

# Peak Steward



## Minimum Impact on Colorado's Fourteeners



## **Colorado Fourteeners Initiative**

The mission of the **Colorado Fourteeners Initiative (CFI)** is to protect and preserve the natural integrity of Colorado's 14,000 foot peaks through active stewardship and public education. Colorado's Fourteeners contain rare and fragile native tundra ecosystems that are uniquely adapted to living on these high peaks. These tundra plants, however, are ill-adapted to being trampled by the more than quarter-million people who are estimated to climb these peaks every year. In many places resource damage is past the point of natural recovery. CFI accomplishes its mission by building and maintaining sustainable hiking routes on the Fourteeners to accommodate hiking use while minimizing damage to native alpine ecosystems; stabilizing and restoring trampled and eroded areas to protect sensitive alpine plant and animal communities; and educating Fourteener hikers about Leave No Trace principles and sustainable recreational practices designed to lessen ecosystem impacts.

**For more information about Fourteener minimum impact hiking practices or to make a contribution or volunteer for CFI, please contact us at:**



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**WARNING: Mountain climbing is a high-risk activity. This guide and the information provided within it are not a substitute for the user's judgment and personal responsibility. You alone are responsible for being prepared with proper equipment, experience, and common sense when hiking and climbing Fourteeners or other peaks.**

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# INTRODUCTION

## **Colorado's Fourteen-Thousand-Foot Peaks**

Colorado is blessed with fifty-eight majestic and diverse peaks higher than 14,000 feet in elevation. From the rugged ridgelines of Mt. Sneffels to the dramatic rise of Pike's Peak from the plains, the beauty of Colorado's Fourteeners is unparalleled. Every year, an increasing number of hikers and climbers attempt to ascend a Fourteener. As recreational use of these areas increases, so too does the cumulative impact of such use. Polluted waters, displaced wildlife, eroded soils, braided trails, and trampled vegetation are threatening the mountains we cherish. Simply put, Colorado's Fourteeners are being loved to death.

Clearly, the future health of these mountains lies in the hands of the people who love them. The choice is ours: Minimize the damage we cause through the skillful use of Leave No Trace practices, or face a future of costly restoration, the alternative to which is the continued unraveling of Colorado's alpine tapestry.

## **About this Handbook**

Leaving No Trace depends more on attitude and awareness than on rules and regulations. Minimum impact recreational practices must be flexible and tempered by judgment and experience. Consider the variables of each Fourteener environment you visit – soil, vegetation, wildlife, moisture level, amount and type of use the area receives, and the overall effect of prior use – then use the information you learn from reading this handbook to determine which recommended practices apply.

# PLAN AHEAD and PREPARE

Your trip to a Colorado Fourteener starts long before you reach the trailhead. From gathering information to carrying appropriate gear, proper preparations will help you enjoy a safe and minimum impact trip to Colorado's high country. Virtually all backcountry accidents and their corresponding damage to the environment can be prevented through careful pre-trip planning. Take the time to ready yourself before you leave home.

Consider the following before any climb:

- **Define Goals and Expectations for Your Hike**
- **Know the Area and What to Expect**
- **Carry and Use Appropriate Clothing and Equipment**
- **Reduce Litter at the source, Repackage Food into Reusable Containers**
- **Consider the Weather**
- **Consider Altitude, Snowfields, and Hypothermia**

## **Define Goals and Expectations for Your Hike:**

Before departing to climb a Fourteener, your group should discuss and agree upon the goals for the hike. Also, keep in mind that a group travels only as fast as its slowest member. Understanding each person's abilities will ultimately allow you to have a safe, successful trip to Colorado's high country.

## **Know the Area and What to Expect:**

Begin the trip by consulting with local land managers, guidebooks, and hikers who have already climbed your chosen peak. Land managers will be able to explain any permit requirements or regulations that pertain to the area. Gather information about the area - the trailhead location, the most appropriate route, seasonal closures, wildlife concerns, designated campsites, etc. Gather topographic maps for the area and make sure you are proficient with the use of a map

and compass. Be sure to leave your itinerary with friends or family to facilitate any rescue efforts. Stick to your plan so that others can find you in case of emergency.

## **Carry and Use Appropriate Clothing and Equipment:**

Ill-prepared backcountry users who find themselves in uncomfortable situations will often sacrifice minimum impact considerations for safety and comfort. To minimize your impact and maximize your safety, wear sturdy hiking boots, and carry gear that will allow you to be comfortable in all weather conditions. For example, some form of shelter, good rainwear, a warm hat, and insulating layers will help you cope with wet and cold conditions. Likewise, carrying a lightweight camp stove, tent, and collapsible water container will allow you to camp at the most appropriate, durable site. See our recommended gear list on page 26.

## **Reduce Litter at the Source, Repackage Food into Reusable Containers:**

Wind on the summit of a Fourteener can quickly rip food packaging from your hand and deposit it beyond your reach. To minimize the amount of potential trash or litter you bring into the backcountry, plan your meals carefully and repackage foods from boxes, bottles, and cans into reusable containers or bags.

## **Consider the Weather:**

Weather in Colorado's high country can change quickly and dramatically. A balmy 70-degree day can turn stormy with hail, high winds, and snow (even in the summer months) in a matter of minutes. Unprepared Fourteener climbers often cause damage to the alpine by cutting switchbacks to descend the mountain rapidly and escape severe weather. Expect dramatic changes in weather and prepare yourself by carrying appropriate waterproof, windproof, and warm clothing.

Always get an "alpine start" by leaving early enough in the morning to descend from the summit by noon. This pattern of travel minimizes your exposure to thunderstorms and allows you plenty of daylight to return to the trailhead. In the event you are caught on a ridge or summit during a thunderstorm, descend quickly from the ridge or summit, stow any metal gear away from your body, and crouch down with your feet together and head low. If available, place an insulating layer, such as a foam pad, between your feet and the ground. Groups should spread out at least 15 feet apart to minimize the chance multiple lightning strike victims.

Weather patterns in winter, spring, and autumn are also of special concern. Shorter days, colder temperatures, avalanches, and severe snowstorms are all factors to consider. Hikers in spring and autumn will likely encounter snowfields, standing water, mud, ice, and any number of other varied conditions.

## **Consider Altitude, Snowfields, and Hypothermia:**

**Altitude** - As you gain altitude when hiking Fourteeners, the amount of oxygen your body takes in and processes with each breath decreases. While oxygen content in the air remains constant at 21%, as you gain altitude the barometric pressure decreases, causing air to expand in volume. The result in the change of barometric pressure is that your intake of oxygen at 14,000 feet is 12% less than at sea level. Reduced levels of oxygen in the bloodstream combined with the exertion of climbing a Fourteener causes many climbers to experience symptoms of altitude sickness such as light-headedness and nausea. Uncommon but real, severe effects from altitude include high altitude pulmonary and cerebral edema, which can result in death. The best prevention of altitude sickness is to stay hydrated and well fed. Stop your ascent if you experience symptoms: they will become worse if you continue your climb. Many climbers have been seriously injured from altitude sickness because it negatively effected their judgment and caused them to make poor decisions regarding route finding or weather.



Altitude also effects air temperature. For every 1,000 feet in elevation gained, the temperature will decrease approximately 3.5 degrees Fahrenheit. Thus, if it is 60 degrees at the trailhead at 10,000 feet, it is 46 degrees on the summit not considering wind chill or other factors.

**Snowfields** - Snowfields exist along Fourteener hiking routes in all seasons. Research your climb and know whether you will encounter snowfields. If you will encounter snowfields, wear gaiters, carry an ice axe and crampons and know how to use them. Additionally, you should receive avalanche awareness training. Every year, avalanches in the mountains needlessly kill hikers.

**Hypothermia** - Hypothermia is the rapid loss of body temperature and can result in death. The high winds and rain typical of mountain weather put ill-prepared hikers at risk of becoming hypothermic. Early symptoms are shivering, apathy, mental confusion, slurred speech, and stumbling. Individuals exhibiting these symptoms should be removed from exposure to rain and wind as quickly as possible, given warm and or sugary foods and drinks, and changed out of wet and into warm and dry clothes. More severe symptoms are unresponsiveness, decreased pulse and respiration, cessation of shivering and physical collapse. Individuals exhibiting these symptoms must be transported to a medical facility immediately where they can be re-warmed.

# TRAVEL and CAMP on DURABLE SURFACES

Practicing minimum impact travel and camping techniques will help reduce multiple trails, trampled tundra and eroded gullies and prevent the need for costly and labor intensive restoration efforts. By concentrating activities on durable surfaces, you can help leave no trace of your visit. Durable surfaces are any areas that can withstand human impacts and may include rock, deep snow, gravel, and duff.

- **Stay on the Trail:**
  - Concentrate travel along existing routes
  - Walk through muddy and rutted out areas, not around them
  - Never cut switchbacks
  - When the trail is covered by snow, travel over snow and rock until the trail can be regained
  - Take rest breaks on durable surfaces
- **Where a Trail Does Not Exist:**
  - Travel over durable surfaces (snow and rock)
  - Avoid traveling over melting layers of thin snow
  - Disperse use over a wide area to minimize impacts to fragile alpine vegetation
  - Avoid gullies and steep loose slopes prone to erosion and vegetation loss.
  - Glissade responsibly & only with proper equipment.
- **Camp Responsibly:**
  - Camp on durable surfaces
  - Camp below timberline
  - Store food securely
  - Leave your campsite clean

## **Stay on the Trail:**

**Concentrate travel along existing routes** - Since Fourteeners receive heavy foot traffic, most peaks have established trails or well-worn social paths leading to their summits. For this

reason, traveling off trail, which can have a significant impact on fragile alpine tundra, is unnecessary and inappropriate.

Always travel on the most worn path. This will increase the likelihood that vegetation within and around less developed social paths will be able to recover. Also, when descending Fourteeners, try to descend the same path that you used to climb the peak.

**Walk through muddy and rutted out areas, not around them – Wear sturdy hiking boots. Tennis shoes are for tennis, loafers are for dressing, sandals are for beaches and hiking boots are for hiking.** When confronted by a muddy or wet section of trail, walk through the middle rather than around it. Avoiding puddles and muddy spots widens the trail, promotes erosion, and requires expensive, time-consuming restoration efforts. Remember that boots dry overnight, but tundra plants can take centuries to recover.

**Never cut switchbacks** - Properly constructed, sustainable trails on Colorado's Fourteeners switch back and forth uphill to maintain a constant grade and reduce erosion. By short cutting these switchbacks, people trample vegetation and over time the trampled areas frequently erode into gullies. These gullies are not just an eyesore, they remove essential topsoil from the area and divert water and nutrients from vegetation. For the sake of the plants and animals that make their home in the high country, do not cut switchbacks.

**When snow covers the trail, travel over snow and rock until the trail can be regained** - During spring and early summer, portions of Fourteener trails and social paths will be covered by snow. It is important that you travel over this snow or other durable surfaces such as rock until the trail can be regained. Hiking around snowfields will severely damage alpine vegetation just as it is coming out of dormancy and preparing for its growth season. Safe travel over snow requires full leather boots, an ice axe, and mountaineering experience. The best way to relocate the trail is to follow the general direction of the hiking route and look for cairns, pyramid shaped piles of

rock which mark alpine hiking routes, or other signs of human disturbance.

**Take rest breaks on durable surfaces** - When taking a rest break, be sure to find a durable surface. It is acceptable to take breaks on the trail if other visitors will not be affected by your presence. Resting on the trail will reduce trampling of surrounding areas. Rocky outcroppings, talus fields, or snowfields are also good places to rest. Be sure to assess the route you will take to your resting area. If you choose a moist, blooming, or otherwise fragile path, you will likely trample sensitive plants. Also, try not to travel the same route back to the trail. This will reduce the likelihood that your footsteps will fall on any piece of vegetation more than once. Social paths often develop between trails and resting places through hikers continually traveling over, and consequently trampling, the same vegetated areas.

## **Where a Trail Does Not Exist:**

**Travel over durable surfaces (snow and rock)** - Some Fourteener routes have sections where no trail or path is clearly marked. It is your responsibility to keep these areas pristine. By traveling over durable surfaces, you will be able to minimize your impact. Rocks and solid, stable snow cover are the most durable surfaces in Colorado's high country. Avoid walking over fragile alpine vegetation. Studies in the Rockies have shown that it takes only a moderate number of footfalls to severely damage most tundra plants.

**Avoid traveling over melting layers of thin snow** - Snow is generally a durable surface, but there are times when traveling on snow can damage the tundra below. Snow that is solid and not slushy protects the tundra beneath from being trampled. As snowfields recede in the spring and early summer, their edges become slushy and thin. These areas are very susceptible to permanent damage from human trampling. When a thin blanket of snow is compressed and compacted, melting is delayed, decreasing the growing season for plants. Furthermore, plants pressed into the mud below the snow have little chance of

survival, and a sliding boot easily uproots plants growing in wet soils surrounding snowfields.

**Disperse use over a wide area to minimize impacts to fragile alpine vegetation** - When traveling over tundra or other vegetated areas is the only option, be sure that your group disperses use over a wide area. Walking single file up a vegetated slope will increase the likelihood that any one piece of vegetation will receive multiple footfalls. By walking side-by-side, you and members of your group will be able to spread your impacts over a wider area.

**Avoid gullies and steep loose slopes prone to erosion and vegetation loss** - “Screeing,” the practice of sliding down steep dirt or rubble is always inappropriate. Unfortunately, some people think that bounding down scree slopes has little impact because they believe plants do not populate these areas. This is a misperception. Many of the plants are too small for the casual observer to notice. In fact, these fragile environments are often home to rare and endangered plant species. Also, sparsely vegetated, steep, dirt and rubble slopes and gullies are easily eroded. For this reason, “screeing” often results in the development of gullies that divert water and nutrients away from nearby vegetated areas.

**Glissade responsibly** - Glissading - sliding on snow - is a popular form of descending Colorado’s Fourteeners. If done properly, sliding on snow can be a safe, fun, and minimum impact way to return to the bottom of a peak. However, if done improperly, glissading can be dangerous to you and damaging to the environment. Slide only with the understanding that there are risks involved. Calculate those risks to minimize the chance of injury. Always assess the grade, length, and run out of the slope and consider the potential for an avalanche before glissading. To maximize safety, maintain constant control when sliding and carry and know how to use an ice axe to self-arrest.

Poorly planned glissading is not only unsafe, but it can also damage the tundra at the top and bottom of the snowfield.

When accessing snowy slopes, travel on rocks or snow to avoid trampling vegetation. Be sure that the slope's end will place you on another durable surface so that you may return to the trail without damaging tundra plants. Otherwise, choose an alternate method for your descent.

## **Camp Responsibly:**

**Camp on durable surfaces** – Minimum impact camping on Colorado's Fourteeners requires special considerations. Remember that good campsites are found, not made. Minimize site alterations (digging trenches for tents and constructing lean-tos, tables, or chairs is inappropriate) and be sure to replace anything that you decide to move. Where possible, use established sites to concentrate your activities in already disturbed areas. The kitchen, which generally receives the most foot traffic, should be placed on rock, mineral soil, or another durable surface. Campsites should be at least 200 feet (about 70 adult steps) from the trail and water sources to minimize undesirable human and wildlife interactions.

If an established site is not available, find the most durable area to establish your camp and practice strict minimum impact practices to leave the site as pristine as possible. It is always best to avoid lightly impacted campsites (sites that show evidence of use, such as crushed or flattened vegetation, but have not yet been denuded) so they can recover.

**Camp below timberline** - Do not camp above tree line. Trees provide shelter from mountain weather and fallen needles and leaves create a more durable ground surface than tundra. One night camping on tundra can severely damage or even kill alpine plants. A tent above tree line is visible for miles and takes away from the sense of solitude other visitors are seeking.

**Store Food Securely**- Since many of Colorado's Fourteeners are home to black bears, how and where you store your food at camp is especially important. Bears can be dangerous if surprised or provoked and are attracted to people and their food. If they become a nuisance, they are trapped and killed.

The ‘campsite triangle’ will help ensure your safety and the safety of your food. The three corners of the triangle are the tent or sleeping area, the kitchen, and the food storage area. Where possible, each site should be separated from the others by 100 yards. Storing your food away from your kitchen and tent minimizes the chance of a wildlife encounter.

Food, garbage, and toiletries should be stored in a properly hung bear bag or bear resistant container. To hang a bear bag, you will need a long rope, a stuff sack, a carabiner, and two trees. Attach a stone to one end of a rope, throw the stone over a sturdy limb of one tree. Using the same technique, hang the other end of the rope over a limb of the other tree, tie off one end of the rope. With the rope hanging low between the trees, attach the stuff sack filled with food, garbage, and toiletries with the carabiner and hoist the bear bag into place. Ideally, the bag should be at least 12 feet off the ground, 6 feet from the tree’s trunk, and 6 feet below the supporting limbs.

Even if bears are not in the area where you are camping, always store food securely to minimize the possibility of other animals eating your rations. Although small animals and birds may appear to “beg”, their digestive systems cannot handle many human foods, and feeding them may kill them. Proper food storage will ensure the safety of your food source and that of the wildlife. Be sure to perform a “final sweep” of the kitchen and food storage areas before leaving camp. Make sure that all food scraps and small pieces of trash are packed out.

**Leave your campsite clean** - In established camping areas, a clean site will encourage the likelihood that other visitors will use it. This will reduce the development of new and unnecessary sites. When camping in a pristine area it is important to both clean and naturalize your site. Another good reason not to camp above timberline where impacted vegetation is slow to recover. To naturalize the site, recover scuffed up areas with natural materials, and brush out footprints or matted grass with a stick.

# **DISPOSE of WASTE PROPERLY**

Waste takes many forms. From foil wrappers to apple cores, tin cans to urine, backcountry waste is an issue with which each visitor must cope. At best, handling and disposing of refuse can be an organized, well thought out process. At worst, it can be unsanitary, unsightly, damaging, and dangerous. Properly disposing of waste on Colorado's Fourteeners is especially challenging and takes knowledge, dedication, and perseverance. The choices you make will have lasting positive or negative effects on the beauty of the areas you visit.

- **Pack It In, Pack It Out - Garbage and Trash Alike**
- **Wash dishes responsibly**
- **Dispose of Human Waste Properly:**
  - Below timberline, bury solid human waste in a cathole or pack it out.
  - Pack out solid human waste above timberline
  - Avoid urinating on vegetation
- **Pack Out All Toilet Paper and Feminine Hygiene Products**

## **Pack It In, Pack It Out - Garbage and Trash Alike:**

Garbage and trash on Colorado's Fourteeners are a very real problem with a very simple solution: pack it out. More than just an eyesore, litter can endanger wildlife and kill tundra plants.

Garbage - defined as biodegradable food waste such as orange peels, eggshells, leftover oatmeal, or coffee grounds - and trash - defined as non-food items such as aluminum cans, plastic bags, candy wrappers, or nylon rope - should be packed out. While most people understand that leaving trash behind is wrong, they sometimes consider biodegradable food waste benign. It is not. In fact, garbage left behind attracts animals that, in time, come to depend on humans as a food source. Burning or burying garbage is not an option because neither



method will break down the garbage completely. Animals will invariably smell, locate, and eat this food.

Furthermore, garbage and trash left on tundra blocks critical sunlight and water from plants, thereby killing them. In fact, a single piece of litter can kill the alpine plants it covers in three to four weeks. Decomposition in alpine areas is extremely slow, worsening the impact of improperly disposed garbage and trash. Even an orange peel left behind will require many years to fully decompose. Given the slow rate of breakdown and the advent of plastics, present-day litter left in Colorado's high country could forseebly last thousands of years. Neither garbage nor trash should be left in the backcountry. If you pack it in, pack it out.

### **Wash Dishes Responsibly:**

Hot water and a little elbow grease can tackle most backcountry cleaning chores; therefore soap, which is harmful to the environment, is unnecessary for most dishwashing jobs. Even biodegradable soap can add harmful compounds to soil, vegetation, and water sources. Dishwater and water used to cook food (i.e., pasta water), is called "gray water" and should be strained for food particles and scattered widely, away from camp. All strained food particles should be packed out.

### **Dispose of Human Waste Properly:**

Proper disposal of human waste in Colorado's high country requires special considerations. Human fecal matter contains pathogens and bacteria that pollute water and endanger humans and other animals. Urine, although essentially sterile, can have a severe impact on humans, wildlife, and plants alike. By understanding the effects of human waste in alpine areas, you will be better prepared to dispose of your wastes properly.

**Below timberline, bury solid human waste in a cat hole or preferably, pack it out-** Since solid human waste deposited on the surface is likely to pollute water sources and offend other visitors, it is generally recommended that hikers bury feces at least 200 ft. from streams or lakes below timberline. To promote decomposition, choose a site in organic soil, rather

than sandy or mineral soil. With a small garden trowel, dig a hole four to eight inches deep and four to six inches in diameter. After use, refill the hole with organic soil and debris (exposure to organic soil will speed up the breakdown of the feces) and disguise it with natural materials. It is inappropriate to deposit human waste under rocks because rocks inhibit moisture and heat, critical factors in decomposition.

**Above tree line, pack out all solid human and dog waste -** Digging cat holes above timberline kills tundra plants and does not decompose due to cold temperatures and lack of bacteria necessary to decompose. Carry a human waste disposal system. If packing out dog & human waste makes you uncomfortable, Fourteeners are not the place for you. Remember that when climbing Fourteeners, we take on an added responsibility to preserve their rare and fragile environments.

**Avoid Urinating on Vegetation -** Animals that live on Fourteeners, especially mountain goats and marmots, are attracted to the salt content in urine. Urine residue can entice animals to chew on plants and dig up soil. This can be especially harmful in tundra communities where regrowth of damaged vegetation is extremely slow. Instead of urinating on vegetation, urinate on rock (deep talus is best), mineral soil, or duff. Urine's strong odor can also become a factor when concentrated in one area. Avoid urinating on summits and areas where people frequently camp. If a campsite reeks of urine, people will be less likely to camp there and may therefore create a new and unnecessary campsite.

## **Pack Out Toilet Paper and Feminine Hygiene Products:**

Toilet paper and feminine hygiene products should always be packed out. The bleaches, perfumes, and dyes used in such products do not belong in a backcountry setting. Burying such matter is inappropriate, especially since animals will be attracted to the scent and likely dig it up. Carry extra ziplock bags, double bag feminine hygiene products and toilet paper,

and pack them out. Toilet paper should not be burned as this disposal technique has resulted in many forest fires.

## **LEAVE WHAT YOU FIND**

Visitors to Colorado's Fourteeners enjoy a unique and beautiful landscape with a rich history. Plants, animals, rocks, and cultural artifacts make Colorado's Fourteeners special yet can be dramatically disrupted or altered by human actions. Help preserve the natural and cultural heritage treasured by outdoor enthusiasts by leaving what you find.

- **Do Not Take Flowers, Berries, or Rocks**
- **Leave Cultural Artifacts Where You Find Them**
- **It Is Inappropriate to Build Cairns or Otherwise Mark Trails or Paths**

### **Do Not Take Flowers, Berries or Rocks:**

Taking natural items such as plants, berries, or rocks deprives other visitors of the experience of discovery and jeopardizes the health of present and future plant populations. Berries and flowers disperse seeds, thus ensuring the reproduction of plants. Removing these seed carriers reduces a plants chance of survival and, in the case of rare and endangered flora endemic to Fourteeners, could even jeopardize the health of an entire species. Other, seemingly lifeless, natural items like antlers, skeletons, and fallen branches also must be left where they are found. These items provide food and shelter for plants and animals.

### **Leave Cultural Artifacts Where You Find Them:**

Under the National Historical Protection Act of 1966 and the Archeological Resources Protection Act of 1979, all artifacts on public lands are protected. Based on these laws, removing, defacing, or otherwise disturbing any human altered item over

fifty years old is illegal. Taking metal tools, cans, or signs from mining camps or pot shards, arrowheads, or other cultural artifacts essentially removes important clues to the history of Native Americans and early pioneers who inhabited Colorado's mountains. Rather than robbing these sites of their history, take photographs to carefully enjoy these areas.

Consider the cumulative effect of hundreds-of-thousands of visitors to Colorado's Fourteeners. If everyone took "just one" item, the overall effect would be disastrous. To enjoy these spectacular mountains with their natural and cultural resources intact, we must all do our part by leaving what we find.

### **It is Inappropriate to Build Cairns or Otherwise Mark Trails or Paths:**

The unauthorized placement of cairns, pyramid shaped piles of rock used to mark alpine hiking routes, is often illegal and can endanger other hikers. Thirty-five of Colorado's Fourteeners lie within federally designated wilderness. The development of any permanent structure, including cairns, within these areas is prohibited. Land managers have special administrative exceptions to build cairns that direct climbers away from sensitive areas and onto minimum impact Fourteener climbing routes. Most cairns on Fourteener routes, however, have been illegally and incorrectly constructed. Flagging and other means of marking trails is also inappropriate. When climbing Fourteeners that do not have established trails or well-delineated routes, correct use of a map and compass will ensure good route finding and reduce the need for cairns and trail markings.

# MINIMIZE CAMPFIRE IMPACTS

In the past, people who hiked Fourteeners relied upon campfires for cooking and warmth. Sadly, the enduring legacy of these campfires is depleted wood sources, limbless trees, scarred rocks, massive forest burns, and multiple fire rings where only one is needed. Fortunately, with the advent of the lightweight stove, campfires are no longer necessary.

Alpine environments are especially susceptible to campfire impacts. For this reason, it is strongly recommended that Fourteener hikers observe the following minimum impact practices:

- **Use a Campstove to Cook Meals**
- **Fires are Not Advised, especially above Timberline**

## **Use a Campstove to Cook Meals:**

A stove is the most safe, efficient, and low impact cooking option available. You will find that cooking with a stove is easier, safer, and faster than campfire cooking. Lightweight stoves are also invaluable in the event of an emergency. Stoves can provide stranded or injured hikers with warmth at any location without their having to gather wood or build a fire. This is especially helpful on Fourteeners where burnable wood is frequently not available.

## **Fires are Not Advised, especially above Timberline:**

Alpine environments are easily impacted by and recover slowly from the use of campfires. Fires scorch the ground leaving behind an unsightly bare spot devoid of vegetation. Above timberline, this scar could require hundreds of years for full recovery. Also, dead, and downed wood is a scarce commodity near timberline. As this wood decomposes, it provides nutrients to alpine plants struggling to survive in a harsh and unforgiving environment. The use of campfires is strongly discouraged.

# RESPECT WILDLIFE

Human effects on Fourteener wildlife are a very real concern. An increasing amount of scientific research shows that human visitors can have a dramatic effect on breeding, migration, and feeding patterns of wildlife. To avoid unfortunate outcomes and enjoy the presence of wildlife on the Fourteeners, a few common sense minimum impact techniques should be employed.

- **Never Feed Wildlife**
- **View Wildlife from a Distance**
- **Do Not Disturb Nesting, Feeding, or Mating Animals**
- **Keep Your Dog Under Control**

## **Never Feed Wildlife:**

Feeding wildlife is a prevalent problem on Colorado's Fourteeners. An emboldened marmot or mountain goat that approaches humans in search of food indicates the effect human food can have on wild animals. More subtle impacts also occur. Wildlife populations that increase during summer months based on a plentiful human food source, may crash in the fall when the numbers of visitors decrease. Exotic, non-native species may also gain a competitive advantage based on human feedings. The unintended result may be that native species are displaced from their preferred habitat. Individual animals may also suffer due to consumption of human food. Often, human food cannot be digested by wildlife. Wildlife can become malnourished by eating human food instead of their normal, nutrient rich, food sources. The animals weakened health will make them more susceptible to disease and predation.

Feeding wildlife is an easy problem to correct. By storing food securely, maintaining a clean campsite, and only feeding human food to humans, we each do our part to minimize the impact our presence has on Fourteener wildlife.

## **View Wildlife from a Distance:**

When viewing wildlife, never approach or follow them. Instead, quietly view wildlife from a distance. By approaching or following wildlife for a “better look,” you are endangering yourself and stressing the animals. This stress can be especially harmful to Fourteener animals. If an animal moves because of your presence, you are too close.

## **Do Not Disturb Nesting, Feeding, or Mating Animals:**

Studies have shown that disturbing mating or nesting animals can have long-lasting impacts on the health of individual animals and animal populations. Fourteener animals are particularly vulnerable during the winter and spring when energy is at a premium. Disturbing mountain goats, elk, or other Fourteener wildlife during these times threatens the survival of the animal and its young by forcing them to expend critical energy on activities other than food gathering and basic survival. Remember that you are the visitor in the animal’s domain. Minimize your impact on wildlife by respecting their space and avoiding them and their habitat during critical times of the year.

## **Keep Your Dog Under Control:**

A well-behaved and leashed dog can be an excellent companion for a Fourteener climb. However, left uncontrolled, dogs can be a nuisance to other visitors and a threat to wildlife. Many Fourteeners have specific regulations regarding pets. Be sure you know and follow leash laws. More importantly, be sure that your dog is always under control - within sight and under voice or leash control. Dogs are not a natural part of an alpine environment. Pika sound like your dog’s squeaky toys & look like a bouncing tennis ball. When chasing wildlife, dogs threaten animals’ health and disturb the balance of existing predator/ prey relationships. Only bring your dog to Colorado’s high country if you are certain that your dog will always follow your commands.

# **BE CONSIDERATE of OTHER VISITORS**

With so many hikers attempting to climb a Fourteener each year, visitor crowding, and conflict have begun to threaten the quality of recreational experiences for all. Once a place for solitude, Fourteeners are now typified by bustling summits and busy trailheads. Despite growing popularity, it is still possible to experience solitude on Fourteeners, however, to do so, hikers must respect each other. Social impacts can be minimized through a few simple minimum impact techniques.

- **Consider Group Size**
- **Avoid Popular Areas during Times of High-Use**
- **Consider the Social Impacts of Your Trail and Campsite Demeanor.**

## **Consider Group Size:**

If you are part of a larger group, consider splitting the group into smaller units (groups of 4-6) when traveling. Check with local land managers for the legal maximum group size in Wilderness areas.

## **Avoid Popular Areas During Times of High-Use:**

Fourteeners, especially the more popular Front and Sawatch Range peaks, are particularly crowded on summer weekends and holidays. By avoiding these peak-use days, you will reduce visitor crowding and improve the quality of your and other hikers' Fourteener experience.

## **Consider the Social Impacts of Your Trail and Campsite Demeanor:**

When hiking Fourteeners, be considerate of other visitors. Loud behavior will increase your visibility to other hikers and significantly impact their ability to enjoy the surrounding



natural beauty. Talk quietly within your group, never throw, or roll rocks or boulders. In recent years, the use of cellphones and other electronic devices, especially on Fourteener summits, has become popular. Use of these devices often disturbs other hikers. Please be considerate of others and reserve the use of cellphones and other electronic devices for emergency situations. If you must listen to music, use headphones. Other visitors are there to enjoy the sounds of nature.

You can also be a courteous hiker by yielding to others, especially those faster or less mobile than you. When yielding to others, step to the side of the trail on a durable surface and wait patiently for them to pass before resuming travel. This will reduce impacts to vegetation beside the trail. Remember, uphill traffic always has the right of way; hikers should yield to equestrians and bikers should yield to both hikers and equestrians. When encountering stock animals, always step slowly to the downhill side of the trail and keep your voice low to avoid spooking them. In general, if you expect and respect others, misunderstandings and conflicts will be minimized.

At camp, be aware of other campers' desire for solitude. Choose a tent site that does not broadcast your presence. Camping above timberline, in addition to the inevitable damage to tundra plants, is not recommended because of the visual and social impacts to other visitors. Where possible and environmentally appropriate, camp away from popular areas such as trails and water sources and other people. Minimize loud noises, use radios or other electronic devices sparingly, and talk quietly especially after dusk and before dawn.

# RECOMMENDED FOURTEENER GEAR LIST

- Three Layer Clothing System – the three layer non-cotton system is advised for all areas of body, head to toe (wicking or skin layer made of polypropylene or similar material, insulating or middle layer made of pile or wool, and shell or outer layer made of a waterproof breathable material – earth-colored clothing is preferred because it is less visible to other visitors)
- Footwear – rugged water resistant boots allow for safe travel over or through snow, mud, or standing water.
- Gaiters – anytime there is snow along the route.
- Socks and Liner Socks – wear non-cotton socks, for some socks and liner socks together (two-sock system) reduces likelihood of blisters.
- Backpack – 2,500 to 3,000 cubic inch, internal frame pack is an appropriate size for day hikes (size varies for multi-day climbs)
- Helmet – many Fourteeners have loose rock.
- Sunglasses, Sunscreen, and Brimmed Hat – to protect from the intense ultra-violet rays at higher elevations.
- Extra Food and Water – Fourteener hikes often take longer than anticipated.
- Map and Compass – extreme mountain weather can make navigation by sight impossible.
- Fire Starter, Matches, and Knife – be prepared for emergencies.
- Headlamp and Extra Batteries – stumbling around in the dark is not safe or fun.
- First Aid Kit – be prepared for emergencies.
- Water Filter – never drink untreated water.

- Binoculars and Telephoto Camera Lenses – observe and photograph wildlife from a safe and unobtrusive distance.
- Human waste disposal systems – one for each day plus a couple extra, just in case.
- Plastic Bags for Repackaging Food – reduce litter at the source.
- Rope & water resistant container for your bear hang system.
- Screen for Straining Dishwater – food particles left behind attract animals to campsites.
- Collapsible Ski Poles – relieve pressure on the knees during long descents.
- Ice axe, Crampons, and Rope – as necessary for technical climbs, and when snow present.

#### BEST GUIDEBOOK

The Colorado 14ers, The Standard Routes – The Colorado Mountain Club Guidebook, ISBN 978-0-9799663-8-5

## WEB-BASED RESOURCES

Colorado Fourteeners Initiative - [www.14ers.org](http://www.14ers.org)  
[www.14ers.com](http://www.14ers.com) – Good for condition reports. PLEASE only recommend the starred (\*) routes. These are the constructed route. All other routes are unofficial and causing undue resource damage.

Colorado Snow and Avalanche Center -  
<http://avalanche.state.co.us/>

Leave No Trace – <https://www.lnt.org/>

National Weather Service - <http://www.weather.gov/>

USDA Forest Service Hiking Safety –  
[Hiking | US Forest Service \(usda.gov\)](http://Hiking|USForestService(usda.gov))

USDA Forest Service Responsible Recreation - [Responsible Recreation | US Forest Service \(usda.gov\)](http://ResponsibleRecreation|USForestService(usda.gov))

Wilderness Regulations - [Wilderness Connect](http://WildernessConnect)