



Colorado Fourteeners Initiative

Peak Steward Handbook

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Colorado Fourteeners Initiative, 1600 Jackson, Suite 205, Golden, Colorado, 80401

www.14ers.org

The Colorado Fourteeners Initiative: A Little History

CFI was formed in 1994 as a partnership of nonprofit organizations, concerned individuals, and public agencies who sought to create an organization whose primary focus was the protection and enhancement of Colorado's 14,000-foot peaks. The founding organizations were the Colorado Mountain Club, Colorado Outward Bound School, Volunteers for Outdoor Colorado, the Rocky Mountain Field Institute, Leave No Trace Center for Outdoor Ethics, and the United States Forest Service.

Since 1994, Colorado's population has been among the fastest growing in the nation and along with that growth, outdoor recreation, always a highlight of life in Colorado, has dramatically increased. CFI has responded to this growth to become the nation's leading high-altitude trail-building, terrain-restoration, and hiker-education organization. CFI has been honored by Congress, the United States Forest Service, the National Forest Foundation and other organizations.

Then

In 1994, there was no single organization with the sole responsibility for protecting our highest peaks. Climbing our peaks was not as popular, hikers were generally more experienced, trails were non-existent in some cases, in need of repair in other cases, and there were few, if any, active stewards of our peaks. Forest Service personnel patrolled some trails and peaks, but even then their ability to do so was limited.

Now

CFI and the Forest Service share a concern for our Fourteeners. But Forest Service funding cuts have stressed resources and limited the agency's presence on Fourteener trails and peaks. However, through the work of CFI, trails on our highest peaks are in far better shape; they are monitored, maintained, and restored. In addition, there is a far greater effort on the part of volunteer Peak Stewards who work with and educate hikers about the fragility of the high alpine environment on our Fourteeners. But these efforts—building and maintaining trails and educating hikers—have been overwhelmed by the rapid increase in the numbers of hikers on our great peaks. In 2017, the Fourteeners [saw 353,000 hiker-use days](#). On a summer Saturday or Sunday, a peak like Mount Bierstadt can experience over 1,200 hikers! Clearly, our great peaks are being "loved to death". Consequently, CFI trail projects must increase, and the Peak Steward program must attract a growing number of volunteers each year.

The CFI Mission

"Colorado Fourteeners Initiative protects and preserves the natural integrity of Colorado's 54 14,000-foot peaks—the Fourteeners—through active stewardship and public education.

The Authority of the Mountain: The Basis for All We Do

Peak Stewards rely on the “authority of the mountain”. Though Peak Stewards are Forest Service volunteers, we are not law enforcement. Legal authority involves laws and a form of coercion. Our approach is different. We educate the public as to why the interests of wilderness areas, wild areas, and nature itself should be paramount. We strive to turn the public away from thinking about what legal authority requires of them and ask them to voluntarily think about what nature requires of them.

This way of thinking about the natural world, this attitude of respect for the mountain, for plants and wildlife, is the foundation for all the work of the Colorado Fourteeners Initiative and the Peak Steward program.

The Wilderness Act (1964)

While only 36 of Colorado’s 54 14,000-foot peaks lie in formally established wilderness areas, we are motivated by the words and sentiment behind the Wilderness Act, signed into law on September 3, 1964:

“A wilderness, in contrast with those areas where man and his own works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain.”

Humans are justifiably proud of their accomplishments—industrial, scientific, intellectual, and technological. But should those accomplishments interfere with and alter wild places? The Wilderness Act says “no”. The natural world should be allowed to change over time in its own way, free from human manipulation. The Wilderness Act recognized the need to restrain human influence and protect natural areas. These areas provide a place to escape the pace of modern life, a place to enjoy quiet, a place to be awed by something untouched by man.

Alpine Environment: Some Facts

The tundra growing season in Colorado is only 6-10 weeks long.

It may take ten years for a plant to flower.

In the alpine zone, the warmest month has an average temperature of 50 degrees, snow depth can reach 12 feet, and wind speeds can reach 100 mph.

Ultraviolet radiation is twice that of a forested area.

Animals like pika and marmots need to spend nearly all the summer months collecting food for winter survival.

A disturbed animal may miss precious time for the collection of food.

Dogs (particularly dogs off leash) have a detrimental impact on the alpine environment. They disturb wildlife, other hikers, and other dogs.

A Personal Experience: I was climbing Handies Peak on Peak Steward service and passed a flock of ptarmigan. They were feeding in the alpine tundra and were almost invisible. This was quite a treat. Later, when I had summited, I looked down on the trail below and saw a hiker with an unleashed dog. The dog was chasing the ptarmigan back and forth as they desperately tried to escape. Of course, I talked to the owner and made the point that his dog not only frightened the ptarmigan and disturbed their feeding, the dog had taken away a rare wilderness experience from other hikers. It was clear that these beautiful birds would make every effort to avoid humans--and their dogs--in the future.

Leave No Trace Practices

Plan Ahead and Prepare

Know where you are going and what conditions you might encounter. Know where you can expect to find water. Carry appropriate gear, including proper footwear, rain jacket, food, map, compass, etc. Choose a route that is appropriate for your skill level. Let friends know where you are going and when you plan to return. Practice the first principle of outdoor recreation: be responsible for yourself.

Travel and Camp on Durable Surfaces

A hiker should always practice minimum impact travel and camping. Your goal should be to leave no damage behind. Stay on trails and walk through muddy and rutted areas. Walking around these areas only encourages braiding which leads to erosion and more damage.

Old Adage: "You are not really a hiker until you get mud on your boots."

A hiker should always camp on durable surfaces. Find a campsite that minimizes any alterations. Avoid digging ditches. You should camp 200 feet from trails and water sources and, when possible, camp out of sight of other hikers. Never camp above tree line.

Dispose of Waste Properly

With hundreds of thousands of hikers on our trails and peaks every year, the proper disposal of waste is of serious concern. The basic rule is "Pack it in, pack it out". A candy wrapper, banana peel, or apple core carelessly discarded can ruin the "wilderness experience" for other hikers. WAG bags are an excellent solution for human and other waste. Dog poop is a growing contaminant. It must be bagged and removed. It takes a shocking amount of time for carelessly discarded waste to decompose. In fact, some items never decompose.

Leave What You Find

The goal is to leave nature as you find. Don't take flowers or rocks. The building of cairns, because they are manmade, can be illegal and sometimes harmful to hikers as they may lead hikers astray and off established routes.

Minimize Campfire Impact

Check ahead to determine if campfires are allowed where you plan to camp; they may, in fact, be prohibited. Campfires damage soil, deplete wood resources, scar rocks, and can lead to massive forest fires. Thankfully, light weight camp stoves now make campfires nearly obsolete. All in all, campfires are not advised, especially above tree line.

Respect Wildlife

Human encounters with wildlife are often harmful, mostly to wildlife. Hikers should view wildlife from a distance. Approaching animals is not only dangerous to humans but causes stress to the animal and may interfere with nesting, breeding, and eating patterns. Don't feed animals as it leads them to become dependent on humans. When wildlife associate food with humans, it often causes harm to humans and ultimately death to animals. An emboldened bear who approaches humans looking for food will likely be euthanized at some point in the future. Keep dogs leashed to prevent them from disturbing wildlife. Wildlife shies away when dogs are present, thus depriving other hikers a true wilderness encounter.

Be Considerate of Other Visitors

With increasing use of our Fourteeners, hikers must show respect for each other. Any hiker who has arrived at a trailhead for a popular peak on a Saturday or Sunday morning can likely expect dozens and dozens of vehicles. Hikers on the trail ahead will seem to be like a line of ants trudging forward toward some unseen goal. With all these hikers, it is still possible to enjoy a wilderness experience, if we respect each other and follow some simple suggestions: keep your group small; avoid high-use areas as much as possible and be aware that your behavior may adversely affect other hikers. You should minimize noise, be polite, and yield to other hikers (uphill hikers have the right away). Hikers should always yield to equestrians and bikers. When you approach horses, always move to the downside of the trail. If you camp, try to move to an area where you are unseen by other hikers. It is even recommended that you not wear brightly colored clothing (except in hunting season, of course) as it will cause you, and not nature, to stand out.

The Role of Peak Stewards

Peak stewards go out on the mountain to educate and work with hikers. Most of the time we share a natural experience with them—a colorful sunrise, a touch of early morning sun on one of our 14,000-foot peaks, the distant view of a thunderhead. At other times we are there to provide advice—about

weather, proper clothing, adequate food, footwear, etc. And, still further, we are there to ask them to think about the mountain and its “community of life”. We look for “teachable moments”—a hiker has wandered off the trail, a dog is off leash, someone is feeding a wild animal or has carelessly dropped a piece of trash.

Note: Peak Stewards are Forest Service volunteers. Forest Service regulations prohibit fund raising while serving as a volunteer on national forest lands. You cannot solicit donations. However, you can refer hikers to the CFI website www.14ers.org.

How to be a Successful Peak Steward

Peak Stewards are ambassadors of CFI and the Forest Service, and we are protectors of our fragile alpine ecosystems. As we encounter the public while performing this dual role, it is vitally important that that contact be positive. Because our goal is to win them over, to get them to voluntarily respect the mountain and its life, Peak Stewards need to be calm, engaging, friendly, and polite.

We should approach with a smile, say hello, introduce ourselves, “break the ice”, talk about the scenery, the weather, the hiker’s pet. Your attitude should be pleasant. Good rules of successful communication should apply: Take off your sunglasses; if the hiker is sitting, you should sit; listen; ask the hiker if you can share with him/her why you are on the mountain. If there has been some offense (for example, a dog off leash), talk with the hiker and explain why that is a concern. Always be polite. In the unlikely possibility that there is a problem, simply thank them for listening and depart.

Basic Issues Faced While Volunteering as a Peak Steward

Dogs off leash

Dogs (even “good” dogs) inherently threaten the “community of life” on the mountain. A dog off leash does damage to the alpine tundra, threatens wildlife, and other dogs. Also, dogs get injured climbing our peaks. CFI and the Forest Service have prepared a handout entitled “Ten Reasons to Leash Your Dog”. It should be given to owners who need any additional convincing.

Trail cutting

Trail cutting damages the fragile alpine tundra. It leads to braiding and erosion. Someone cutting a trail is more likely to set free a rock which would then threaten other hikers.

Lack of awareness of weather

As a Peak Steward, you should have some basic awareness of Colorado weather patterns. Make hikers aware of weather. All hikers on Colorado’s 14,000-foot peaks should have a cautious respect for weather. Thunderstorms (discussed below) can happen at any time, but a good general rule is to plan to head down off the peak by noon.

Disturbing, feeding wildlife

The message we convey is this: we do not disturb nature; we respect it and leave it alone. A positive wildlife encounter is most likely the memory hikers will take away from a Fourteener hike.

Hikers Unprepared for Climbing: Improper Clothing, Insufficient Food and Water

Unprepared hikers are often the cause of Search and Rescue missions. These missions frequently put the lives of SAR personnel in jeopardy. It is especially important when a Peak Steward encounters someone who is ill prepared for climbing a fourteener to emphasize weather awareness. As an unprepared hiker climbs higher on the mountain, the weather can change dramatically. It can get much colder, it can get windy, and it can start to rain and snow. Suddenly, the ill-prepared hiker can be in a life-threatening situation. Peak Stewards should set a good example by carrying those things we expect hikers to carry (See handout for the list).

Urgent health Issues

Climbing Fourteeners is challenging and can even life-threatening. Sprains, broken bones, and even heart attacks happen all too frequently on our Fourteeners. Because of the altitude, hikers may also encounter High Altitude Pulmonary Edema (HAPE), High Altitude Cerebral Edema (HACE), heat stroke, heat exhaustion

Note: You should learn to identify the symptoms for these conditions, even though Peak Stewards are asked not to perform first aid unless it is an absolute emergency situation. If you choose to provide assistance to others in need, you are “deemed signed off the CFI project.” Regardless, never attempt to provide help that is beyond your ability. Call 911, provide the location of the emergency, and stay with injured person.

Mines and Private Property

Mining sites and private property should always be respected. Mines are inherently dangerous places. Access roads to Fourteener trailheads and hiking trails to the peaks often pass through or nearby mining claims and private property. In a few cases, a climb of a Fourteener is possible only because of the good will of a property or mine owner. There is always the potential that this permission could be revoked. This is an especially serious concern on Lincoln, Democrat, and Bross, but there are other peaks where mining and private property issues exist.

Thunderstorms

You will likely encounter thunderstorm activity while serving as a Peak Steward. Thunderstorms are dangerous and common in the Colorado Rockies, especially during the late spring, summer, and early fall. Days may begin with clear blue skies, but thunderstorms will develop seemingly from nowhere in the early afternoon. Be aware and be prepared.

Things to do:

Check weather forecasts before your Peak Steward assignment.

While ascending a peak, identify areas that could serve as appropriate shelter in the event of a thunderstorm.

Avoid the following when thunderstorms threaten--lakes, streams, and drainages containing water; a lone tree; open meadow; mines and caves; a ridgeline, peak, or outstanding high point.

Discard any metal objects and move at least 30 feet from other hikers.

If in a thunderstorm, sit on a non-metallic sleeping pad with your legs pulled up against your chest. Use your arms to hug your knees with your head bowed.

Get off the mountain, if at all possible.

Try to Find:

Low terrain and dry areas

The lee side of a mountain not overshadowed by storm clouds

A stand of small trees of uniform height

Note: If asked to provide a weather forecast, it's probably best to say "Partly cloudy and a chance of rain". You don't want to be blamed for a bad weather forecast.

Peak Steward Basics: How it All Works

Initially you will be asked to read, fill out, and sign the following forms:

Volunteer Health Disclosure and Contact Information

Peak Steward Check-In Policy

CFI Acknowledgment and Assumption of Risks, Release and Indemnity Agreement

The Details:

1. Mentoring—once you complete training, you may begin your Peak Steward service. However, mentoring is available. Your mentor will be an experienced Peak Steward who will help you with your assignment. **(details later)**
2. Pick a peak—CFI will always have priority peaks, usually those easily accessible from the Front Range. However, you can pick a different peak. You will want to get background information about the peak--use the CFI website (www.14ers.org) or Bill Middlebrook's website (www.14ers.com). Before you go out on the mountain, you will want to identify
 - a. the trailhead to be used

- b. the round-trip length
- c. the elevation gain
- d. the Forest Service district and its phone number
- e. the local sheriff's phone number
- f. the local hospital and/urgent care facility's phone number and location

Note: All hikers, under the code of individual responsibility, should do their own research and know this information. We carry this as back-up information in case a hiker has been neglectful.

3. Be aware of Forest Service regulations for your peak: the maximum size of groups allowed; camping and campfire restrictions; restrictions regarding dogs. Are there any "Alerts" for the ranger district: e.g. warnings about dead and falling trees? Remember: If your peak is in a designated wilderness area, the regulations are more restrictive.
4. Next, you will go to CFI's Google Calendar page (details later) and sign up for your peak. It is important that you sign-in ahead of your service and that you follow the "Check-in Policy" discussed below. CFI prefers that you volunteer with another Peak Steward, but you may want to work alone. You will pick a date and then be prompted to identify the peak. This lets other Peak Stewards know you will be covering the peak. They then may want to contact you and work with you, or they will go to another peak.
5. Check-in Policy for Peak Stewards Working Alone. This policy follows from the need to assure that all Peak Stewards are safe after a day on the mountain.
6. Take These Items: You will need to complete a log at the end of your day on the peak. Be sure to carry a pencil and paper. Also, you may be successful in recruiting hikers for CFI trail maintenance projects or Peak Steward Service. Get their name, email address, mailing address, and phone number.
7. Log: At the completion of your day on the mountain, you will need to file a brief log (see below). You can use either surveygizmo.com (**details later**) or a hard copy Peak Steward log.
8. Log Information: CFI partners with the United States Forest Service. When Peak Stewards volunteer on a peak, we collect valuable information for CFI and the Forest Service. The information is supplied by the Peak Steward in the Log and includes the following:
 - a. Peak climbed
 - b. Trailhead used
 - c. Was registration required? Yes No Not sure
 - d. Trail conditions, especially if noticeable maintenance is required
 - e. Weather conditions
 - f. Your name
 - g. Your email address
 - h. Did other Peak Stewards work with you?
 - i. Date
 - j. Time of arrival
 - k. Time of departure
 - l. Day of the week

- m. *Vehicles at the trailhead (on arrival and on departure)*
 - n. *The number of the following “seen” and “contacted”: Dogs on leash, dogs off leash, Hikers shortcutting trails, Hikers unprepared for mountain environment*
 - o. *Any additional comments*
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Some Good and Useful Resources

Books

Abbey, Edward. Desert Solitaire

Baden, John. Managing the Commons (particularly the article entitled “The Tragedy of the Commons” by Garrett Hardin)

Brinkley, Douglas. The Wilderness Warrior: Theodore Roosevelt and the Crusade for America

Egan, Timothy. The Big Burn

Gellhorn, Joyce. Song of the Alpine

Leopold, Aldo. A Sand County Almanac

Mills, Enos. Radiant Days

Nash, Roderick. Wilderness and the American Mind

Rolston III, Holmes. Environmental Ethics

Spearing, George. Dances with Marmots

Strayed, Cheryl. Wild

Turner, Jack. Teewinot

Zwinger, Ann. Land Above the Trees

Websites

www.14ers.org

www.weather.gov

www.weather.com

www.fs.fed.us

www.14ers.com

www.noaa.gov

www.lnt.org

www.wunderground.com

APPENDIX A

High Altitude Health Issues

Note: Remember from Training and the Peak Steward Handbook: Peak Stewards are asked not to perform first aid unless it is an absolute emergency situation. If you choose to provide assistance to others in need, you are “deemed signed off the CFI project.” Regardless, never attempt to provide help that is beyond your ability. Call 911, provide the location of the emergency, and stay with injured person. This information is provided as a tool used to inform hikers about high altitude health issues and to recognize the symptoms of Acute Mountain Sickness, HACE, and HAPE (see below).

Background: Oxygen Depletion at Altitude

As altitude increases, atmospheric pressure declines. At sea level, the weight of the atmosphere concentrates oxygen molecules and makes it much easier to breathe. At higher altitudes and lower atmospheric pressure, the air feels like it has a lower percentage of oxygen. Actually, with lower pressure, a volume of air expands, the air is thinner, and the oxygen molecules are dispersed making it harder to take in enough oxygen. Dense air at sea level has about 21% oxygen. But the thin air atop a Fourteener will have an effective oxygen percentage of just 12%. Denver’s air: 17%. Everest: less than 7%.

Those of us who live in Colorado have acclimatized to altitude. Even so, as we travel to higher altitudes, we can still be at some risk of developing Acute Mountain Sickness (AMS). Roughly at 8,000’, the risks increase, especially for those who have not acclimatized. Maybe surprisingly, these risks are unaffected by training and physical fitness; they are primarily genetic. We hear from time to time about marathoners or other very fit athletes who have trouble on our Fourteeners. Even Peak Stewards can develop symptoms of AMS. The risk of developing AMS is largely influenced by the rate of ascent and exertion. Over time, our bodies will acclimatize to higher altitudes by breathing faster, elevating our heart rate, and by changes in our blood chemistry. But before our bodies adjust to higher altitudes, AMS may develop into far more dangerous and life-threatening conditions affecting our brains (HACE, High Altitude Cerebral Edema) and pulmonary system (HAPE, High Altitude Pulmonary Edema).

Medical Conditions Associated with Altitude

Acute Mountain Sickness (AMS): AMS is the most common form of altitude illness, especially for those who arrive in Colorado from much lower elevations. In fact, about 25% of all visitors sleeping above 8,000’ will experience AMS. Symptoms: headache, fatigue, loss of appetite, nausea, and sometimes vomiting. Usually, AMS will be alleviated by traveling to lower elevations.

High Altitude Cerebral Edema (HACE): HACE, though rare, is a far more serious condition that can develop from AMS. HACE (which is often associated with HAPE) can be life-threatening. In addition to the symptoms associated with AMS,

hikers with HACE will display lethargy, drowsiness, confusion, and ataxia or a lack of coordination of voluntary muscular movements. This condition requires immediate descent.

High Altitude Pulmonary Edema (HAPE): HAPE can occur by itself or be associated with AMS and/or HACE. According to the Centers for Disease Control, about 1 skier per 10,000 and 1 hiker per 100 at 14,000' experience HAPE. Symptoms: AMS and HACE symptoms may be present; breathlessness, even at rest; weakness and cough; pink or bloody sputum. Descent is mandatory. HAPE can lead to death more rapidly than HACE.

For more information: Centers for Disease Control, <http://wwwnc.cdc.gov/travel/yellowbook/2014/chapter-2-the-pre-travel-consultation/altitude-illness>

APPENDIX B

Peak Steward Checklist

Note: We carry these items for our own use and as back-up for hikers who have been neglectful. The code of individual responsibility requires that all hikers be knowledgeable about the challenges they face on a climb, that they have researched the climb, and they should carry basic items for their safety and use.

Suggested Items: This list is somewhat exhaustive. The items below will be useful to you over time. For instance, I'm not sure when you'll need duct tape, but when you need it, it will be indispensable. Furthermore, over time, there will be emergencies and a space blanket, a cell phone, a headlamp, a whistle, etc. could be a lifesaver.

1. Basic First Aid Kit
2. Map
3. CFI Identification (Badge, Cap, or CFI Logo Clothing)
4. CFI Literature ("LNT" cards and "Don't Just Summit, Give Back" cards)
5. Mountain Fact Sheet (www.14ers.org or www.14ers.com): Including phone numbers for the local Sheriff, Hospital, and Forest Service District
6. Compass
7. Notepaper and Pen
8. Cell Phone
9. Sunglasses
10. Sunscreen
11. Duct Tape
12. Space Blanket
13. Headlamp
14. Water Proof Matches
15. Knife
16. Whistle (use only in emergencies)
17. Extra Food
18. Extra Water
19. Small Trash Bag
20. Wag Bag

You May Also Consider Taking

1. Collapsible Water Cup for Dogs
2. Cord for a Makeshift Dog Leash

3. Vinyl Exam Gloves for Collecting Trash
4. Hand Warmers
5. Water Treatment

APPENDIX C

Lightning Safety

We had a serious lightning incident on Bierstadt in 2015. There were three Peak Stewards on the mountain at the time—Wendy Moser, Jared Hofer, and Terry Mattison—and fortunately they were not injured. However, fifteen hikers were injured, five seriously, and a dog was killed. Hopefully, this early season event will serve to inform and remind all of us about the threat lightning poses.

Here are some of safety tips you should employ in dealing with lightning:

- **Check the weather forecast before hiking your peak.**
- **General Rule: Start early and get off the peak by noon, but lightning can strike at any time.**
- **When you hear thunder in the area, get down off the peak ASAP.**
- **If you are unable to get to a safe location in a thunderstorm, find a low lying area away from water, squat down on an insulated pad with your feet close together and pull your knees to your chest; get away from any metal objects.**
- **When you see a lightning flash, every five seconds before you hear the sound represents one mile. Lightning can strike ten miles or more from a thunderhead.**
- **Avoid tall trees, rock outcroppings, peaks, ridgelines, lakes, streams, metal, and caves/mines.**
- **You do not want to be the tallest object in an open area.**
- **If you are around other hikers, stay at least thirty feet apart.**

APPENDIX E

Trash Decomposition Rates for Common Items

Glass Bottle	1 Million Years
Cigarette Butt	10-12 Years
Plastic Beverage Bottle	450 Years
Aluminum Can	80-200 Years
Foamed Plastic Cup	50 Years
Leather	50 Years
Nylon Fabric	30-40 Years
Plastic Shopping Bag	10-20 Years
Styrofoam	Until the Next Big Bang
Monofilament Fishing Line	600 Years
Disposable Diaper	450 Years
Waxed Milk Carton	3 Months
Newspaper	6 Weeks
Orange Peel	5 Weeks
Paper Towel	4 Weeks
Candy Wrapper	3 Years

