1. PLAN AHEAD AND PREPARE • 2. TRAVEL AND CAMP ON DURABLE SURFACES • 3. DISPOSE OF WASTE PROPERLY • 4. LEAVE WHAT YOU FIND • 5. MINIMIZE CAMPFIRE IMPACTS • 6. RESPECT WILDLIFE • 7. BE CONSIDERATE OF OTHER VISITORS • MINIMIZE CLIMBING IMPACTS • RESPECT THE FREEDOM OF THE HILLS

CHAPTER 7
LEAVE NO TRACE

Mountaineers seek the uncharted way, the trail less traveled, and a summit to stand on. Climbers recognize that the wilderness they seek is a resource that they must protect.

A skilled mountaineer is courageous, fit, perceptive, and tough—and a great teammate. These traits are discussed in climbing magazines, applauded in first ascents, and even featured in blockbuster movies. Less heralded, but of no less importance, is *conscientiousness*. Conscientious climbers are respectful of their surroundings and implement low-impact recreation skills as an integral part of their technical pursuits. They leave no trace of their time outdoors because their enthusiasm for exploring the natural environment is matched by their desire to protect it.

Most mountaineers have seen the consequences of overuse, carelessness, and thoughtlessness in the backcountry. In Alaska's Denali National Park, approximately 152,000 pounds of human waste have been thrown into the Kahiltna Glacier. Within the next decade, the waste is expected to "melt out" downstream from base camp, exacerbating an area that already tested positive for fecal coliform in 2010 and 2012. Today, Clean Mountain Cans (portable toilets) are mandatory above the 14,200-foot base camp.

SEVEN PRINCIPLES OF LEAVE NO TRACE

1. Plan ahead and prepare.
2. Travel and camp on durable surfaces.
3. Dispose of waste properly.
4. Leave what you find.
5. Minimize campfire impacts.
6. Respect wildlife.
7. Be considerate of other visitors.

Stewardship advancements in Denali are part of an ethical evolution in climbing, beginning in the 1970s when the first chocks replaced rock-deforming pitons. In 1994, the Leave No Trace Center for Outdoor Ethics was established as a nonprofit educational organization to promote a consistent set of minimum-impact guidelines, now referred to as Leave No Trace.

Leave No Trace is taught with seven easy-to-remember principles (see the "Seven Principles of Leave No Trace" sidebar). This chapter illuminates the skills necessary to execute these principles, with special emphasis placed on the unique techniques required in mountaineering.

To learn more from the Leave No Trace Center for Outdoor Ethics, which partners with US land managers and other organizations to instill responsible recreation, see Resources.

1. PLAN AHEAD AND PREPARE

Planning ahead achieves more than a summit; it is essential to practicing Leave No Trace skills.

PROTECT THE CLIMBING PARTY, PROTECT THE PLACE

A climbing group that stretches itself to the limit, and perhaps gets into trouble, will no longer be able to care about the principles of Leave No Trace. For example, they may grow fatigued and have to set up camp in a sensitive area. They may get cold and have to start a campfire in a fire-ban zone. If rescuers must be called, safety comes first, regardless of

environmental damage. However, realistic planning can often prevent these kinds of desperate situations in the first place.

MEAL PLANNING

As with many Leave No Trace skills, meal planning not only protects the environment, it makes for more-efficient mountaineers. Mastering two techniques—repackaging food and preparing one-pot meals—will speed up cooking, lighten loads, and decrease garbage.

The more packaging climbers carry, the greater the chance that something will be left in the backcountry. Plus, excess packaging is a nuisance to fiddle with while attempting a climb. To repackage food, remove wraps, twist ties, and covers; then place food in reusable containers or resealable bags. After food has been used, empty bags can be placed inside one another for packing out.

One-pot meals prepared on a backpacking stove require minimal cooking utensils and cleaning and produce less food waste. Stoves are fast, clean, and convenient to use, and they work in just about any weather. Plan meals so the group takes only the amount of food necessary, except for emergency rations; if there are leftovers after a meal, they should be eaten later or packed out (not buried, burned, or dumped in a stream).

CONSIDER CONDITIONS AND LAND MANAGEMENT NORMS

A little research goes a long way. Know the required permits and other possible regulations ahead of time—every place is different. For example, permits aren't required to climb mountains in Europe, but places like the Matterhorn do restrict the number people who can stay in huts. In the United States, there are numerous land management norms, which vary among land management agencies and among specific locations.

These management norms, which help mitigate the impact of visitors' time in the outdoors, can include seasonal closures for wildlife, restoration and revegetation, or other conservation efforts. Likewise, frequency of use, required waste-disposal systems, fire bans, and ecological sensitivities should all be understood beforehand. Consult land management agency resources and officials wherever you plan to recreate. Inquire about fragile or sensitive areas, including flora, fauna, geology, and soil conditions and

moisture level (factors of concern for fire). Be willing to modify your plans or your route if fragile conditions or sensitive circumstances are discovered.

2. TRAVEL AND CAMP ON DURABLE SURFACES

The size of a climber's footprint or tent tarp may seem infinitesimal amid the vast peaks of Europe's Alps, the western United States' Cascades, or Asia's Himalaya. However, as climbing and mountaineering continue to grow in popularity, these areas host millions of visitors a year. Whenever possible, hike on established trails and camp in established sites. As climbers move off trail into pristine environments, practicing responsible recreating by implementing Leave No Trace skills becomes even more critical.

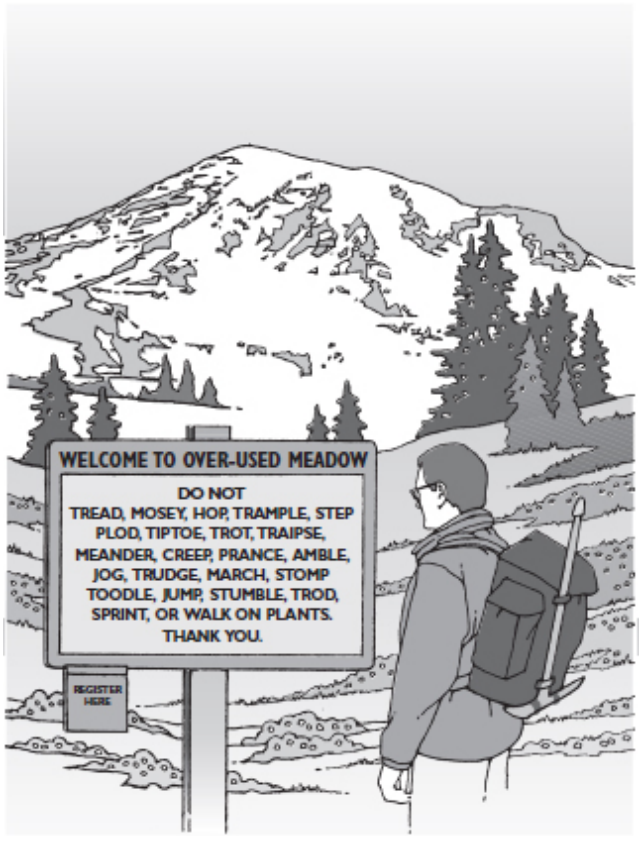

Fig. 7-1. Actual trailside sign at Mount Rainier National Park.

HIKING

Staying on established trails and following best hiking practices make it possible for wild places to stay wild. For example, Washington's Mount Rainier National Park hosts one to two million visitors a year, which makes managing trails and access to sensitive environments, such as alpine zones, very important.

Think of trails as wilderness highways. Like the roads people drive on, trails that are properly designed can withstand high foot traffic, channel users through fragile areas, manage water flow, and prevent soil erosion. Please stay on trails and obey trailside signs (fig. 7-1).

On-Trail Travel

While mountaineers venture beyond the beaten path, nearly every outing involves some established trails. Observe these practices to help preserve the trails and the areas they pass through and respect other trail users.

- **Always use and stay on trails where they exist.**
- **Stay within the established trail,** even if it is muddy or rutted, to protect trailside vegetation, and hike single file. These practices keep hikers from unintentionally widening trails. Wearing waterproof footwear and gaiters makes it possible to stay on the trail even where it is wet and muddy. Take care along stream banks to avoid erosion.
- **Never cut switchbacks.** Doing so increases your chances of becoming injured on unstable ground, kills plants, and compacts and erodes the soil.
- **Travel on snow when possible.** It is a natural protective layer between boot steps and the ground. Take extra care when traveling through the fragile transition zone between dirt and snow where the soil is saturated with water, especially during spring and late fall.
- **Select resilient areas, such as rocks, sand, or unvegetated areas, for rest breaks.** Move off and away from the trail to remain unobtrusive to fellow hikers. If this is not possible due to fragile or dense vegetation, find a wide spot in the trail.
- **Yield to other hikers by first finding a durable spot to step aside to** rather than trampling vegetation. This sets an even better example than standard trail etiquette, which calls for stepping aside immediately.
- **Pick up scraps of litter** left by others and put them in a plastic bag in your pocket. Carry a large garbage bag to haul out larger materials, especially on the trip back out.

Off-Trail Travel

Often a mountaineering objective lies well off any established trail. Mountaineers traveling off trail can incorporate the following skills into how they climb.

- **Keep a slow enough pace** to be aware of the surroundings and to plan a low-impact route.
- **Spread the party out for off-trail travel,** unlike trail travel, with each member taking a separate path, especially in fragile meadows. Avoid traveling single file, which creates a new trail and leaves a significant "trace." The exception is where there is an established climbers trail to use.
- **Look for durable surfaces** to walk on, such as bare ground (patches between vegetation, wildlife trails), rock (bedrock, talus, scree, stream gravel), and sedge grasses. Avoid tromping on woody or herbaceous vegetation, even if it appears to be hardy. Walking on durable surfaces is especially important as the party transitions into higher elevations, where vegetation experiences shorter growing seasons and more-extreme growing conditions; it is harder for such plants to recover from harm.
- **Take extra care in transition areas** between dirt and snow where the soil is water-saturated during spring and late fall; it is easy to damage soils here.
- **Leave areas free of cairns and flagging,** unless those markers are already there. Never carve trees. If your party needs to mark the route, remove the markers on the way back down. Let the next party have its own routefinding adventure.

CAMPING

Many of the world's most popular summit routes and backcountry trails have a proliferation of established campsites. For example, at the Mount Whitney Trail Camp in California, a number of previous visitors have built rock walls for wind protection. In instances like this, don't further disrupt the natural landscape by setting up new campsites. Look for previously used, established campsites. Resist the temptation to use a less-disturbed site because it has a better view or is closer to a water source. (See Table 7-1 for guidelines in choosing campsites.)

If a pristine location is all that is available, stay only a night or two and then find another location, which allows the area to recover. If a climbing party has a choice between a pristine spot and a new, slightly impacted campsite, the better choice could be the pristine site if the Leave No Trace guidelines are carefully applied. Although this choice may be contrary to first instinct, it allows a slightly impacted area to recover from use rather than receive more use.

TABLE 7-1. WILDERNESS CAMPSITE OPTIONS

	CAMPSITE OPTIONS FROM OPTIMAL TO LESS OPTIMAL	REASONS TO SELECT OR NOT SELECT THIS CAMPSITE
1.	Established, fully impacted campsite	A hardened site cannot be impacted much further, as long as it is not enlarged or manipulated in any way. Use existing rocks and logs instead of moving more in.
2.	Snow	Snow will melt and show no sign of use, but avoid the area if vegetation or soil is showing. Before leaving, break down snow structures and make the site as natural looking as possible.
3.	Rock slab	Solid rock resists most damaging effects except fire scars.
4.	Sand, dirt, or gravelly flat	Most signs of human presence can be swept away, and no vegetation will be impacted.
5.	Duff in deep forest	Duff and other decaying matter are only lightly harmed by campers' presence.
6.	Grass-covered meadow	A meadow covered by tents for a week

		can have its entire growing season wiped out. Move a long-term camp every few days to reduce the harm to any one spot. The higher the meadow, the more sensitive it is to trampling.
7.	Plant-covered meadow above timberline	Alpine plants grow very slowly, and woody plants are more sensitive to impact than grasses. Heather, for example, has only a couple of months to bloom, seed, and add a fraction of an inch of growth for the year. Alpine plants could take many years to recover from the damage of a brief encampment.
8.	Waterfront along lakes and streams	Waterside plant life is delicate, and water pollution is a growing problem as more people head into the backcountry.

In pristine sites, observe these recommendations:

- **Avoid grouping tents together.**
- **Disperse toilet sites and vary walkways** so that no single path gets so trampled that the vegetation cannot recover. Carry a pair of sandals or lightweight soft-soled shoes to wear around camp; heavy lugsoled boots are hard on soil and vegetation.
- **Never "landscape" a site** by leveling it, removing vegetation, or digging trenches, for example. Never cut tree boughs or vegetation for bedding; use a sleeping pad. If a campsite has an excessive number of log seats, improvised tables, or fire rings, thoughtfully disperse logs and rocks.
- **Find a spot with a slight natural slope** so that water will not pool beneath a tent and tempt campers to dig a trench.

When selecting a campsite, apply the 200-foot rule (about 75 paces): camp at least 200 feet (60 meters) away from water, trails, and people. Land managers may allow use of already hardened sites even though they are close to water; if so, go ahead and use them, but do not create a new site in the same

vicinity. In a pristine area, enhance the sense of solitude for yourself and others by choosing an out-of-the-way site or one with good natural screening.

Try to use established mountaineering bivy sites or high camps. Moving alpine rocks may kill fragile plants that take many years to grow (plants in the alpine are often tiny and you have to look hard to see them; they are often nestled up against rocks and stones). Moving rocks also disturbs habitat for insects and other wildlife. Build new sites or improve existing ones only when absolutely necessary. Then select rocks that disturb the least possible amount of vegetation.

Keep track of gear and maintain a tidy camp so that equipment and food are not lost or forgotten. Leave the site in better condition than you found it. Pristine sites require a little extra effort; cover used areas with native materials, brushing out footprints and fluffing up matted grass.

3. DISPOSE OF WASTE PROPERLY

For decades, climbers practiced a laissez-faire approach to food and human waste as well as wastewater. Mountaineers would defecate in shallow snow holes; big wall climbers would toss their poop off rock faces in paper bags. Personal stories like that of professional climber Cedar Wright, who placed both hands in a pile of feces at the top of a small overhang on El Capitan in California's Yosemite National Park, exemplify the need for change. Globally, from Denali to Everest, watersheds have been contaminated from mountaineers' waste, garbage, and wastewater. With backcountry ventures on the rise, human health and environmental health depend on all climbers using best practices.

MANAGING HUMAN WASTE IN THE MOUNTAINS

The Wild West of waste disposal has come to an end. Always follow these guidelines:

- Whenever possible, use an outhouse.
- If an outhouse is unavailable, the two acceptable and time-tested methods for ethical and safe human feces disposal are cat-hole burial and packing it out. Research ahead of time to know which option is best for the area where your group will be traveling. Be prepared to use the cat-hole burial technique for defecating or to pack it out. (Both are explained in more detail below.)

- If you use toilet paper, use neutral-colored and non-scented and pack it out. Leaving piles of used paper is gross, plus the paper takes a long time to decompose in dry alpine environments. Burying it attracts animals, and burning it is a fire hazard.
- Instead of toilet paper, consider using natural materials such as smooth stones, conifer cones, broad leaves (being careful to recognize and use safe vegetation), or snow.
- Tampons, used diapers, pet waste, and personal hygiene products must be packed out.
- Urinate on bare ground or rocks—not vegetation—because the salt in urine attracts animals that might dig soils and damage plants while trying to eat the salts.
- On snow or ice, concentrate urine at designated locations in camp or at rest stops rather than creating a proliferation of pee holes. Cover yellow snow.
- Use the 200-foot (60-meter) rule for dog waste, too: bury it in a cat hole or pack it out.
- On steep rock or ice faces, wait until you reach a place where urine can be streamed away from the climbing route. In tents or on long routes, some climbers use a pee bottle to collect urine for later disposal.

Digging and Covering a Cat Hole

Using a cat hole to bury feces is most suited to lower elevations where there is a deep layer of organic soil. Find a suitable, thoughtful location away from trails, campsites, gathering areas, or water sources—apply the 200-foot (60-meter) rule. Remember, if it is easy for you to reach, it will be easy for others, too.

When you find a good location, use a small, lightweight trowel, sharp stick, or ice axe to remove a top layer, or divot, about 4 to 6 inches (10 to 15 centimeters) in diameter, and set it aside. Dig the hole no more than 8 inches (20 centimeters) deep—deeper than forest litter and duff, but not deeper than the humus: the dark organic soil containing nutrients and microbes that break down fecal matter (fig. 7-2).

After making your deposit, fill the hole with loose soil. Using a stick or something organic that can be left in the hole, mix the waste with some soil,

then replace the divot. Tamp the soil and distribute area vegetation to create a natural appearance. Clean your hands using an alcohol-based hand sanitizer.

In thin mineral soil, high alpine areas, or in desert canyon country—all places where the waste will not readily break down—burying solid waste is not recommended. Although it is possible to hide waste by burying it or covering it with rock, it will take a long time to decompose. The cat hole is not suitable in snow, either, unless organic soil can be found underneath it, possibly in a tree well.

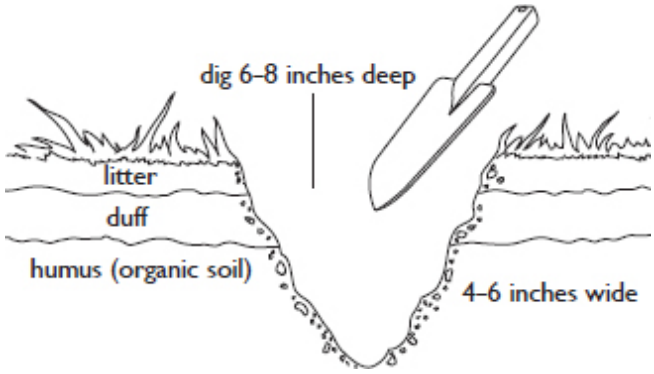

Fig. 7-2. Digging a cat hole.

Packing Out Poop

Mountaineers are already accustomed to packing out used toilet paper and personal hygiene products (used bandages, sanitary napkins, tampons, et cetera). However, climbers must be prepared to pack out feces as well. Packing out waste is the preferred practice on popular glacier routes, in alpine areas with thin mineral soils, in desert country, on steep rock and ice routes including big wall climbs, on arctic tundra, and during winter travel. Below are some methods for packing it out and disposing of it once the party is back at the trailhead.

Double-bag it. Two resealable plastic bags, stored in a stuff sack or a garbage bag, work effectively and safely. Like a dog owner picking up after a pet, invert the inner bag over your hand like a glove and scoop up the solid waste. Then turn the bag inside out to envelop the waste, seal the bag, place it inside the second bag, and seal or tie it as well. You can reduce odor in the first bag by including a 2-inch-square (5-centimeter-square) sponge saturated with ammonia or by adding some chlorinated lime, cat-box filler, or chemical gelling treatments.

Commercially available waste alleviation and gelling kits such as the WAG BAG use a degradable-plastic double-bag system approved for deposit in landfills, with the inner bag containing powder that gels waste and neutralizes odors. In some wilderness areas, land managers hand out ready-made basic double-bag sets, gelling kits, or other supplies, such as a cardboard sheet for initial deposit of waste and a paper bag with cat-box filler inside in which to bag the cardboard sheet. Be aware of the available options and those promoted by the area the group is visiting, especially since land managers may provide collection containers for climbers to deposit their waste in if using the agency's preferred method.

Contain the bags. Most backcountry travelers will want some kind of sturdy container in which to store the double bags used to initially collect waste. This container could be as simple as an old stuff sack, a watertight dry bag (such as those used on river trips), or sturdy commercially available products, all of which can be reused. Commercial containers include products designed for big wall climbers, such as the Metolius Waste Case, which is made out of haul-bag material and has sturdy haul straps to allow for secure hauling of the container below the haul bag. Another sturdy, commercially made product is the Clean Mountain Can, designed for use on Denali, which contains waste in a hard-sided cylinder, has a large capacity, and can be used as a toilet. Climbers can fashion their own container using the many types of light, durable, watertight plastic containers that are available.

Dispose of packed-out poop properly. Waste-disposal options must be thoughtfully implemented. There are no easy answers to the question of proper waste disposal. Increasingly, at popular climbing and mountaineering routes, land managers provide specially marked collection bins for human waste once climbers are out of the backcountry. Usually, however, it will be up to each group to dispose of waste properly after they have finished a trip.

Do not simply put human waste in a garbage can. Waste in paper bags may go into RV dump stations or front-country restrooms of the type that get pumped out. Paper or plastic bags should not go into pit toilets, flush toilets, or composting toilets. Waste in plastic bags should be emptied into a flush toilet, then the bag should be washed out before it is thrown into the garbage. Be sure to wash your hands with soap and water, scrubbing for at least 20 seconds, or use an alcohol-based hand sanitizer after handling fecal waste.

Crevasse Burial in Extremely Remote Areas

For remote expedition glacier travel, waste disposal in crevasses used to be standard practice. However, it is increasingly less so, as it is learned that these places are melting out faster and human waste is ending up downstream. The waste might not be ground up by the moving ice, as once was thought, and may lead to polluted snow that can cause gastrointestinal illnesses in other travelers. Thus, all climbers should research the best option for managing waste on remote objectives. Check with the responsible land management agency. Where crevasse disposal is acceptable, collect solid waste in a biodegradable plastic bag and then throw into a deep crevasse, away from the climbing route, after the party breaks camp. However, this practice could be on the cusp of change as distant routes gain popularity.

HANDLING FOOD AND GARBAGE

Leave No Trace applies to everything people bring into nature. Developing efficient systems for handling food waste and garbage will lighten the load for climbers and for the environment. As discussed in "1. Plan Ahead and Prepare" earlier in this chapter, repackaging food means less garbage to pack out and a little less weight to carry in. Carry out any leftover food. Never bury or burn food waste or garbage or dump it in outhouses.

When eating, be careful not to drop food scraps. Food not native to the environment's habitat can have unintended consequences, such as feeding wildlife who become habituated. Even food that will easily decompose—such as apple cores and banana peels—are not native to the mountain environment and should be packed out.

Keep all aspects of your backcountry kitchen away from water sources—apply the 200-foot (60-meter) rule. After cooking in the backcountry, strain cookwater through a screen to collect food particles, and pack them out with other trash. Clean cook pots by scraping them out with a plastic scrubber rather than sand or grass, and pack out the remaining food particles.

WASHING

Never wash anything directly in a water source. If you have applied sunscreen or insect repellent, wash off before jumping into a lake or stream; these chemicals and oils can cause harm to aquatic plants and wildlife and will leave an oily surface film. Wash your hands or yourself at least 200 feet (75 steps) away from camp and water sources using a biodegradable soap in very small quantities (keep it off plants), or use quick-drying liquid disinfectant.

Take a pot of water 200 feet away from water sources, trails, and campsites, then wash, rinse, and dispose of the wash-water—known as *graywater*—200 feet away as well. Dig a small cat hole downwind from the campsite for disposing of graywater. Pour the graywater into the hole, so it can be better distributed through the soil. Or disperse wastewater by flinging it out in an arc with a fast sweeping motion, which disperses the water in fine droplets.

4. LEAVE WHAT YOU FIND

Climbers who leave rocks, plants, archaeological artifacts, and other resources as they find them allow others the same sense of discovery and nature that drew them to mountaineering and climbing.

To that end, avoid disturbing vegetation or rocks on a climbing route. Look at, draw, or photograph wilderness flora rather than picking or collecting. Do not touch or remove fossils you may discover. Leave untouched any area with evidence of archaeological or historic artifacts, such as those left by prehistoric or native populations. Report findings to land managers so they can document them. As the adage says, "Take only photos, leave only footprints."

5. MINIMIZE CAMPFIRE IMPACTS

The classic image of camping is of folks gathered around a campfire at night. However, campfires make it difficult to have a low impact, so in most instances campfires should not be a part of the alpine experience. Thoughtful selection of equipment and clothing is an important part of Leave No Trace. Use lightweight stoves rather than campfires; stoves do not consume wild materials, do not fill the mountain air with smoke, and are much less likely to be the source of forest fires—pack in stove fuel rather than despoiling areas in search of firewood. Stoves and adequate, warm clothing eliminate the need for fires.

Since campfires are permitted in some places, identify the conditions for creating a safe permitted campfire. Use existing fire rings at established, front-country sites. Carry a fire pan or learn how to make and break down a Leave No Trace mound fire when in the backcountry (see the Leave No Trace website in Resources). Use only dry sticks found on the ground that can be broken by hand. When collecting wood for a campfire, avoid trampling

vegetation, stripping trees and shrubs, even dead trees, which create visual variety and wildlife habitat, and creating unwanted social trails, all of which negatively impact local wildlife as well as other users. Burn wood to ash, and scatter cooled ashes so there is no visual evidence. Campfire rings and blackened rocks and trees are visual impacts that last for decades.

6. RESPECT WILDLIFE

In 2016, visitors in Wyoming's Yellowstone National Park put a newborn bison in the back of their SUV because "it looked cold." Unable to reconnect the calf with its herd, park rangers were forced to euthanize it. While this is an extreme example, this lesson holds true for all situations: animals are part of complex ecosystems, and our responsibility in the backcountry is to let these processes continue unfettered.

- **Never approach or touch wildlife.** Keep safe distances, both for your safety and that of the animals.
- **Never feed wildlife.** It threatens their health and creates dangerous dependence. This is true for all animals, even birds and chipmunks. A fed animal is a dead animal.
- **Clean up** even the smallest specks of food at trail stops and campsites. Microcrumbs are not natural to the environment.
- **Watch for nesting birds,** especially raptors, on rock routes so as not to disturb them. Check with land managers for nesting seasons and closures. If climbers do encounter nesting birds, they should back off or take another route.
- **Ensure your pet doesn't disturb wildlife.** The mere presence of a dog can cause wild animals to flee, using up energy and exposing themselves to predators. Consider leaving pets at home. If you do bring a pet into the wilderness, do so only where permitted. Educate yourself on best practices for bringing your furry companion with you. In many areas, pets must be leashed at all times.

7. BE CONSIDERATE OF OTHER VISITORS

Most people go into the wilderness to experience untrammeled areas and a level of solitude. Mountaineers can contribute to the wilderness experience of others by camping away from them and using earth tones instead of more

visible, "hot" colors for tents, packs, and clothing to reduce the sense of overcrowding. Respect the privacy of others, traveling through their space only if necessary, and keep voices and other sounds to a minimum.

Enjoy the sounds of the wilderness. Soon enough, climbers will return to their daily routine and urban sounds. Climbers may want to listen to music on long expeditions, but for most backcountry trips, audio devices can be distracting to you, and worse to others. Check with trip companions before taking any of these along. If you do, wear earphones. If you must make a summit call, find a space away from others.

THINK SMALL

Limit the size of the group. Outdoor trips are often social events, but keeping groups smaller enhances the sense of solitude for the party and other visitors. If local land managers have a party size limit, consider making your group even smaller. Climbers should ask themselves, "What is the minimum group size needed for safety?"

MINIMIZE CLIMBING IMPACTS

Climbers have a special obligation beyond the seven Leave No Trace principles. Simply put, implement anchoring fundamentals (see "Anchors" in Chapter 10, Belaying). Additional fixed-anchor best practices include these:

- **Use natural-colored webbing at rappel points.**
- **Don't leave webbing if it is not needed.** Remove excess, unsafe webbing left by other climbers when possible.
- **Avoid setting up new, permanent fixed anchors and rappel points** or reinforcing existing ones, unless it is necessary for safety.

Leave the climbing environment as the party found it, as much as possible:

- **Never chip holds or alter the rock structure** for climbing purposes. Rather than pushing loose rocks off on an alpine climb, try adjusting them to make them stable (except at popular sport-climbing crags, however, where it may be better to remove loose rocks because of the danger they pose in crowded areas).
- **Leave plants on route whenever possible.** Clean new routes of vegetation only for safety, not aesthetics.
- **Use as little chalk as possible.**

- **Modern climbing ethics dictate limited use of pitons.** Use them only when modern clean climbing gear cannot be used, such as in certain winter conditions and on challenging aid-climbing objectives.
- **Break down snow shelters** before you leave, to reduce visual impact and inadvertent safety hazards.

Learn about and respect the customs and culture of the area in which you are adventuring. Do not climb, and never bolt, near indigenous rock artwork. Here are some additional considerations regarding bolting:

- **Bolts should be considered only when no other protection is possible** and when they are needed to provide a margin of safety. Consult local climbing norms and the local climbing community before deciding to place bolts.
- **Follow the local practices and rules for bolting** at climbing crags. In one area, local climbers may use only camouflaged bolt hangers (painted so that they are not shiny); in another area, the bolting of new routes may be illegal.

RESPECT THE FREEDOM OF THE HILLS

Mountaineers do their part to protect and preserve the wild country they explore by applying Leave No Trace principles, using good judgment, and educating others. There is no more positive way to help ensure continued access, unfettered by restrictions and excessive rules and regulations. When climbers enter the backcountry, they are active stewards and contribute to the lasting protection of wild resources for themselves and future generations.