

PACIFIC NORTHWEST



**Leave No Trace**  
SKILLS & ETHICS



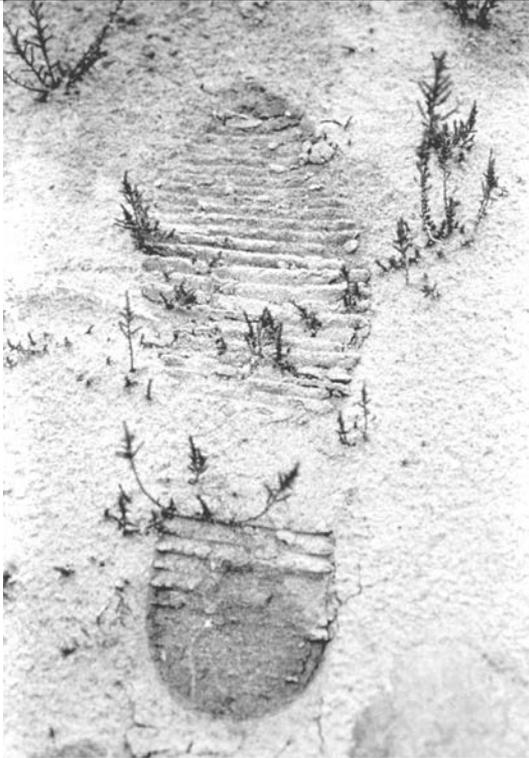
The Leave No Trace educational program promotes skills and ethics to support the sustainable use of wildlands and natural areas. The concept originated in the U.S. as a way to help recreationists minimize their impacts while enjoying the outdoors. In 1991, the U.S. Forest Service teamed with the National Outdoor Leadership School (NOLS) and the Bureau of Land Management as partners in the Leave No Trace educational program. NOLS, a recognized leader in minimum-impact camping practices, became involved as the provider of Leave No Trace materials and training.

Today, the non-profit organization The Leave No Trace Center for Outdoor Ethics, established in 1994, manages the national program. The Center unites four federal land management agencies—the U.S. Forest Service, National Park Service, Bureau of Land Management, and U.S. Fish and Wildlife Service—with manufacturers, outdoor retailers, user groups, educators, and individuals who share a commitment to maintain and protect our wildlands and natural areas for future enjoyment.



# LEAVE NO TRACE

## *Outdoor Skills & Ethics*



*"A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise"*

—Aldo Leopold, *A Sand County Almanac*

**PACIFIC NORTHWEST**

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*“The bad news for our fragile wildland ecosystems is that the human population has grown so dangerously large that the old-time habits of frontiersmen cannot be tolerated. The good news is that wilderness hikers (if not every other species of traveler) of this generation have demonstrated a readiness to be educated about right and wrong and have shown a willingness—nay, an eagerness—to be good citizens.”*

—Ira Spring and Harvey Manning, *Hiking the Great Northwest*

The Pacific Northwest is a rich and diverse landscape, from coastal beaches and temperate rain forests, to alpine meadows and glaciated peaks. People enjoy this spectacular country in myriad ways. We explore on foot, kayak, horseback, mountain bicycles, skis, snowshoes, and crampons, and there are more of us pushing our sports to greater extremes and into the remotest parts of the natural world everyday. Our experiences are personally satisfying, but not without cost to the places we visit and the animals we observe.

The Northwest's wildlands are diverse and beautiful. They can also be fragile. Polluted waters, displaced wildlife, eroded soils, and trampled vegetation are just some of the impacts linked directly to recreation-

al activities. Considerable damage could be prevented if recreationists were better informed, especially about Leave No Trace techniques.

This booklet is part of a national educational program called Leave No Trace which aims to be part of the solution. At the heart of Leave No Trace are seven principles for reducing the damage caused by outdoor activities, particularly non-motorized recreation. Leave No Trace concepts can be applied anywhere—in remote wilderness, city parks, even in our own backyards—and in any recreational endeavor.

Leave No Trace principles and practices extend common courtesy and hospitality to other wildland visitors and to the natural world of which we are all a part. They are based on an abiding respect for nature. This respect, coupled with good judgment and awareness, will allow you to apply the principles to your own unique circumstances.

We can act on behalf of the places and wildlife that inspire us—in the Pacific Northwest and beyond. First let's educate ourselves and adopt the skills and ethics that enable us to Leave No Trace.



## LNT *Outdoor Skills and Ethics*

### *Principles of LEAVE NO TRACE*

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### LNT *Outdoor Skills and Ethics* LIBRARY

Visitors to the Pacific Northwest might also be interested in other booklets in the Leave No Trace Outdoor Skills and Ethics series, including Western River Corridors, Horse Use or Sea Kayaking editions.

**To obtain these and other Leave No Trace curriculum materials, or for information on courses and trainings, call Leave No Trace, Inc. (800-332-4100) or visit the Leave No Trace website: [www.LNT.org](http://www.LNT.org).**



## America's PACIFIC NORTHWEST

The Pacific Northwest of the United States boasts 60 miles of wild Pacific coastline—where blue mussels, ochre sea stars and giant green sea anemones thrive amid the relentless surf. The temperate rain forests of the Olympic Mountains are famous for giant Sitka spruce and western hemlock. These forests are habitat for many threatened species, including the marbled murrelet and northern spotted owl. In summer, the steep subalpine slopes of the North Cascades wear carpets of glacier lilies, broadleaf lupine, and pink white and

yellow mountain heather. More than one half of the active glaciers found in the contiguous United States etch their initials into rocks of the Pacific Northwest.

The Leave No Trace skills described in this booklet are offered to help protect wildlands of the Pacific Northwest—from the Cascade Mountains to the Pacific coast, including the Olympic and Coastal Ranges as well as coastal forests and beaches of Washington and Oregon, British Columbia and northern California.



■ Area most relevant to this booklet

## PLAN AHEAD *and* Prepare

***Adequate planning and preparation is the first step in protecting the area you will visit. Plan ahead by considering your goals and those of your group. Prepare by gathering information, communicating expectations, and acquiring the technical skills, first aid knowledge, and equipment to do the trip right.***

Build Leave No Trace into your plans by picking an appropriate desti-

nation for your group and allowing plenty of time to travel and camp in good style. Try to anticipate problems and be prepared to sit tight or turn back if you sense danger or sustain an injury. That way, you won't have to abandon Leave No Trace techniques for the sake of safety. For instance, experienced hikers know that weather can change rapidly in the Pacific Northwest; poor planning or disregard for approaching bad weather can

## PLAN AHEAD *and Prepare*



transform an easy hike into a risky encounter with hypothermia. Cold and wet, it's tempting to think that the impacts of a poorly sited campfire or a makeshift shelter are warranted.

**EDUCATE YOURSELF.** Whether climbing the snow slopes of Mt. Adams or hiking Rialto Beach, know the regulations for and special qualities of the area you visit. Because every wildland is unique, regulations, fees and permit stipulations vary. Learn how to Leave No Trace wherever you go. Start by asking about local ecology and low impact practices and guidelines. In the alpine zones of the Cascades and Olympics, for example, it's important to know that the soils are thin and vegetation is extremely vulnerable to trampling. Along the coast, you'll be more concerned with potential impacts to giant acorn barnacles and blue mussels in the intertidal zone. Learn as much as you can about your destination and how to have fun there while staying safe and protecting the land.

Land management agency websites, offices, and visitor information centers offer information on special regulations, environmental concerns, and trip planning, as well as education and volunteer opportunities. Other information sources include

sporting goods suppliers, bookstores, clubs and non-profit groups, local conservation organizations, libraries and nature centers. These sources can often be contacted online.

**PLAN FOR YOUR GROUP.** Recreation managers can suggest places suited to your party's goals and skill level. Developed campsites are good places to gain experience and confidence in the outdoors, with the safety net of rangers and amenities such as outhouses close by. Trips into the backcountry require much more awareness of safety, travel and Leave No Trace skills.

**Small versus large groups.** Always inquire about group size limitations in advance. Whenever possible, visit wildlands in small groups. Large parties can be boisterous and disruptive unless they are well supervised. Avoid problems by teaching everyone about Leave No Trace before leaving home. If you are planning for a large group, include enough experienced leaders and divide into smaller, less conspicuous hiking units. Plan your equipment to help minimize your space requirements. For example, one or two large tents require less space than many small tents. Keep the volume down to respect the solitude that other visitors may seek.

**SCHEDULE YOUR TRIP TO AVOID TIMES OF HIGH USE.** Visits to popular wildlands during peak use periods, such as holidays and weekends, are often fraught with traffic, crowding, delays, and conflicts with other groups. Instead, visit at other times, such as midweek, for a less crowd-

## PLAN AHEAD *and* Prepare

ed—and more enjoyable—experience. Make reservations and obtain permits well ahead of time to avoid unpleasant surprises. Avoid travel when environmental conditions, such as muddy trails, make recreation impacts more severe.

**USE PROPER GEAR.** Prepare for extreme weather, hazards, and emergencies. Pack a camp stove and fuel, a pot and matches, a signal mirror, whistle or fluorescent vest. Always carry a good map, plenty of food, water, a water filter or purification tablets, warm clothing, a freestanding tent and protection from the sun and insects.

Equipment that keeps us safe can also reduce impacts to our surroundings. A camp stove, which provides a quick meal without charring a single stone, is a prime example. Gaiters or weatherproof boots let us forge through muddy trails, so we don't have to step on trailside vegetation to keep our feet dry. Natural colored tents, backpacks and clothing blend with the landscape and are less obtrusive to other visitors.

**PLAN YOUR MEALS.** Food is essential to the success of a trip, but it's a mistake to bring too much. Get a jump on waste management by planning meals to avoid leftovers. Try meals at home first, so you know how much you will eat, as well as how much fuel, water and time it takes to prepare and clean-up. Package food in reusable containers or plastic bags. Get rid of twist ties, wrappers, glass and heavy packaging in advance to lighten your load and

ensure that they don't inadvertently become litter.

**DEVELOP THE SKILLS.** Know the skills and gear that are needed for your chosen activity. Learn from an experienced friend, take a course, or hire a competent guide. Make sure that first aid, navigation, and self-rescue, as well as Leave No Trace, are part of your training, and be sure you're in adequate physical shape for the trip.

**TAKE RESPONSIBILITY.** Getting lost has important implications for you, the people who attempt to find you, and the terrain. Significant impacts to the landscape can result from rescue operations that involve vehicles or large numbers of people. Take responsibility for your own safety by practicing self-awareness, caution and good judgment. Minimize risk by planning a trip that matches your skills and expectations. Be prepared to rescue yourself from tough situations.

Register at the trailhead or with the ranger. Be a competent navigator. Always carry a map and know where you are at all times. Stay with your group. Give a friend or family member your itinerary beforehand with instructions explaining what to do if you don't return on schedule. Also, leave a daily itinerary in your tent if you plan to climb or hike cross-country for the day. Don't build cairns, hang flagging or deface rocks or trees to mark your way. If flagging is absolutely necessary, for example to mark a downed deer while hunting, be sure to remove it before leaving the area.

### RECOGNIZE DURABLE

**SURFACES.** What effect does a footstep have? The answer is, it depends. A footstep means different things to a sapling or meadow grass, to leaf litter, a gravel river bank, or rain forest moss.

Unfortunately, trampling causes vegetation damage and soil erosion in virtually every environment. Vegetation protects underlying soils. Once plant growth is destroyed, erosion can continue with or without further use. On the slopes of Mt. Rainier, researchers have found that it takes only a few footsteps to break the woody stems of heather, which can lead to the death of the plant and ultimately the loss of soils accumulated over thousands of years. Laborious and expensive transplanting of heather seedlings is often the only way to restore user-created trails and trampled sites. Other impacts are also possible. Most pristine soils contain animals that live or feed on decaying plants. Trampling destroys habitat for these insects, earthworms, mollusks and snails, as well as the fungi that fertilize the soil and help make regrowth possible.

Wherever you travel and camp, use surfaces that are resistant to impact such as trails, rock outcrops, sand, gravel, dry grasses or thick snow.

### GOOD CAMPSITES ARE

**FOUND, NOT MADE.** What makes the perfect campsite? Safety, privacy, and comfort never go out of style, and securing such amenities does not entail a major remodeling effort. We can bring our own lightweight furniture and conveniences along to eliminate the need to create them on-site. Camp stoves, mattresses, tables, chairs, lanterns—even solar showers—are readily available at reasonable prices, and they pack in and out with ease.

Look for sites that are slightly elevated or sloped to avoid water pooling under your tent—a likely scenario in the soggy Northwest—thus eliminating the destructive practice of trenching.

Consider your visual impact on other users or wildlife. Take advantage of opportunities to tuck your tent out of view behind natural screening such as trees, bushes or rocks.

Trees are often damaged near campsites. Standing trees are not appropriate targets or storage sites for hatchets and knives, nor are they appropriate sources of firewood. (Proper firewood collection is discussed under “Minimize Campfire Impacts” pg. 23.) Take care not to break branches while securing tent or clothes lines, or when suspending food or

## TRAVEL AND CAMP *on Durable Surfaces*

game carcasses. Don't use wire or nails. Place a stuff sack or other material under ropes or where padding is necessary to protect bark. Likewise, place lanterns where they won't singe bark.

When traveling with stock, use high lines, portable fencing or hobbles to restrain the animals without tying them directly to trees. Refer to the Horse Use Skills and Ethics booklet for more information about stock use.

**CONCENTRATE USE IN POPULAR AREAS.** Concentrating use on trails, established campsites, and other developed sites such as trailheads and picnic areas, will minimize disturbances to soils and vegetation. Also, because animals learn to expect people on trails, they're less disturbed by human encounters in these areas.

### *Stay on designated trails.*

On trails, walk single file in the center of the tread—even where it's wet, rocky or muddy. Trails become progressively wider and multiple paths form where people or stock walk on trail margins or detour around obstacles. This is particularly a problem in spring and early summer in the Cascade and Olympic Mountains, when trails are muddy and partially obscured by snow. Hikers often skirt around the mud and snow, trampling the fragile shoots just poking through the soil. Stay on the snow where no tread is visible, otherwise stick to the trail, or stay at lower elevations until the trails are clear and dry. Stock can be especially destructive to wet ground and vegetation; look for drier, more resilient destinations.

Short-cutting trails, especially on switchbacks, also has



*multiple paths*

## TRAVEL AND CAMP on Durable Surfaces

severe consequences. Shortcuts become trails or gullies that require costly restoration. Likewise, “social trails” mar campgrounds and other popular areas. When camping in established campgrounds or developed sites, always use established roads, walkways and trails to visit campsites, toilets and other places of interest. Cutting through to the neighbor’s site, taking shortcuts, and not using the established network of trails reduces privacy between campsites and creates impacts that lead to costly repairs. Keep out of areas where efforts to restore vegetation and soils are in progress.

Boating, fishing and other water-based activities can damage shorelines and wetlands. Inquire locally about how to minimize your impact on these resources. Always choose durable sites to launch, anchor and dock your boat, and avoid tidepools or sites rich in wildlife. See the *Sea Kayaking Skills and Ethics* booklet for more non-motorized boating information.

### *Use established campsites.*

In popular areas, choose a well-established campsite that’s big enough for your group. Many areas have officially designated campsites, shelters or platforms. Tents, packs, gear and kitchens should be concentrated on the previously compacted,

naturally resistant or reinforced surfaces. This approach protects surrounding vegetation and prevents development of “satellite sites”. In popular areas where campsites are not formally designated, look for and use existing sites where the



ground cover is already worn away. Wear soft-soled shoes and concentrate your activities in the center of the site to avoid enlarging it. Appropriate camp set-up in bear country is discussed under “Respect Wildlife” pg. 25.

### **DISPERSE USE IN PRISTINE AREAS.**

Because of its close proximity to Seattle, the Alpine Lakes Wilderness area sees tremendous visitor use and impacts. Snow Lake alone receives over 14,000 visitors a year. Increased visitation has led to overcrowding and hikers seeking more remote destinations; thus, campsites are sprouting

## TRAVEL AND CAMP on Durable Surfaces

up in traditionally low use areas. Visit remote or pristine areas only if you are committed to Leave No Trace in that environment. Ideally, no trails or campsites will be created if visitors travel in small groups where durable surfaces are available.

### *Avoid creating trails and campsites.*

Using established routes, trails and campsites is always preferable to pioneering new ones. Stick to existing trails where soils are prone to erosion, rare species are present, vegetation grows slowly, or the ground is wet. Some of the most fragile plants and animals thrive in the least hospitable



*heather*

environments, like the thin volcanic soils of the frigid alpine zone on Mt. Hood. Tiny plants that are hardly visible in rock crevices or on scree slopes are easily uprooted by footfall. Heather and huckleberry are two vulnerable species common in the sub-alpine zones of the Pacific Northwest. Their woody stems appear hardy, but break easily when walked or camped on. Consult local land managers about off-trail travel and the appropri-

ate use of game and “climbers” trails.

If you must travel off-trail, use the most durable surfaces such as rock, thick snow and ice, gravel, sand, or navigable water. Dry grasses and sedges (which resemble grasses) are also naturally durable owing to their hardy root structures and flexible stems. In general, spread out when hiking across resilient vegetation. If each person takes a slightly different route, a distinct trail is less likely to form because no single plant receives multiple footfalls.

Off-trail travel may not be appropriate in some areas and at certain times. For example, spring is a vulnerable time for most vegetation, because of new growth and wet conditions. Springtime occurs at different times in the mountains, depending on the elevation. Hikers starting out in the lush lowland forests of Mt. Baker, where trilliums are in bloom, may quickly climb to subalpine meadows, where only patches of wet ground are snow-free and glacier lilies are just beginning to poke through the melting ice. Avoid off-trail travel during these sensitive times. If you absolutely must travel through fragile terrain, try to place your footsteps in the least destructive locations. Travel single file



*trillium*

by stepping in exactly the same spots as the person ahead of you.

**Campsites.** When choosing a campsite, drop your backpack and take the time to find a safe and durable site. In pristine areas, pre-existing sites that show light use should be left alone to recover, so permanent sites are prevented from forming. Look for areas naturally sparse in vegetation, such as sand, thick snow, duff or bedrock.

Before unpacking your tent, notice obvious bird nesting activity or significant elk or deer droppings. Is the site at least 200 feet (70 adult paces) away from water sources and shielded from trails? Separate your kitchen, tent and backpacks. Kitchen areas receive the greatest amount of traffic and impact. Look for a large rock slab, a graveled area, or other equally durable space to concentrate your cooking and socializing activities. If necessary, reserve less durable ground for your sleeping area. Carry a small daypack full of essentials to minimize trips to your pack or tent. Wear soft-soled shoes and vary your route to water, the “bathroom” and sleeping areas to prevent trails from forming. In pristine areas, impacts can often be avoided by staying only one night.

**BREAKING CAMP.** Leave your campsites clean and natural looking. In established sites, pick up litter and leave the fire ring clean of garbage and ash, to encourage others to camp there. In pristine sites, naturalize and disguise your camp by replacing any rocks or sticks you may have moved. Re-cover scuffed-up areas with leaf litter or pine needles. Fill stake holes,

fluff up matted grass and make the place less obvious as a campsite, to discourage its use again. As long as overall visitor use is very low, the site will retain its best qualities.

In the winter, dismantle snow structures when you leave, so they don't become safety hazards for animals or other recreationists, and to preserve the remote quality of the environment.

### **PROTECT WATER RESOURCES.**

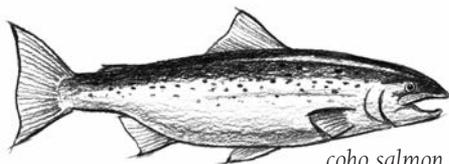
Sand and gravel bars along large rivers or the ocean are durable surfaces that may be suitable for Leave No Trace camping. However, vegetated lakeshores and the banks of small streams are fragile and easily eroded. Many sensitive plant species are found in these riparian zones and animals need access to water sources, so camp at least 200 feet away unless local guidelines indicate otherwise or natural land features separate your camp from water. Minimize trips to the lakeshore or stream bank by carrying a large collapsible container to haul water back to camp. By distancing camps from water sources, we are less likely to pollute them.

Sometimes legal, designated sites or shelters can be too close to trails or water because of terrain limitations or a long history of use. Continued use of such sites is preferable to the creation of new ones.

Be conscientious when crossing shallow, gravelly sections of streams where fish, such as native char (bull trout/Dolly Varden) and resident cutthroat trout spawn. Although these may seem to be desirable places to cross, walking across gravel nests, or redds, during or after spawning sea-

## TRAVEL AND CAMP *on Durable Surfaces*

son can wipe out future generations of fish. In the fall and early winter, bull trout, which are listed as threatened under the Federal Endan-



*coho salmon*

gered Species Act, and Dolly Varden spawn in the cool headwater streams of Puget Sound and the Pacific Northwest coastal region. Coastal cutthroat trout, a candidate for threatened species status, spawns in the late spring and early summer. Additionally, at lower elevations, the

spawning redds of chinook salmon (also threatened) and other salmon and steelhead are vulnerable to trampling. Look for opportunities to cross streams where minimal disturbance will occur.

Careless footsteps along the stream banks cause erosion, adding silt to streams. Native char and other fish species are sensitive to increased sediment in the streams. Fishers and hikers should stay on trails and durable surfaces along streams and lakeshores to minimize their impact on these fragile ecosystems and prevent the development of “fishermen trails”.

## DISPOSE *of Waste Properly*

### **PACK IT IN, PACK IT OUT.**

“Pack it in, pack it out” is a familiar mantra to seasoned wildland visitors who know that users of recreation lands have a responsibility to clean up before they leave. Inspect your rest areas and campsites for “micro-garbage”—bits of trash and food, such as cigarette filters, orange peels, or egg and pistachio shells. Carry plastic bags to haul your trash and maybe someone else’s. Invite the



## DISPOSE of Waste Properly

kids in your group to make a game out of scavenging for human “sign.”

Overlooked trash is litter, and litter is not only ugly, it can also be deadly. Plastic six-pack holders and plastic bags kill shorebirds and marine mammals. Fishing lines, lures and nets ensnare and injure pets and wildlife alike, so don't leave any behind.

Plan meals to avoid generating messy, smelly garbage. It is critical to wildlife that we pack out kitchen waste, such as bacon grease and leftovers. Don't count on a fire to dispose of it. Garbage that is half-burned or buried will attract animals and make a site unattractive or even dangerous to other visitors. In 1998, closures along the Elwah river drainage in Olympic National Park were due to a black bear gaining access to human food and garbage. Read more on proper food and garbage storage under “Respect Wildlife” pg. 25.

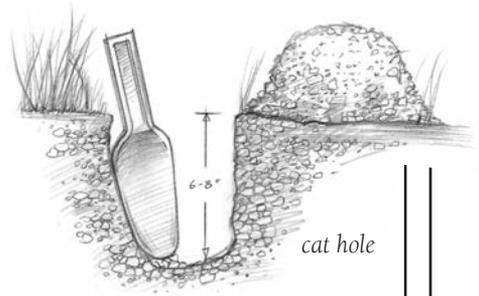
### PRACTICE GOOD SANITATION.

**Human waste.** “¿Dónde está el baño?” “Ninahitaji kujisaidie?” No matter how it's said, “Where's the bathroom?” is an important question, even in wildlands. Where there is no bathroom per se, answering nature's call involves a little pre-planning, some initiative, and a bit of creativity. The four objectives of proper human waste disposal are:

- Avoid polluting water sources.
- Eliminate contact with insects and animals.
- Maximize decomposition.
- Minimize the chances of social impacts.

Certainly livestock and wildlife can be responsible for the presence of bacteria in wildland areas, but improper disposal of human waste can also lead to water pollution, the spread of pathogens and unpleasant experiences for those who follow. From the Pasayten Wilderness to Mt. Shasta, land managers and wildland visitors have noted a growing problem with unburied human feces and toilet paper.

**Facilities/ outhouses.** Outhouses are more common in developed campgrounds than in the backcountry, but wherever available, take time to locate and use bathrooms, outhouses, pit toilets, and other developed sites for human waste disposal. Outhouses and pit toilets are inappropriate receptacles for trash. Be responsible and pack out all your garbage.



**Cat holes.** If no facilities are available, deposit solid human waste in “cat holes” dug 6 to 8 inches deep at least 200 feet from water, camp, trails, and drainages. Look for soil with high organic content. Bring a trowel to dig the hole. After use, toss some soil into the cat hole and stir with a stick to help promote decom-

## DISPOSE of Waste Properly

position. The microbes found in soil break down feces and the pathogens they contain. Bury the stick in the hole and disguise the site well before leaving. Good cat hole sites isolate waste from other visitors and water sources such as lakes, streams, dry creek beds, ravines, bogs, and pot holes. Whenever possible, use a remote location during the day's travel to help prevent high concentrations of cat holes near campsites.

Don't leave human waste on or under rocks because it will decompose slowly and may wash into water sources. If the cat hole method is ill suited to your group, try to camp where an outhouse or pit toilet is available.

Plan ahead to pack out toilet paper in plastic bags. Toilet paper left on the ground or tucked behind trees and bushes is unsightly, as well as unsanitary, and attracts animals. Packing out toilet paper leaves the least impact on the area. A less desirable alternative is to use as little toilet paper as possible and stir it into the feces in the cat hole. Burning toilet paper at the site is not recommended; it has caused wildfires, plus wet toilet paper rarely burns completely. "Natural" toilet paper like grass, sticks, and snow can be surprisingly effective. Buried in the cat hole, it will

aid in decomposition. Always pack out feminine hygiene products and diapers because they decompose slowly and attract animals.

**Latrines.** Latrines are generally not desirable or necessary. However, in situations where cat holes may not be used properly, such as with children, large groups, or in areas where soils are sparse, it might be best to dig a latrine. Check with local land managers first for regulations and/or recommendations on other alternatives. If you determine a latrine is the best approach, site the latrine as you would a cat hole and make sure that the route to the latrine is over durable surfaces. Dig a trench 6-8 inches deep, and long enough to accommodate the needs of your party. Use soil from the trench to cover the feces after each use. Dispose of toilet paper by packing it out in plastic bags or mixing it with feces at the bottom of the trench. Naturalize the site before leaving.

**Carrying waste out.** With increasing visitor use, the disposal of human waste in our wildlands is of greater concern. Recreation managers trying to protect human health and water sources employ a spectrum of toilet designs and

## DISPOSE of Waste Properly

approaches to managing human waste—even airlifting waste with helicopters. An effective option to alleviate the environmental pressures of waste disposal is to carry it out. A homemade container such as a “poop tube” or a commercial bag or device designed for transporting human waste are increasingly



popular and necessary alternatives. Dispose of the contents in pit toilets, porta-johns, or according to package instructions. Local land managers may recommend other appropriate disposal techniques.

**Urine.** Urinate well away from camps and trails. Urine attracts wildlife whose diets are salt-deficient. Animals sometimes defoliate urine-spattered plants to consume the salt, so urinate on rocks or bare ground rather than on the vegetation. Where water is plentiful, consider

diluting the urine by rinsing the site. Never leave toilet paper on the ground as litter.

### **SPECIAL ENVIRONMENTS.**

**Glaciers.** High visitor use, sparse soils, rock, snow and ice all conspire to make the cat hole less than ideal in alpine areas. On glaciers in the Pacific Northwest, the practice of depositing waste in crevasses has been challenged as research has shown that waste in temperate glacial crevasses is quickly washed out by glacial runoff, without harm to pathogens. On Mt. Rainier, the transport time for some glacial under-drain systems has been found to be as short as one hour. Additionally, another technique, “smearing”, has led to unpleasant encounters in heavily used areas. To combat these problems, many climbing areas now require human waste to be packed out. The “blue bag” system has become well-known to climbers of several Cascade and Olympic volcanoes, such as Mt. Rainier, Mt. Olympus and Mt. Shasta. But many commercial options are available now, as well. Check regulations before setting out. Often, waste disposal drop stations are provided by managing agencies.

On glaciers and snow, urine leaves unsightly yellow stains. At camp, designate an “out-

## DISPOSE of Waste Properly

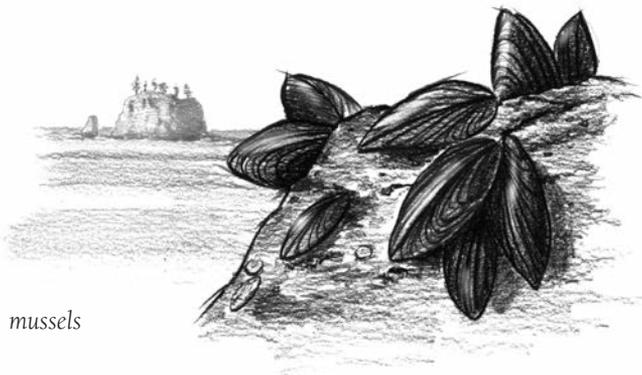
house” and concentrate urine in one location, preferably on the periphery of camp. Cover stains with snow if possible. Likewise, don’t create stains by scattering wastewater. Designate a “sump” —a cat hole where strained gray water is poured. Naturalize the sump before leaving.

**Winter.** Winter conditions present unique challenges. Water is everywhere—it just happens to be frozen—and the soil may be several feet out of reach and as hard as a rock. After the spring thaw, anything deposited on top of the snow is on the saturated ground, with little to hinder its migration into water sources. “Poop tubes” or other packing-out products may be the best disposal options unless you can locate a patch of bare ground, usually under a tree where a trowel might penetrate the duff to dig a cat hole. Take care not to damage tree roots. If depositing human waste in the snow pack is unavoidable, seek out locations where it will not be visible to other winter travelers. Choose a location well away from water sources and possible summer campsites. Ridgetops or thick tree groves are good options. Bury

human waste in a cat hole just below the snow’s surface.

**Coastal regions.** There are two generally accepted methods for human waste disposal on the coast: packing it out or burial in cat holes. Disposal in the ocean near shore or within the intertidal zone is illegal in the United States.

In most coastal areas in the Pacific Northwest, land managers recommend that visitors dig cat holes and pack out their toilet paper. Coastal campsites are often heavily used and confined by dense vegetation. This leads to heavy concentrations of cat holes around campsites. Bring materials with you to pack your waste out. Or, plan ahead to site a cat hole far from camp or during the day’s travel. Choose sites in the forest, not on the beaches, that are 200 feet from fresh water, gullies, trails and camps. Avoid sloped terrain and step carefully to avoid trampling fragile vegetation. Be on the lookout for shell middens—ancient Native American refuse piles. These archeological sites, scattered along the Pacific Coast, are recognizable as piles of seashells. If you uncover one of these



mussels

## DISPOSE of Waste Properly

piles while digging a cat hole, look for another site.

Always check with local land managers first for recommended practices and regulations.

**Waterways.** Human waste disposal presents a unique problem on river corridors.

Because rivers experience a high concentration of recreational use within a narrow strip of land, it is simply not acceptable to leave solid human waste within the river corridor. Carry out all solid human waste. This is especially critical in arid regions where organic soils are sparse and campsites are few.

The Environmental Protection Agency has banned disposal of human waste in most situations. So, carrying a portable toilet has become a standard practice on many waterways and may be required. At the conclusion of a trip, the toilet's holding tank is flushed out at an RV or boat dump station. The station delivers the waste and toilet paper to a municipal sewage treatment plant. While on a river, be sure to site the toilet on a durable spot where no new trails will be created to reach it.

For multi-day river trips, such as on the Rogue River in Oregon, check with local land managers on the regulations regarding urine and waste-

water disposal. Some recommend disposal directly into large rivers. But this is a matter of law and varies from state to state. See the Western River Corridors Skills and Ethics booklet for more information.

**WASTEWATER.** For dishwashing, use a clean pot or expanding jug to collect water, and take it to a wash site at least 200 feet away from water sources. This lessens trampling of lakeshores, riverbanks and springs, and helps keep soap and other pollutants out of the water. Use hot water, elbow grease, and little or no soap. Strain dirty dishwater with a fine mesh strainer, piece of cloth or nylons before scattering it broadly. Do this well away from camp, so as not to draw in wildlife. Pack out contents of the strainer in a plastic bag along with any leftovers. Animals should not be allowed access to any human food or food waste for reasons discussed under "Respect Wildlife" pg. 24.

In developed campgrounds, food scraps, mud and odors can accumulate where wastewater is discarded. Contact your camp-



## DISPOSE of Waste Properly

ground host for the best disposal practices and other ways to Leave No Trace at your campsite.

### SOAPS AND LOTIONS.

Soap, even when it's biodegradable, can affect the water quality of lakes and streams, so minimize its use. Always wash yourself well away from shorelines (200 feet), and rinse with water carried in a pot or jug. This allows the soil to act as a filter. Hand sanitizers that don't require rinsing allow you to disinfect your hands without worrying about wastewater disposal.

Where fresh water is scarce, think twice before swimming in creeks or small ponds. Lotion, sunscreen, insect repellent and body oils can contaminate these vital water sources.

### DISPOSE OF GAME

**ENTRAILS.** The remains of fish and other game should be left well away from trails, water sources, and campsites. In some situations, it may be best to bury or pack out the viscera with the garbage. Official guidelines and recommendations vary considerably from place to place, so call ahead for specifics.

## LEAVE What You Find



*People visit wildlands for many reasons, among them to explore nature's mysteries and surprises. When we leave rocks, shells, plants, antlers, feathers, fossils and other objects of interest as we find them, we pass the gift of discovery on to those who follow. Leave*

*What You Find means retaining the special qualities of every wildland area—for the long term.*

**PRESERVE THE PAST.** The Pacific Northwest is rich with cultural history, from the obsidian flows in Oregon's Three Sisters Wilderness, where early cultures gathered materials for their tools, to the ruins of Monte Cristo, an historical mining community in the foothills of the North Cascades. Archeological and historical artifacts are reminders of the rich human history of the landscape and belong to all people for all

## LEAVE What You Find



time. Discovering evidence of earlier cultures such as clay pots, rock art, and antique glass is exhilarating. It's tempting to take such things home as souvenirs, but structures, dwellings and artifacts on public lands are protected by the Archaeological Resources Protection Act and the National Historic Preservation Act and should not be disturbed. These include seemingly insignificant potsherds, arrowheads and mining, logging or railroad equipment from 50 or more years ago. It is illegal to excavate, disturb or remove these resources from any public lands. Observe them but do not touch.

### **LEAVE NATURAL FEATURES UNDISTURBED.**

Load your camera, not your packs. Let photos, drawings and memories be your souvenirs. Although natural objects may be collected on some public lands, a permit

is often required. Collecting is prohibited in national parks and wildlife refuges. Federal law applies to wildlands. For example, the federal Migratory Bird Treaty Act protects the nests and feathers of certain wild birds. Practice and encourage restraint.

Collecting seashells along the coast is an age-old tradition, but shells are an integral part of life for creatures in the intertidal zone. Help children investigate the role of seashells and other natural objects in their native environments. Remind them that these things perform important ecological roles: a shell provides a house for a hermit crab; an antler is gnawed by an Olympic marmot; petrified wood shelters the entrance to a pika's burrow; or a feather is woven into the nest of an osprey. Objects in nature derive much of their beauty and significance from

their surroundings and never look quite the same back home.

**AVOID SPREADING NON-NATIVE PLANTS AND ANIMALS.** Invasive non-native species of plants and animals can cause large-scale, irreversible changes to ecosystems through competition, destruction, or elimination of native flora and fauna. According to the U.S. Fish and Wildlife Service, invasive species have contributed to the decline of 42 percent of the country's threatened and endangered species. At least 1.5 million acres of National Park Service lands are severely infested. In North Cascades National Park, for example, 271 non-native plant species, more than 15% of the park's flora, have been documented. In Olympic National Park, the 243 non-native plants reported represent more than 20% of that park's flora.

Invasive plants affect every habitat type found in national forests and Bureau of Land Management lands in the U.S. There is no effective treatment to eradicate many invasive species and we are losing the native, natural living heritage that protected lands were intended to conserve. Recreationists play a role in the spread of invasives by transporting live animals, plants and seeds, and agents of disease. The potential for new infestations increases every day as more and more outdoor seekers travel from one environment to another. For example, southwest Oregon and northern California are fighting the spread of Port-Orford cedar root disease. Microscopic spores infect and kill Port-Orford cedar and

Pacific Yew trees. These spores are transported in mud and water. Vehicles driving on backcountry roads can collect mud on fenders and wheel wells and transport infested mud to uninfested locations. Likewise, mud on hiking boots and the hooves of pack animals can potentially spread the disease.

We can help prevent the spread of invasive species by following a few practical suggestions:

- Learn to recognize invasive species in the area you are visiting.
- Ask land managers what they are doing about non-native species and how you can help.
- Empty and clean your packs, tents, boats, fishing equipment and other gear after every trip. Water, mud and soil may contain harmful seeds, spores, or tiny plants and animals.
- Clean the dirt off of your boots or tire treads.
- Don't transport flowers, weeds, or aquatic plants into wildlands.
- Never discard or release live bait.
- Make sure pack stock and pets are immunized, and their coats are free of seeds, twigs, and harmful pests such as ticks.
- Inquire with local land managers about current regulations on stock feed. Some areas require the use of processed or weed-free feed. Feed pack animals food that is certified weed-free for at least three days before entering wildlands.
- Help landowners or land managing agencies initiate control efforts by alerting them to infested areas.
- Assist with native plant restoration efforts whenever possible.

## MINIMIZE *Campfire Impacts*

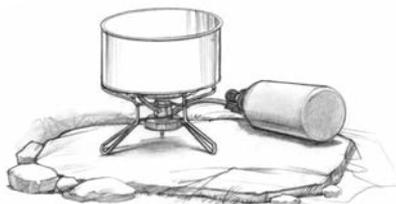
***Once necessary for warmth and food preparation, campfires are part of our camping heritage. Unfortunately, they have also left an indelible mark on the landscape. The natural appearance of many recreation areas has been compromised by the careless use of fires and the demand for firewood. Enormous rings of soot-scarred rocks overflowing with ashes and partly burned logs, food and trash are unsightly. More importantly, campfires can and do ignite wildfires.***

These days, campfires are luxuries, not necessities. Leave No Trace campers have discovered there are benefits to not having fires, such as less clean-up and, without the bright blaze of a fire, the night sky can take center stage.

We can still enjoy the occasional glow of an evening fire, but many lasting impacts can be avoided by considering the environment, minimizing our use of fires, using lightweight stoves, fire pans, mound fires and other Leave No Trace techniques.

**USE A STOVE.** Visitors should carry a camp stove, pot, matches and sufficient fuel to cook all meals. Build cooking fires only when conditions are right—the danger of wildfire is low, downed and dead

wood is plentiful, and there is sufficient time to prepare the fire site, burn all the wood to ash, allow for cooling, and clean up.



**BUILD A MINIMUM IMPACT FIRE.** Consider whether a fire makes sense at your picnic or campsite. In fragile environments where plant growth is extremely slow, fires are inappropriate. Wood from an alpine krummholz, which is hundreds of years old, will last only a few short moments aflame.

If a campfire is important to you:

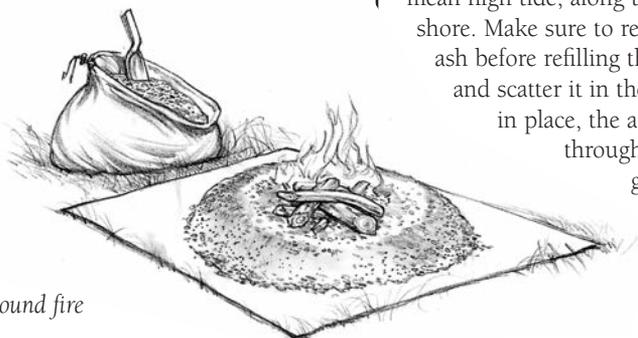
- Ask about pertinent regulations and campfire management techniques.
- Judge the wind, weather, location, and wood availability. Decide whether it's safe and responsible to build a campfire.
- Bring a fire pan or set aside time to build a mound fire where there are no fire rings or grates.
- Have a trowel or small shovel and a container for saturating the ashes with water.

## MINIMIZE *Campfire Impacts*

**Use an established fire ring.** In an established site, if you camp near an existing rock ring, use it instead of building a new one. The most inviting fire rings are of a reasonable size and free of excess ash, half-burned wood and trash. Leave a single fire ring that encourages others who want a fire to use it.

**Mound fires.** Mound fires are useful in pristine areas or wherever there are no existing rock rings or fire grates.

Build mound fires on pedestals of sand, gravel, or soil with low organic content. Riverbeds or cavities from uprooted trees are good sources of soil. Try to disturb as little vegetation as possible when collecting this material. Haul it to a durable fire site using a stuff sack (it will require several loads). Construct a pedestal 6-8 inches thick and 18-24 inches in diameter on top of a tarp or ground cloth. The tarp helps facilitate clean-up. The cloth can be rolled up under the edge of the mound to prevent embers from singeing it. A thick enough mound insulates the ground and the tarp or ground cloth from the heat of the fire. Be sure to return the soil to its source



*mound fire*

when the fire is completely out.

**Pan fires.** Fire pans are often required on large river corridors, such as the Rogue River in Oregon, and can be easily packed into rafts or kayaks, as well as on horses or backpacks. Metal oil pans or aluminum roasting pans make good containers



*pan fire*

for low-impact fires. Drill two or three holes through the side of the pan for easy attachment to a pack. Lightweight, commercially made fire pans are also available. Use a pan on a durable, unvegetated surface away from the base of cliffs or overhangs. Elevate it with stones to prevent damage to vegetation and soils below.

**Beach fires.** A beach campfire is made by excavating a shallow depression in the sand or gravel below mean high tide, along the ocean shore. Make sure to remove all the ash before refilling the depression, and scatter it in the forest. If left in place, the ash will “float” through the sand or gravel, and the fire site will be obvious to

## MINIMIZE *Campfire Impacts*

others. In the Oregon Dunes National Recreation Area, where the sand is light yellow and there is no vegetation, it is best to pack out all ash.

### **USE DEAD AND DOWNED WOOD.**

Keep fires small. Don't snap branches off of trees, either living or dead, because this scars them. In the early 1980s, 95 percent of the trees in campsites within Oregon's Eagle Cap Wilderness were damaged by people collecting firewood or chopping tree trunks. Use only sticks from the ground that can be broken by hand. Larger pieces of downed wood play an important and unique role in water cycling and soil productivity. They provide shelter for wildlife such as the Oregon slender salamander and, while decaying, germination sites for many plant species.

Firewood smaller than the diameter of your wrist breaks easily and burns completely to ash, making clean-up easier. Half-burned logs present a disposal problem—and often a disagreeable sight for the next campsite visitor. The use of hatchets, axes or saws isn't necessary or desirable. In the backcountry, gather firewood en route to your camp so the area around your site retains a natural appearance. On the coast, driftwood is usually plenti-

ful and preferable to collecting wood in the forest.

**MANAGE YOUR CAMPFIRE.** No matter which fire building technique you employ:

- Never leave a fire unattended.
- Don't try to burn foil-lined packets, leftover food, or other garbage that would have to be removed later.
- Burn the wood completely to ash.
- Stop feeding the fire, and give yourself an hour or more to add all the unburned stick ends.
- Saturate the ash with water.
- Remove any trash.
- Scatter all ash widely with a small shovel or pot lid.
- Restore the appearance of the fire site.

In popular areas, leave a single, small, clean rock ring centered in the campsite. Dismantle and clean up any extra fire rings. If a fire grate is present, don't build or use a rock ring. Leave the grate clean and ready for the next person. In remote areas, never build a fire ring; use a fire pan or mound fire instead. Clean up thoroughly and naturalize the fire site to make it appear as untouched as possible.



***The stark truth is, if we want wild animals, we have to make sacrifices.***

**—Colin Tudge,  
Wildlife Conservation**

Encounters with wildlife inspire tall tales and long moments of wonder. Unfortunately, wildlife around the world faces threats from loss and fragmentation of habitat, invasive species, pollution, over-exploitation, poaching and disease. Protected lands offer a last refuge from some, but not all, of these problems. Consequently, wild animals need recreationists who will promote their survival rather than add to the difficulties they already face.

We know that animals respond to people in different ways. Some animals flee from humans, even abandoning their young or critical habitat. Other species adapt

readily to humans in their domain; they resume their normal behaviors and are said to be “habituated.” Still others are attracted to and endangered by human food and trash and learn to act aggressively towards humans.

Because outdoor recreation occurs over large areas and throughout all seasons, its impacts on wildlife are extensive. Fish, birds, and reptiles, as well as mammals, are affected by people using their habitats. We are responsible for coexisting peacefully with wildlife. Remember, we are visitors in their homes.

### **NEVER FEED ANIMALS.**

Feeding wild animals damages their health, alters natural behaviors, and exposes them to predators and other dangers. Headlines are made when wildlife is attracted to humans and their food. Bears get the most attention for



*marmot*

## RESPECT *Wildlife*

tearing into tents, coolers and cars in search of a meal, but campers more commonly have to deal with the annoyance of rodents, raccoons or birds looking for a handout. Gray jays, fondly known as “camp robbers”, are familiar pests around Northwest campsites. These animals do not pose the same obvious threats as bears, but their presence is a nuisance, they can be vectors for disease, and their reliance on human food is a detriment to their own well-being.

Animals are adept opportunists. When tempted by an untidy back-country kitchen or a handout from a curious camper, they may overcome their natural wariness of humans. Aggressive or destructive behavior may follow, and in conflicts with humans, animals ultimately lose. Human foods and products are harmful to wildlife because animals would otherwise forage and eat a nutritious diet derived from their natural environment. Serious illness or death can occur when wildlife consumes food wrappers, vehicle antifreeze and other “inedibles.”

Prospects of an easy meal also lure wild animals into hazardous locales such as campsites, trail-heads, roads and entry points, where they may be chased by dogs or hit by vehicles. They may also congregate in unnatural numbers, increasing stress and the spread of disease within their populations.

### **STORE FOOD AND TRASH**

**SECURELY.** The Pacific Northwest boasts large numbers of black bears and a small population of grizzly bears. Therefore, good bear camping

practices are important to protect animals and prevent the development of “problem” bears and “nuisance” deer, birds and rodents.

Keep a clean camp by packing up all garbage—even the tiniest food scraps. Be careful not to drop food on the trail and never cook or eat inside your tent. “Food” includes garbage, canned food, stock feed, pet food, fuel and scented or flavored toiletries. The salt in hiking boots, backpacks or clothing may also attract many small mammals.

Proper food hanging technique is an important skill in the Northwest. Hang “food” from a tree limb or suspended between two trees, at least 12 feet off the ground, 6 feet from the tree’s trunk, and 6 feet below the supporting limb. Some campgrounds provide “bear wires” for this purpose. It’s a good idea to separate tents, kitchens and food cache areas by 100 yards, whenever possible.

Appropriate storage and trans-



*Separate tent, kitchen and food cache in bear country.*



portation methods vary considerably from place to place, so consult local land managers about the best practices and the equipment you’ll need. For example, on the coast in

Olympic National Park, raccoons are so adept at climbing trees and raiding food bags that simply hanging food is not enough. Specially designed animal-resistant canisters or on-site lockers are other options. Animal-resistant canisters are also handy in alpine zones, where there are no trees to hang food. Canisters are available for rent or sale at sporting goods suppliers and some land management agencies. Used properly, they ensure a good night's sleep for you and a natural diet for wildlife.

### **OBSERVE FROM A DISTANCE.**

Always watch or photograph animals from a safe distance to avoid startling them or forcing them to flee. Use the observation areas, platforms and trails provided in many areas. Binoculars, spotting scopes, and telephoto lenses will enable you to observe wildlife unobtrusively. Don't disturb wildlife (i.e. by shouting to get their attention) to get a better photo. Do not follow or approach them. Back away if animals react to your presence. For example, near coastal "haul out" zones, seals may stretch their necks or move toward water when disturbed by humans. Avoid quick movements and direct eye contact with any animal, which may be interpreted as aggression. To leave the area, move away from the animal even if you must detour from your intended travel direction. You have more options in your movements than animals do. Treat them generously. If animals are on the move, stay out of their line of travel.

Adults influence how children

relate to the natural world. Show respect and restraint by teaching children not to approach, pet or feed wild animals. Don't encircle, tease or crowd wildlife. Don't attempt to pick up a wild animal. Parents may abandon young animals removed or touched by well-meaning people. Female deer and seals often leave their offspring behind while feeding. Approaching or touching a fawn or pup may lead to stress and abandonment. If you find an animal in trouble, notify a ranger or game warden.

Traveling quietly minimizes disturbances to wildlife. However, in bear country it is advisable to make noise near loud running water or in dense vegetation. Hike in groups in bear or mountain lion country to avoid potential conflicts. Always keep children in immediate sight. They're often the same size as animal prey. Don't hike at night, dusk or dawn where nocturnal predators may present a hazard to safety. Talk to land managers or wildlife conservation groups for more recommendations on traveling safely in bear and mountain lion territory.

### **AVOID SENSITIVE TIMES AND HABITATS.**

Consider the seasonal stresses that wildlife face. Animals are generally sensitive to recreationists when food is scarce or they are mating, birthing, or protecting young. In some situations, avoid their habitats, for your safety and the animals'. Hungry black bears seek out snow-free areas in the spring, where new plants are sprouting—often the same snow-free terrain hik-

## RESPECT *Wildlife*

ers are after. By late summer, they migrate to berry patches for the calories they'll need to survive the winter. The snowy plover, which nests at the height of tourist season along Oregon's exposed coastline, is extremely vulnerable to recreationists. A dramatic decrease in the plover's numbers has placed it on the federal list of threatened species.

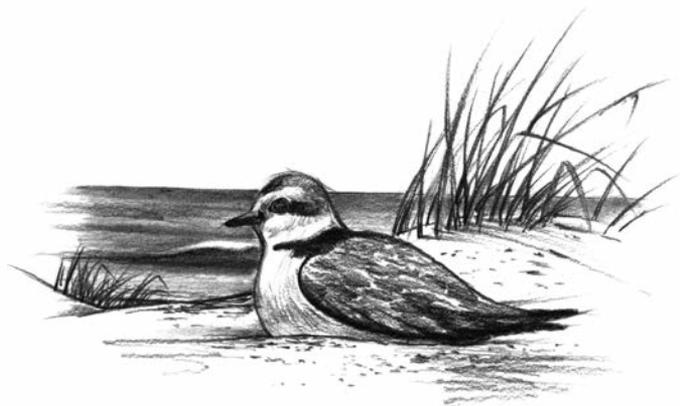
The more you understand about a species, the more considerate you can be of the animal's needs and temperament, especially at critical times and in critical places.

### **CONTROL YOUR PET.**

Wildlife and pets are not a good mix—even when leashed, dogs harass wildlife and may disturb other visi-

tors. The best option is to leave dogs at home. Obedience champion or not, every dog is a potential carrier of diseases that infect wildlife.

If you must travel with your pet, check for restrictions in advance. For example, most national parks prohibit dogs on all trails. Ensure your animal is in good condition for any trip. Dogs should have current vaccinations to avoid carrying or contracting infectious diseases such as rabies and parvovirus, especially in areas with wolf populations. Always use a collar and a short leash to control your dog. Remove pet feces from trails, picnic areas, and campsites by disposing of them in cat holes or trash cans.



*snowy plover*

## BE CONSIDERATE *of Other Visitors*

***Today, even in remote areas, we must share wildlands with people of all recreational persuasions, even in remote areas. There is simply not enough country for every category of enthusiast to have exclusive use of trails, lakes, rivers, and campgrounds. The growing popularity of our wildlands requires us to embrace an outdoor etiquette and maintain a cooperative spirit.***

### **RESPECT OTHER VISITORS AND PROTECT THE QUALITY OF THEIR EXPERIENCE.**

Some people visit wildlands to enjoy quiet and solitude. Others come for camaraderie. Some seek autonomy and freedom, while others strive to test themselves. Although our motivations and sense of

adventure may vary, there's always room on the trail for people with open minds and generous hearts. Simple courtesies such as offering a friendly greeting on the trail, wearing earth-toned clothing to blend in with the scenery, stepping aside to let someone pass, waiting patiently for a turn, or preserving the quiet, all make a difference.

Show respect to native peoples who pursue a subsistence lifestyle in a wildland setting. Be friendly, unobtrusive and self-sufficient. Take note of tribal land boundaries, ask permission to cross private lands, and obey special laws and restrictions. Respect voluntary closures of public lands for Native American religious ceremonies.

Don't disturb the stock or equipment of ranchers, outfit-



## BE CONSIDERATE *of Other Visitors*



*Hoh rainforest*

ters, anglers, loggers, trappers, miners and others who derive their income from the permitted use of public lands. Leave gates open or shut, as you find them.

**YIELD TO OTHERS.** Groups leading or riding packstock have the right-of-way on trails. Since horses and other pack animals frighten easily, hikers and bicyclists should move to the downhill side of trails, remove large packs, and talk quietly to the riders as they pass.

Stay in control while moving quickly whether you are jogging, skiing or riding a mountain bike. Before passing others, politely announce your presence and proceed with caution.

**KEEP A LOW PROFILE.** Take rest breaks away from the trail on durable surfaces, such as rock or bare ground. If the vegetation around you is easily crushed or too thick to move off the

trail without causing impacts, pick a wide spot in the trail so others can pass by. If possible, camp out of sight and sound of trails and other visitors.

### **LET NATURE'S SOUNDS PREVAIL.**

Large groups need to be especially mindful to keep the volume down. Resist the temptation to call out to a friend across a lake basin or to a neighboring campsite. These sounds travel long distances.

Bright lights, radios, electronic games, cellular phones and other intrusive devices alter the remote quality of the outdoors. To some, technology is a necessity in wildlands. To others, it is inappropriate. Avoid conflicts by making a conscious effort to allow everyone his or her own experience. Wear headphones to listen to music. Keep voices low. Most of all, tune into the sounds of nature.

***“When I climbed Mount Adams I think I found the answer to the question of why men stake everything to reach these peaks, yet obtain no visible reward for their exhaustion. It came to me when I almost failed on the last steep pitch of Adams ... Man’s greatest experience—the one that brings supreme exultation—is spiritual, not physical ... The same experience comes in a host of other discoveries along the mountain trail...”***

**—William O. Douglas,  
Of Men and Mountains**

Our feelings about wildlands develop throughout our lifetimes. They are rooted in individual experiences from childhood to old age: the first time we caught a fish in the Quinault River, a solo backpacking trip into the Enchantment Lakes, the family vacation to Crater Lake when a black bear ran through camp. For Justice William O. Douglas, it was his boyhood ramblings through the Cascades and later in life, his ascent of Mt. Adams, which inspired his decisions in the Supreme Court and drove him to protect the wilderness as a citizen activist.

We are fortunate in the Pacific Northwest to have so much wild



country—from the old growth forests of Douglas Fir and Western Red Cedar to the largest glacier system in the continental U.S. Indeed,

it is the pristine qualities of our snow-capped mountain peaks and unspoiled coastline that have drawn many to the region. We are campers, hikers, climbers, mountaineers, kayakers, fishers and horsepackers—proud of our rich natural heritage. But all this loving comes at a price. As more of us seek the renewal of our ancient forests, the very things we look for—solitude, pristine lakes, wildlife—are altered. The ultimate health of our wild places depends not on designations and regulations, but on our willingness to voluntarily practice restraint.

Like William O. Douglas, we feel a burgeoning sense of respect and responsibility for the land. Our wildland ethic follows us home and seeps out into our communities, our neighborhoods and our own backyards. It becomes an integral part of a larger land ethic, the one we act upon everyday. It is reflected in the hundred little things we do—when we put glass bottles in the recycling bin, take the bus to work instead of driving, when we buy less and repair more, or volunteer for the neighborhood park restoration project. Ultimately, it is bringing Leave No Trace home.

## A FEW TERMS *Defined*

**duff:** Decaying leaves and branches covering a forest floor.

**established campsite:** Developed or traditionally used campsite made obvious by devegetated ground or “barren core” and compacted soil.

**habituated:** Animals that are comfortable in the presence of humans, have become accustomed to frequenting developed areas, campsites, trails or roadsides, but have retained their natural behaviors.

**intertidal zone:** The area of ocean shore between the highest and lowest tides.

**invasive species:** Introduced plant or animal that aggressively out-competes native species.

**krummholz:** Stunted forest characteristic of timberline.

**micro-garbage:** Small bits of trash and food left on the ground.

**mineral soil:** Soil with low organic content, often found below surface organic matter and topsoil or along stream beds.

**naturalize:** To restore a site to its previous state so that it appears untouched by human use.

**pristine:** A place where signs of human impacts are absent or difficult to detect.

**riparian habitat:** The area or zone along or adjacent to rivers, streams, lakes, ponds or other water bodies, dominated by high soil moisture content and influenced by adjacent upland vegetation.

**redds:** Gravel nests where spawning fish lay their eggs.

**social trails:** Paths created by traveling on non-durable surfaces between campsites and other sites of interest.

**switchback:** A section of trail forming a zigzag pattern up a steep hillside.

**threatened species:** A federal listing of plants or animals that have experienced a decline in their populations and may face extinction without intervention.

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Tread Lightly, Inc. 1-800-966-9900, [www.treadlightly.org](http://www.treadlightly.org). [www.wilderness.net](http://www.wilderness.net).

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