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NOLS - CONSERVATION PRACTICES



National Outdoor Leadership School



NOLS Conservation Practices

I. Backcountry Travel

1. Travel quietly in the backcountry, whether hiking by trail or cross country. You will see more of your environment, wildlife will be less intimidated, and other hikers will appreciate the solitude.
2. Bright colored clothes and equipment have limited advantages in the backcountry although they may look great in a store window. Wear “earth colors” if possible to minimize your visual impact, especially if you are traveling in a group.

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3. Respect the needs of birds and animals for undisturbed territory. When tracking wildlife for a photograph or a closer look, stay downwind, avoid sudden motions and never chase or charge any animal. Some birds and small animals may be quite curious, but resist the temptation to feed them.

Even in low-impact areas, feeding wildlife can upset the natural balance of their food chain, and in addition your leftovers may carry bacteria harmful to them.

4. When following existing trails, walk on the designated path. Shortcutting a switchback or avoiding a muddy trail by walking in vegetation causes unnecessary erosion and unsightly multiple troughs. If a trail is impassable, walk on as many hard surfaces as possible (rocks and sand) and notify the Forest Service, Park Service or BLM officials responsible for that area.
5. If you choose a route without trails, do not blaze trees, build cairns or leave messages in the dirt. Other back country travelers can be confused by unanticipated markers, and in addition these signs of prior travel make their wilderness experience less than enjoyable.
6. Pick up any litter if you can, but allow other hikers a sense of discovery by leaving rocks, plants and other objects of interest as you found them.
7. In areas of abundant growth, use leaves or cones as toilet paper when possible, or enjoy an occasional edible plant, but be careful not to deplete the surrounding vegetation.
8. If you are camping with a large group, hike in groups of 4 to 6 people at most. Four is an optimum number, especially during off-trail travel, because in case of sickness or injury one person can stay with the victim while two people go for help. Use your judgment in breaking your group into small units to minimize visual impact and maximize individual enjoyment and self-reliance.

II. Camping

1. Choose a camping site well away from water sources, trails and “beauty spots”. The choicest camping spots are often prime territory for animal forage or other people’s enjoyment of the view, so take a little extra time to seek out a more camouflaged area.

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2. Leave the area as you found it. Avoid trenching, cutting live branches or pulling up plants to make a pleasant campsite. If you do end up clearing the sleeping area of twigs or pinecones, be sure to scatter these items back over the campsite before you leave.
3. It is unnecessary to spend more than a few days at any one campsite, unless it is already an established site or “sacrifice area”. Even then, be conscientious about moving your camp to avoid sacrificing the area even more.
4. To minimize your camping impact, pitch your tent or fly in forested or sandy areas rather than in lush meadows or other areas with fragile vegetation. If you are with a group be particularly careful of overcamping; move your campsites before the impact becomes noticeable.
5. A backcountry campsite should be reasonably organized. If you have laundry to dry or equipment to air out, make sure these items are not in site of other campers or hikers, especially near a lakeshore or open meadow.

III. Fires and Stoves

1. Fires should be used only when there abundant dead wood available on the ground. Be very critical about the necessity for a fire, and if the area is over-camped or near timberline where wood regenerates slowly, either choose an alternate campsite or use a stove.

IV. Site Selection

1. Good site selection and proper care of the cooking area make effective camouflaging much easier.
 - A. Choose a resilient site for your fire or stove. Avoid lush meadows, fragile alpine tundra and other areas that can be easily trampled. Try to disperse use throughout the campsite rather than concentrating activities in the cooking area.
 - B. Fires should be built far from tents, trees, branches and underground root systems.

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- C. Fires should never be built in litter or duff. If there is a ground cover of duff, be sure to dig through it, well into the mineral soil when constructing a firepit. Be sure the pit is large enough to prevent the possibility of a coal smoldering in the duff.
- D. Especially when the woods are dry, do not build fires on windy days when sparks might be dangerous.
- E. Fires should not be ringed with rocks or built against reflecting rocks in order to avoid permanent blackening and unnatural exfoliation.

V. Types of Fires

1. If you come upon an old fire ring in the back country and the surrounding area has not been over camped, utilize the existing rock ring. However, in most cases, we recommend building one of three types of fires to assure minimum impact.
 - A. Flat Rock Method:
Spread mineral soil 2"-3" deep on top of a flat rock over an area slightly larger than the fire will occupy, then build your fire as usual. Burn all wood completely to ashes and after the fire is out, crush and scatter residual coals. After the soil is removed and the rock rinsed, the area will be left unscarred. This method is particularly useful in areas where thick layers of rich organic soil preclude a safe firepit or surface fire.
 - B. Fire pit Method:
Remove sod or topsoil in several large chunks from the chosen area - (about 12" x 24" in diameter for a cook group of two people). Excavate the pit down to mineral soil, placing the dirt neatly in a protected pile, and pat mineral soil around the fire pit perimeter to avoid drying out surrounding vegetation. The pit should be deep enough to house residual wood ash as well as the original dirt and sod, but shallow enough to insure adequate air circulation for burning all wood down to white ash.

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The sod, both around the fire pit and removed from it, should be kept moist. For baking, mineral soil can be spread on the sod at the edge of the fire pit for a bed of coals, but be sure to replace all baking coals in the fire pit to be completely burned before burying the fire pit.

On breaking camp, both the bottom and sides of the fire pit should be cold to touch. Residual coals should be crushed to a powder or paste before replacing and compacting dirt and finally replacing the sod. Make sure there are no soft spots in the filled-in fire pit that will sink with age. Also make sure to contour the edges of well-defined chunks of sod to assure a flat even texture. Finish by landscaping the entire cooking area by scattering leaves or twigs or whatever covered the ground originally. It is worth the effort.

C. Surface Method:

When there is abundant mineral soil available without excavation (sandy areas, old streambeds, etc.) there should be no need to disturb the topsoil by digging a fire pit. Simply spread several inches of mineral soil on the ground and build a fire as usual. As with the "flat rock method," all wood should be burned completely to ashes (residual coals crushed and scattered) and mineral soil discretely replaced. Be careful of scorching the top soil, and camouflage the cooking area before leaving.

VI. Firewood Selection

1. Select your firewood from small diameter wood lying loose upon the ground in order to insure complete efficient burning.
2. No wood should be broken off standing trees, alive or dead. An area with discolored broken stubs and few branches within arm's reach loses much of its natural beauty.
3. Saws and axes need not be used as they leave unnecessary scars.
4. If adequate wood is not available by acceptable means, stoves should replace fires. When in doubt, use a stove.

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5. Firewood is a valuable and often scarce resource so it should not be wasted on excessively large fires.
6. Burn all wood as completely as possible. Plan ahead! Do-not put a “night log” on the fire that will only be half-burned in the morning. Let your fire burn down naturally to white ash before dousing it, and scatter as much of the ash as possible before burial in order to avoid an unnatural concentration of minerals in the fire pit.
7. All fires should be attended. Be aware of over use, and if your fire pit is too full of wood ash or your cooking area unnecessarily trampled, move your campsite as soon as possible. Stop using your fire before the impact on wood supply or vegetation becomes noticeable.
8. Scatter excess firewood before leaving your campsite so there are no traces of your fire.

VII. Sanitation

A. Waste Disposal

Waste disposal is a difficult problem that must be handled with good judgment and common sense. We recommend that for group use or for camping in high-impact areas, latrines be used. They are easy to control and minimize digging up something unpleasant in areas where widespread dispersal is unacceptable. But if you are in a small group or in a low impact area, we recommend individual “cat holes”. Smaller, less concentrated waste disposal usually insures more rapid decomposition, although more care must be taken in finding a suitable site pm one’s own.

The principle factors in waste disposal vary with the environment, but sunlight (warmth), moisture and soil bacteria all play a role. Consider these factors before you decide on a method of waste disposal, because each campsite will have different variables. Fore example:

1. In areas where latrines or cat holes are dug in organic soil layers, soil bacteria constitute the major decomposing agents, therefore topsoil should always be mixed in with feces fore burial.
2. In more sterile soils (sand or predominantly in organic soil layers), subsurface moisture is often the critical factor so feces should have a more shallow burial.

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3. In cooler forest soils and tundra vegetation, feces left on the ground can often be decomposed more effectively by sunlight and/or surface moisture than if the waste material were buried.
4. Choose a camping site well away from water sources, trails and “beauty spots”. The choicest camping spots are often prime territory for animal forage or other people’s enjoyment of the view, so take a little extra time to seek out a more camouflaged area.

B. Latrines

1. Latrines should be located well away from rivers, lakes, creeks, and marshy areas to allow human waste to decay and be filtered throughout the soil without polluting.
2. Latrines should be a maximum of 10 to 12 inches deep but not deeper than the organic soil and should be filled before they are 2-4 inches from full. Deeper burial prevents adequate decomposing bacterial action while shallower burial can foul air and encourage animals to dig up the latrine.
3. After each usage, feces should be covered by topsoil and compressed with foot or shovel. Adequate decomposition can only occur when topsoil is mixed in with waste material, so a latrine containing only feces with no intermittent dirt will merely compact and hide the waste rather than decompose it.
4. On the trail, when latrine facilities are unavailable, feces should be given a shallow burial well away from the trail with proper drainage considerations. Rolling a rock for an impromptu latrine should also be discouraged, especially in heavily used areas.
5. Urination should also be done well away from trails and water sources, although not necessarily in a latrine. Urinate in areas with thick humus layers and drainage but try to avoid fragile vegetation because the acidity of urine can affect plant growth.
6. Toilet paper, if used, should be completely burned. In low moisture or high fire areas, toilet paper should be bagged and packed out. When available, snow, leaves and other natural substitutes are preferable to toilet paper.
7. Tampons must be burned in an extremely hot fire to completely decompose, therefore in most cases they should be bagged and packed out. Never bury tampons in a latrine.

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8. Soap must not be used in lakes or streams. Complete soap bathing involves jumping in the water, lathering on the shore, far away from the water, and rinsing the soap off with water carried in jugs or pots. This allows the biodegradable soaps to break down and filter through the soil before reaching any body of water. Clothes can be adequately cleaned by thorough rinsing. Residual soap can cause skin irritation, so we recommend not using soap to wash clothes in the backcountry.

VIII. Disposal of Food Wastes and Fish Viscera

1. Food can be packaged in plastic bags instead of cans, glass bottles or tin foil. The bags should be carried out or burned, but beware of the noxious fumes from burning plastic.
2. Water waste (dishwater or excess cooking water) should be poured in a corner of the fire pit to prevent attracting flies. When cooking on stoves, water waste should be dispersed far from any body of water.
3. Avoid the problem of dealing with leftover food by carefully planning meals. When leftovers do occur they should be carried in plastic bags to use later or burned completely. Partial burning, which is likely to occur if an attempt is made to burn food shortly before dousing the fire, is inadequate. Remaining food odors can induce animals to dig up a burned fire pit. Non-soluble coherent food particles (macaroni or noodles) which inevitably occur in some dishwashing should be treated like bulk leftovers—either picked up and carried out or burned.
4. Fish viscera should be burned completely in a campfire. When no fire is available, they can be put in a plastic bag and packed out or carried to a fire where they can be thoroughly burned. Under some circumstances, there is an alternative to carrying viscera in a plastic bag. If there are clearly many scavenger animals and birds around, if there is not so much viscera that it will take long to consume, and if the area is a light use one, then viscera can be scattered in discreet places to decompose naturally. Good judgment must be used. Do not throw fish viscera back into a lake or stream because the cool temperatures in most mountain water sources prevent rapid decomposition.