup, a hammock setup generally weighs slightly more than a tent and costs about the same.

# backpack recommendations

*gossamer gear*  
**Gorilla 40**



*zpacks*  
**arc blast**



*osprey*  
**exos 48**



*hyperlight mountain gear*  
**2400 junction**



pick		pack	volume	weight	price
best overall	<a href="#">gossamer gear</a>	gorilla 40	40L	1 lb 14 oz	\$215
high-end choice	<a href="#">zpacks</a>	- arc blast	55L	1 lb 5 oz	\$325+
best buy	<a href="#">osprey</a>	- exos 48	48L	2 lbs 8 oz	\$190
honorable mention	<a href="#">hyperlight mountain gear</a>	- 2400 southwest	40L	1 lb 13 oz	\$310
honorable mention	<a href="#">katabatic</a>	- onni liteskin	50L	1 lb 13 oz	\$325+



jacket recommendations

enlightened equipment  
visp



zpacks  
vertice



montbell  
versalite



outdoor research  
helium II



jacket	waterproof	breathability	layers	weight	price
<a href="#">zpacks</a> - vertice	20,000 mm	56,000 g/m <sup>2</sup> /24hr	3	6.2 oz	\$260
<a href="#">enlightened equipment</a> - visp	20,000 mm	75,000 g/m <sup>2</sup> /24hr	3	5 oz	\$200
<a href="#">montbell</a> - versalite	30,000 mm	43,000 g/m <sup>2</sup> /24hr	2	6.2 oz	\$200
<a href="#">outdoor research</a> – helium II	15,000 mm	20,000 g/m <sup>2</sup> /24hr	2.5	6.4 oz	\$160
<a href="#">frogg toggs</a> - ultra-lite2	yep	nope	1	5.5 oz	\$19

# bag/quilt recommendations

rei  
magma 10



katabatic gear  
Flex 22



western mountaineering  
ultralight 20



zpacks  
solo down 20



enlightened equipment  
enigma 20



pick		sleeping bag/quilt	EN rating	weight	price
best high-end quilt		<a href="#">katabatic gear</a> – flex 22	22°	1 lb 8 oz	\$350
Best high-end bag		<a href="#">western mountaineering</a> – ultralight 20	20°	1 lb 13 oz	\$500
best overall		<a href="#">enlightened equipment</a> – enigma 20	20°	1 lb 3 oz	\$290
honorable mention		<a href="#">zpacks</a> – solo down 20	20°	1 lb 4 oz	\$359
honorable mention		<a href="#">rei</a> – magma 10	10°	1 lb 14 oz	\$310



# pad recommendations

*therm-a-rest*  
neoair xlite



*nemo*  
tensor insulated



*big agnes*  
insulated axl air



*therm-a-rest*  
neoair uberlite



pick	pad	r-value	weight	price
best overall	<a href="#">nemo</a> – tensor insulated	15°-20°	14 oz	\$160
gold standard	<a href="#">therm-a-rest</a> - neoair xlite	3.2	12 oz	\$150
risky option	<a href="#">therm-a-rest</a> - neoair uberlite	2	8.8 oz	\$160
honorable mention	<a href="#">big agnes</a> – insulated axl air	20°-25°	12 oz	\$135

shoe recommendations



altra  
lone peak



inov-8  
TerraUltra g 260



saucony  
peregrine iso



pick	shoes	weight	price
thru-hiker favorite	<a href="#">altra</a> – lone peak	12 oz	\$120
innovative option	<a href="#">inov-8</a> - terraultra g 260	11.1 oz	\$150
much loved option	<a href="#">saucony</a> – peregrine iso	11.5 oz	\$120
comparative (boot) option	<a href="#">asolo</a> - TPS 520 GV evo	66 oz	\$315



# stove recommendations

snow peak  
litemax



msr  
pocket rocket deluxe



brs 3000t  
ultralight



pick		stove	type	weight	price
best overall	<a href="#">msr</a>	pocket rocket deluxe	canister	2.9 oz	\$75
good option	<a href="#">snow peak</a>	- litemax	canister	1.9 oz	\$55
best buy	<a href="#">brs</a>	- 3000t ultralight	canister	0.9 oz	\$16
comparative option	<a href="#">jetboil</a>	- minimo	canister system	14 oz	\$135

*note: alcohol stoves are not allowed on scout trips and so are not featured or recommended here.*



*katadyn*  
micropur tablets



*katadyn*  
befree 3L



*hydroblu*  
versa flow



pick		filter	weight	price
best non-filter		katadyn – micropur tablets	.5 oz	\$40
best group filter		Katadyn – befree 3L	3.5 oz	\$55
best buy		hydroblu – versa flow	2 oz	\$19