

Volumes available in the Leave No Trace Skills and Ethics Series


Alaska Wildlands
Caving
Deserts and Canyons
Fishing
Horse Use
Lakes Region
Mountain Biking
North America
Northeast Mountains
Pacific Northwest
Rock Climbing
Rocky Mountains
Sea Kayaking
Sierra Nevada
Southeast
Western River Corridors



leave no trace
CENTER FOR OUTDOOR ETHICS

Leave No Trace Center for Outdoor Ethics
PO Box 997
Boulder, Colorado 80306
<http://www.LNT.org>

©Leave No Trace Center for Outdoor Ethics/National Outdoor Leadership School
Leave No Trace Skills & Ethics Series
Published 4/01

This booklet was funded with generous support from 
SUBARU

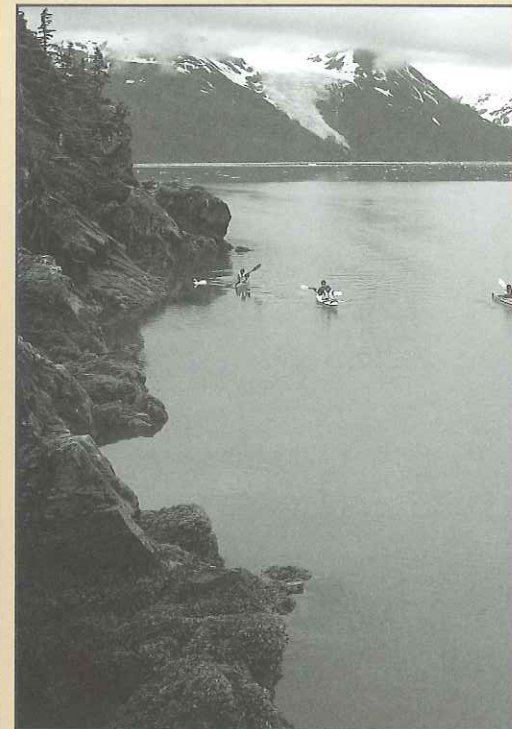
For more Leave No Trace information or to order materials,
call 1-800-332-4100 or visit www.LNT.org.

Suggested Retail \$2.95



recycled paper

SEA KAYAKING



 **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*

SEA KAYAKING IN NORTH AMERICA

"The notion that [outdoor] recreation has no environmental impacts is no longer tenable."

—Curtis H. Flather and H. Ken Cordell, Wildlife and Recreationists

People enjoy the outdoors in myriad ways. We explore on foot, kayak, horseback, mountain bike, skis, snowshoes, and crampons, to name a few, and there are more of us pushing our sports to greater extremes and into more remote parts of the natural world everyday. Our experiences are personally satisfying, but they can be costly to the places we visit and the animals we observe.

America'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 recreational activities. Considerable damage could be prevented if recreationists knew and practiced Leave No Trace techniques.

This booklet is part of a national educational program called Leave No Trace. The program revolves around seven principles: Plan Ahead and Prepare, Travel and Camp on Durable Surfaces, Dispose of Waste Properly, Leave What You Find, Minimize Campfire Impacts, Respect

Wildlife, and Be Considerate of Other Visitors. Designed to reduce the damage caused by recreational activities, these principles 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, allows you to apply the principles to your own unique circumstances whether you are in remote wilderness or a city park. The first step is to educate yourself and to learn the skills and ethics that allow you to Leave No Trace.



Principles of LEAVE NO TRACE

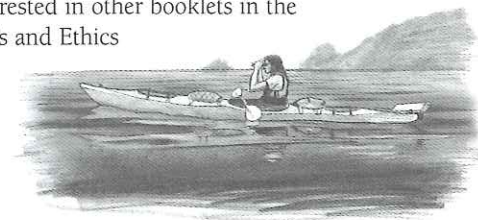
- Plan Ahead and Prepare5
- Travel and Camp on Durable Surfaces9
- Dispose of Waste Properly13
- Leave What You Find18
- Minimize Campfire Impacts20
- Respect Wildlife22
- Be Considerate of Other Visitors26

Wildland Ethics29

A Few Terms Defined30

LNT Outdoor Skills and Ethics LIBRARY

Sea kayakers may also be interested in other booklets in the Leave No Trace Outdoor Skills and Ethics series including Northeast Mountains, Western River Corridors and Lakes Region to name a few.



To obtain these and other Leave No Trace curriculum materials or for information on courses and training, call Leave No Trace, Inc. 1-800-332-4100 or visit the Leave No Trace website: www.LNT.org.

The art of sea kayaking dates back at least 2,000 years. Today it is one of the fastest growing sports in North America. That's no surprise when you realize there are 95,440 miles of coastline within the United States alone. Modern sea kayakers are searching for beauty, solitude, excitement and a sense of connection with their surroundings as they explore these miles. They are also looking to be challenged by changing sea conditions and difficult decision making. With an ever-increasing number of kayakers seeking these elements in a finite wildlands resource, it is imperative that we learn how to preserve the coastlines along which we travel.

Although sea kayakers leave little or no impact on the water, their effect on wildlife and the shoreline can be significant. Land managers have noticed a dramatic increase in the amount of impact on recreational facilities and shoreline ecosystems that corresponds with the sea kayaking boom of recent years.

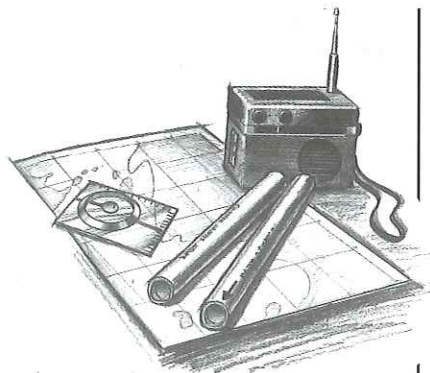
Sea kayakers are confined to a narrow strip of land along the water

to cook, eat, sleep, pack, play games and dispose of waste. This land may be rocky, sandy, vegetated or barren. The beaches found there may fluctuate in size with the rising and falling of the tides, while above the tide line there may be fragile deserts or impenetrable rain forests. The presence and behavior of kayakers affect this land and as the numbers of kayakers grow, their impacts increase as well.

In order to reduce the impacts we have on coastal environments, we must know and follow the seven Leave No Trace principles. In many cases, they have been specially adapted to take into account the concentration of use that occurs along coastlines. This edition of the Leave No Trace Outdoor Skills and Ethics series describes and explains these adaptations. The practices in this booklet are appropriate for all coastal regions in North America, from Alaska to Baja California, as well as the Great Lakes region, Canada, and the entire eastern seaboard.



■ Area most relevant to this booklet



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 achieve your goals in the safest and least damaging way. If you don't have these skills, plan your trip with someone who does.

Build Leave No Trace into your plans by picking an appropriate destination for your group and allowing plenty of time to travel and camp in good style. Be prepared to sit tight 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, poor planning or disregard for potential changes in the weather and sea state can transform a day paddle into an overnight trip. Kayakers may end up stranded on a beach needing to build a makeshift shelter and campfire, both of which can cause lasting impacts to the area.

EDUCATE YOURSELF. Know the regulations and special concerns for

any area you visit. For example, to camp and paddle in the Apostle Islands National Seashore you must have a permit. If there are more than eight in your party, you are required to use designated group sites. In the San Juan Islands of Washington, on the other hand, a large part of the land is private, so it is imperative to know where public land lies for beach breaks or camping. And finally, along the Maine Island Trail, only half of the 98 "trail" islands are public. By becoming a member of the Maine Island Trail Association, you gain the right to camp on private islands included in the trail system.

Specific minimum-impact practices suggested by the LNT principles may vary depending on the local ecology. In order to insure that you are traveling and camping with as little impact as possible, take the time to research the ecology and minimum-impact practices of the area you plan to visit before you go. Find out about sensitive bird and animal populations, weather conditions and the likelihood of seeing others. This kind of knowledge can increase your enjoyment and margin of safety while decreasing the likelihood that you'll cause unintentional impacts.

Be sure to have nautical charts and topographic maps for the areas in which you are traveling. Nautical charts illustrate known hazards on the water (e.g., partially submerged rocks, currents, sandy beaches, kelp beds, and other land forms present in the water). Topographic maps can help you identify potential camping sites and emergency pullouts on land.

Land management agency web-

sites, offices and visitor information centers offer details on special regulations, environmental concerns and trip planning, as well as educational 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. The skills and behavior of your group should fit with the ambiance of the place you visit. For example, people expect some noise and commotion around picnic areas, large campgrounds and other developed recreation sites. In more remote settings, on the other hand, visitors want to experience nature without these distractions.

Detailed maps and charts can help you make sure the skills of your group match the exposure and commitment of your route. Be sure each member of your group is capable of negotiating a surf landing if your destination requires it or the water conditions force you to land. Prepare your group for these possibilities.

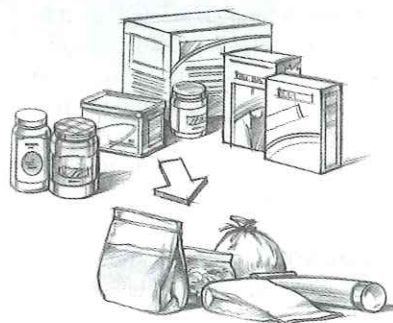
Small versus large groups. Regardless of the size of your group and the purpose of your outing, the practice of Leave No Trace techniques requires care and forethought. Large groups can have a significant impact when they try to fit into campsites that are not designed to accommodate groups of their size. New "satellite sites" emerge around the main site, causing more impact to the surrounding area. When traveling in

large groups, choose campsites carefully. Avoid problems by teaching everyone about Leave No Trace before leaving home. Always inquire about group size limitations in advance. Land managers will be able to tell you about the appropriate group size for the area you have chosen and the limitations on finding campsites to fit a certain number of tents, boats and people.

SCHEDULE YOUR TRIP IN ADVANCE.

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, or explore out of the way places for a less crowded—and more enjoyable—experience. Make reservations and obtain permits well ahead of time to avoid unpleasant surprises.

PLAN YOUR MEALS. Adequate food can be 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. Package food in reusable con-



tainers or plastic bags. Get rid of wrappers and heavy packaging in advance. Go the extra step by removing easily lost "micro trash" such as fruit labels and bread ties.

USE PROPER GEAR. Prepare for extreme weather, hazards and emergencies. Carry a camp stove and fuel, kitchen supplies, matches and plenty of food. Carry water in areas when fresh water is difficult to find and bring a water filter or chemical purification system if you plan on collecting from natural sources. A collapsible water jug allows you to make fewer trips to your freshwater source. Have a designated receptacle for carrying trash, and a high-quality tarp that can be used as a beach kitchen in inclement weather.

All members of your group should have appropriate sea kayaking attire, including PFDs (personal flotation devices), warm clothing, safe footwear and protection from sun, rain and insects. Group safety equipment may include towing systems, paddle floats, rescue slings, bilge pumps, a boat repair kit, first aid supplies, whistles, a signal mirror, VHF marine radio and flares. Be sure to check your kayaks' bulkheads for water tightness before your outing. Make sure everyone has a water-tight packing system, and check all rudder systems to be certain

they are functioning well. Carry the repair equipment necessary to fix the inevitable breakdowns.

The equipment you choose to take on your trip and how you manage it may reduce or increase your potential for impact. While traveling on the water, brightly colored PFDs and boats will help you be seen by other traffic. On land, however, brightly colored garments and tents can detract from a wilderness feeling that other visitors may seek. In areas where kayaking has increased dramatically over the last several years, other user groups have begun to complain about the visual impacts of colorful kayaks and gear strewn about on secluded beaches. Earth-toned colors that blend in with the environment minimize visual impact and give others a greater sense of solitude. Take the time to organize your gear on the beach. Large, earth-colored tarps or lightweight duffel bags can help to contain your gear and may offer some camouflage.

Avoid having your lost gear become another piece of floating garbage. It is safer to have the majority of your equipment packed inside your kayak both for stability and because gear stored on your deck can fall off and be left behind by mistake.

PLAN AHEAD *and Prepare*

DEVELOP THE SKILLS.

Know the skills and gear that go along with sea kayaking. Learn from an experienced friend, take a course or consider going on a trip with a commercial outfitter. Make sure that first aid, navigation, weather awareness and rescue are part of your training. Know how to repair your equipment. Also, be sure you're in adequate physical shape for the trip you've planned. Learn as much as you can about your destination and how to have fun there while staying safe and protecting the resource.

TAKE RESPONSIBILITY.

Getting hurt or needing to be rescued has important implications for you, the people who assist you, and the terrain. Significant impacts to the landscape can result from rescue operations that involve boats, planes, helicopters 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. Get training on surf landings, navigation, assisted rescue, and ocean hazard evaluation. Be prepared to rescue yourself or your companions from tough situations.

Always carry the appropriate chart or map and know where you are at all times. Stay with your group. Give a friend your itinerary or float plan with instructions explaining what to do if you don't return on schedule.

REVIEW LNT GUIDELINES AS A GROUP BEFORE BEGINNING.

People often assume everyone in their group has the same understanding of LNT practices. In actuality, people often have varying ideas (and varying concern) regarding how to minimize impacts. Before setting out on a trip, your group should review the Leave No Trace principles. It is important to include everyone in the discussion to ensure that each group member understands what practices will be followed and why. Group dynamics can deteriorate quickly when everyone follows their own standards and some folks make impacts that others are taking pains to avoid. This is also a good opportunity to educate people who are unfamiliar with LNT techniques or for you to learn new ways to minimize impacts.

TRAVEL AND CAMP *on Durable Surfaces*

RECOGNIZE DURABLE

SURFACES. What effect does a footstep have? The answer is, it depends. A footstep means different things to a tree sapling and meadow grass, to leaf litter and a scree slope, to a gravel beach and rainforest moss.

Although the severity may vary, hiking and camping can damage plants and cause erosion. One misplaced foot may bruise, crush, uproot, tear or kill a vulnerable plant. Vegetation protects underlying soils. Once plant growth is destroyed, erosion can continue with or without further use. In addition, human traffic compacts soil making it difficult for the roots of seedlings to penetrate. Compaction also reduces pore spaces so it is harder for water and oxygen to travel through the soil to plants.

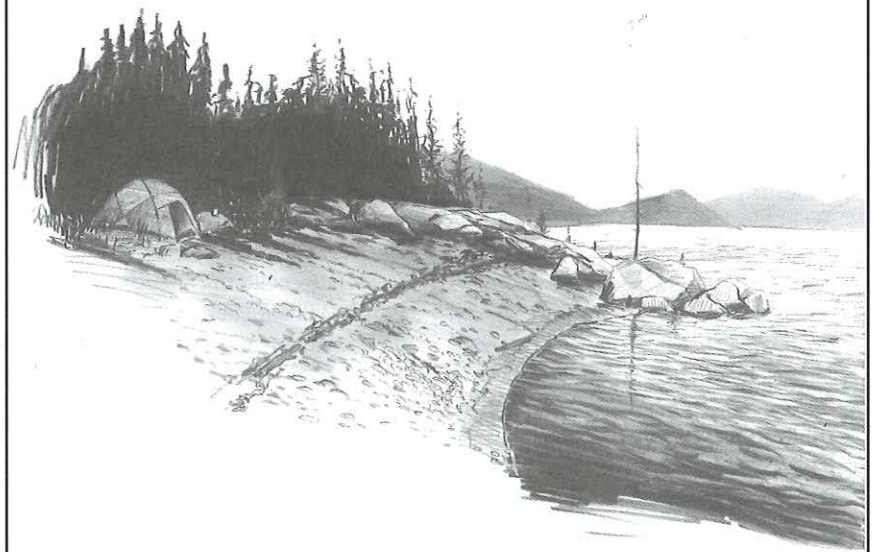
To avoid these kinds of problems, campers need to recognize "durable surfaces." Durable surfaces are surfaces that are minimally affected by

camping and hiking. They include rock outcrops, sand, gravel, trails, dry grasses, snow or water. They are places with little or no vegetation or areas where your tracks will be wiped clean by melting snow or high water.

CONCENTRATE USE IN DURABLE

AREAS. In many coastal areas, there are limited beaches, especially during a high tide. Because of this, most popular kayaking destinations have established campsites. Concentrate your activities in these areas and help minimize further disturbances to wildlife, soils and vegetation. Land managers generally prefer that you camp with another party if your site has already been taken rather than setting up camp outside of the established camping area.

Choose well-established campsites that are big enough for your group. Look at the area when you arrive and establish its boundaries. Concentrate your activities in the center of a site



to avoid enlarging it. Laying your equipment on vegetation and placing tents in areas that are not yet well-established can expand the site, so take care to restrict your activities to places that are already devoid of vegetation. Avoid the urge to create a new site or fit more tents in a given area than really belong there. "Satellite" sites are a problem all along our coastlines.

Some popular areas have officially designated campsites, shelters or platforms. Use of these amenities can reduce damage to vegetation and other natural features.

Stay on established trails and other durable surfaces. Many beaches have established or designated trails leading to points of interest or water sources. It is important that we use these trails rather than create new ones. Walk single file in the center of the tread—even where the trail is wet, rocky or muddy. Trails become progressively wider and form parallel paths when people walk on the margins or detour around obstacles. Likewise, "social trails" connecting individual tent sites, kitchen sites and fresh water sources can be present. Stay on the established trails, even if it means going a bit out of your way. Avoid blocking these trails so that people do not create new ones to get around you. A few people walking through a fragile rainforest, over small wooded plants, or across dunes can create a noticeable path.

DISPERSE USE IN PRISTINE AREAS. There are some coastal areas that are still pristine. When you trav-

el through such areas, you feel as if no one has been there before. Pristine areas are those that see little human traffic. They are places where there are few, if any, trails and no established campsites. They feel truly wild.

More and more sea kayakers are venturing into these wild areas. Recreational use on the 46 state-owned islands on the Maine Island Trail has increased by 40 percent since 1995. This increase has resulted in an alarming proliferation in trails and campsites in areas that were previously untouched. To prevent the spread of campsites and protect the wildness we seek in pristine areas, it takes a concerted effort by visitors to Leave No Trace. Visit pristine areas only if you are committed to minimizing your impact. Using established campsites and trails is always preferable to pioneering new ones.

Avoid creating campsites and trails. Where campsites are not formally designated and no sites have been established by use, choose to camp on a durable surface. Durable surfaces include rock, snow, ice, gravel and sand. Dry grasses and sedges (which resemble grasses) are also naturally durable due to their hardy root structures and flexible stems, but these shouldn't be confused with the succulent beach grass that is found in a temperate environment such as Prince William Sound. Succulents do not recover well when their stems are broken.

Use your tide chart and visual signs to find the high tide mark for that given day. Areas below the high tide mark are the most resistant to impact.

When the tide comes back in, all signs of your presence will be washed away.

There may be a time when you are forced off the water at a less than ideal location because changing water or weather conditions jeopardize the safety of you and your group. Such locations may not have a beach, or there may be a high tide that night that forces you to camp inland. In this situation take your time to search for durable surfaces for your tent, kitchen and boat storage. Think about placing your kitchen site on a rock, a patch of sand or a gravel area, even if it is less than ideal. Concentrate your activities on this surface whenever possible to protect more fragile areas. If you find a site that has been lightly used, leave it alone to recover.

Before unpacking your gear, look for obvious bird nesting activity and other signs of animals. Choose an area that seems safe, free of wildlife and well suited to low-impact camping. Vary your route to water, to the "bathroom," and to sleeping areas to prevent creating trails. If necessary, reserve less durable ground for your sleeping area or boat storage. Recognize that on extremely fragile surfaces, such as sphagnum moss, the effects of even a few footfalls will

last for many years. If possible, limit your stay to one night to minimize your impact on the area.

Along stretches of coastline where there are no designated trails, hiking at low tide is generally best because the hard sand, gravel or rock of the intertidal zone (the area between the highest and lowest tides) is exposed. Similarly, locating your camp kitchen near the shore on a durable surface, preferably on rocks or sand below the high tide mark, can minimize the amount of gear hauled up over banks, thereby reducing impact on eroding shoreline soils and vegetation. You should be careful, however, to avoid crushing mussels, limpets or barnacles when hiking or cooking in the intertidal zone.

When hiking off trail above the intertidal zone, you should spread out. If each person takes a slightly different route, a distinct trail is less likely to form because a single plant does not receive multiple footfalls. Walking single file is acceptable where there is little chance of trampling plants with consecutive footsteps.

Off-trail travel may not be appropriate in some areas. Sand dunes with sporadically placed vegetation, areas with loosely attached mosses, and deserts with fragile soil crusts

TRAVEL AND CAMP on Durable Surfaces

are all easily damaged by even a single person's footsteps. If you absolutely must travel through such fragile vegetation and terrain, try to place your feet in the least destructive locations and encourage your companions to step in exactly the same spots.

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 available at reasonable prices, and they pack in and out with ease.

Trees are often damaged near campsites. Take care not to break off branches while securing tent or clothes lines and when suspending food. Place a stuff sack or other material under ropes or between sharp branches and the tent fly to protect the bark or the nylon material. Place lanterns where they won't singe bark. Don't use wire or nails. Trees shouldn't be storage sites for hatchets and knives.

BREAKING CAMP. Even in established campsites, leave the area as natural as possible. In wildlands, we are visitors, but we are also hosts to those who follow. They will notice our hospitality, or lack of it. Litter, graffiti, tree damage, visible human and pet waste, unsightly fire rings and the like are senseless acts. By taking the time to pick up after ourselves, and others if necessary, we'll all benefit.

In pristine areas, disguise your camp by replacing any rocks or sticks you may have moved for tying down tent lines, setting up a tarp or placing boats. Recover scuffed-up areas with leaf litter or pine needles. Fluff up matted grass and make the place less obviously a campsite. Ideally, no trails or campsites will be created if visitors disperse their activities and spend only one night at each location.

ESTABLISH A LEAVE NO TRACE STRATEGY FOR EACH CAMPSITE. Whether camping in an established or a pristine site, a group should take several minutes upon arrival to consult and establish guidelines to limit their impact to the area. While everyone may have a solid grasp on the general LNT practices, each campsite

TRAVEL AND CAMP on Durable Surfaces

will have its own characteristics and considerations.

When establishing a site-specific LNT strategy, ask yourself:

- Can this site sustain our group without suffering significant new impacts?
- Where should our kayak landing / launching site be? Where should we store the kayaks overnight? Where should we stage our gear for loading and unloading?
- Are there established trails at this site or is it in pristine condition? If there are no trails, should we fan out to disperse our impacts on the plant life? Are there durable surfaces we can walk on to lessen our impact? Can our impact be minimized by having only one or two people hang food or get water?
- Where should the tents go? Are there existing tent pads or will we have to find new ones? What are the most durable surfaces that could hold our tents? Is it feasible to camp below the extreme high tide line?
- Where should the kitchen be? Can it be established away from our sleeping area? Can it be below the high tide line?
- Where will we obtain water?
- How should we dispose of human waste?
- Where should we cache the food, trash and other animal attractants?
- Are there special concerns for this site, such as bears nearby or rare plants in the area?

DISPOSE of Waste Properly

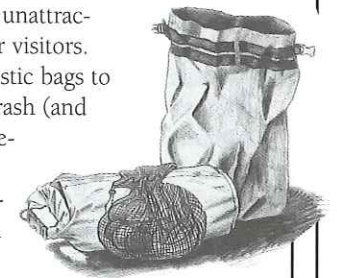
PACK IT IN, PACK IT OUT. "Pack it in, Pack it out" is a familiar mantra to seasoned wildland visitors. Any user of recreation lands has a responsibility to clean up before he or she leaves. Inspect your campsite and rest areas for trash or spilled foods. Pack out all trash and garbage (kitchen waste), including leftover food.

Plan meals to avoid generating messy, smelly garbage. Garbage may make a site appealing to animals resulting in habituation or food-conditioned behavior, which in turn may lead to harm to the animals and/or human visitors. Don't count on a fire to dispose of kitchen waste such as

bacon grease or leftovers. Garbage that is half-burned will still attract animals and make a site unattractive to other visitors.

Carry plastic bags to haul your trash (and maybe someone else's).

Before moving on from a camp or resting place, search the area for "microtrash" such as candy wrappers, cigarette filters and organic litter like orange peels, or egg and nut shells. Invite the kids in



DISPOSE of Waste Properly

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, sea turtles and marine mammals. Fishing lines, lures and nets ensnare and injure everything from dogs to herons, so don't leave any behind.

PRACTICE GOOD SANITATION.

Human waste. "¿Donde está el bano?" "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 the call involves a little preplanning, some initiative and a bit of creativity. The four objectives of proper human waste disposal are:

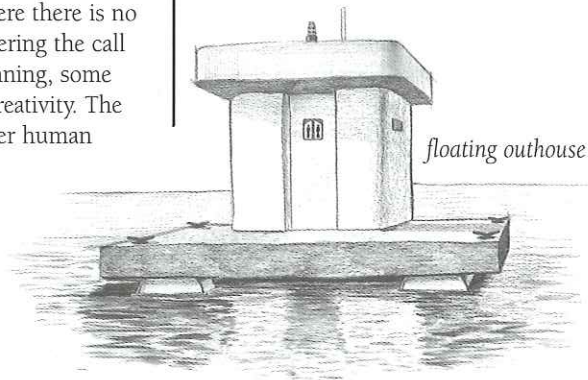
- Avoid polluting fresh water sources,
- Eliminate contact with insects and animals,
- Maximize decomposition, and
- Minimize the chances of social impacts.

Improper disposal of human waste can lead to water pollution, the spread of illnesses such as giardia, and unpleasant experiences for those who follow. For example, in Baja and along the Maine coast where soils are thin, rainstorms can flush human waste and other pollutants from campsites directly into water sources. Contaminated water can also be

found near shelters and established campsites all along our coasts. Humans aren't the only culprits. Wildlife, pets and livestock can also be responsible for the presence of disease-causing organisms in wildland waters.

Facilities and outhouses.

Whenever possible, take time to locate and use bathrooms, outhouses, pit toilets and other developed sites for human waste disposal. In heavily used areas, such as the San Juan Islands, the California coast, the



Apostle Islands and the Everglades, there are facilities available at many campsites.

Portable, reusable toilet systems.

In some areas such as the Maine Island Trail, Point Reyes National Seashore and Lake Powell Reservoir it is either recommended or required that kayakers use established facilities or pack out all human waste. In other areas, the practice may not be required, but is still a good option for minimizing your impact on the land.

DISPOSE of Waste Properly

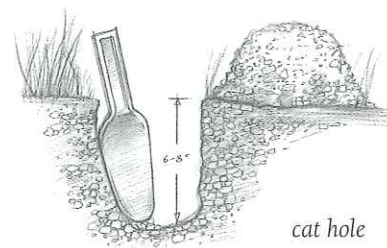
Several toilet systems are available that are practical for carrying out human waste. Reusable toilets, originally designed for river and RV use, can fit in the center compartment of double-touring kayaks. Such toilets are an excellent choice for large groups of people or for those traveling with children. A chemical additive or holding tank deodorant can be added to the toilet to reduce bacterial growth and retard methane gas production. Depending on the system, post-trip disposal is a relatively simple process that utilizes the facilities at a RV dumping station.

For individuals and small groups, multiple creative options exist for packing out human waste. A tight-sealing plastic container can serve as a waste disposal system on short trips. For longer trips, systems can be adapted from the "poop tubes" used by big wall climbers. The use of a poop tube involves defecating in a paper bag, adding a small amount of sand or non-clay cat litter to absorb moisture and placing the bag in a capped PVC tube. The bags and waste can then be disposed of in a pit toilet after the trip.

It is illegal to dispose of untreated human waste in landfills. However, several products are now available that treat human waste allowing paddlers to dispose of it with regular trash. These products utilize durable plastic bags that contain enzymes to break down and neutralize the pathogens in human waste. For more information on waste disposal systems, contact the Maine Island Trail Association, Apostle Island National Recreation Area or Point Reyes National Seashore.

Catholes.

If there are no bathroom facilities available and packing out your waste is impractical, burying it may be the best option. Currently, the most acceptable practice involves depositing solid human waste in "catholes"



dug 6-8 inches deep at least 200 feet from fresh water, camp, trails and drainages. Good cat hole sites isolate waste from fresh water sources such as lakes, streams, dry creek beds and bogs. Bring a trowel to dig the hole and disguise it well after use. The microbes found in organic soil will break down feces and the pathogens they contain. Don't leave human waste under rocks because it will decompose slowly there and may wash into fresh water sources.

In a temperate or rainforest environment, such as the Pacific Northwest, British Columbia or Alaska, it can be difficult to find soil that is not saturated. Look under large trees or up on high points above the freshwater environments to find well-drained, unsaturated soil for digging your cathole.

In a desert environment, such as Baja California, dig your cat hole in the organic soil located under trees and away from fragile (microbiotic) crusts. Ideally, the microbes found in

DISPOSE of Waste Properly

soil break down feces and the pathogens they contain, but in the desert this process happens very slowly, so make sure your cathole site is well-hidden and buried deeply to prevent it from being uncovered accidentally.

Whenever possible, use a remote location during the day's travel to help prevent high concentrations of cat holes near campsites. A site such as this would be found by stopping for a beach break in an area that won't support a camp. Better yet, stop on a beach that provides a pit toilet or outhouse.

Plan ahead to pack out the toilet paper with you in a plastic bag. This practice leaves the least impact on the area. Otherwise, use as little toilet paper as possible and bury it deeply in the cathole. In the desert, burying toilet paper is not recommended. The arid environment preserves paper. Newspapers from the 1870s that were used to insulate mining cabins in the desert are still legible today. Likewise, toilet paper buried in arid environments lasts indefinitely in the cathole or gets dug up by rodents and used for nesting material. Burning toilet paper is also not recommended. The paper seldom burns completely and this practice has caused wildfires in the past. "Natural" toilet paper like smooth beach rocks, sticks and snow can be surprisingly effective.

Always pack out feminine hygiene products because they decompose slowly and their odor attracts animals.

Ocean Disposal.

Although ocean disposal has been suggested in the past, it is no longer recommended for disposing of human waste. While anecdotal information has suggested that the ocean environment readily breaks down human feces and related pathogens, there is no concrete biological research backing the practice of ocean disposal. Furthermore, in many popular paddling regions depositing human waste in near-shore waters is a violation of state laws.

Urine.

Urine is typically not a health concern. However, in rainy environments, urine attracts wildlife with salt-deficient diets. Animals in these areas sometimes defoliate plants to consume the salt in urine, so urinate on rocks or bare ground below high tide line when possible. In arid environments, urine can have an aesthetic impact due to its odor. In these environments, urinate below high tide line.

Wastewater.

Wastewater includes dirty water from dishwashing, handwashing and tooth brushing, as well as leftover liquids from cooking, drinking and draining canned foods. Appropriate disposal of wastewater can vary from state to state. Always consult the local land management agency or permit regulations for specific wastewater disposal practices.

When you are camped in a saltwater environment that has no specific

DISPOSE of Waste Properly

regulations for wastewater disposal, the best place to get rid of it is below high tide line or in the ocean itself. Strain dirty dishwater in the intertidal



zone or directly into the ocean. Pack out the contents of the strainer in a plastic bag along with any uneaten leftovers. Animals should not be allowed access to any human food and food waste for reasons discussed in the *Respect Wildlife* section.

In a freshwater environment, use a clean pot or expanding jug to collect water and take it to a wash site above the high water line and at least 200 feet away from any other water sources. This lessens trampling of lakeshores, riverbanks and springs, and helps keep soap and other pollutants out of the water. After straining the dirty dishwater, scatter it broadly. Do this well away from camp, especially if bears are a concern. Dilute and disperse toothpaste as well.

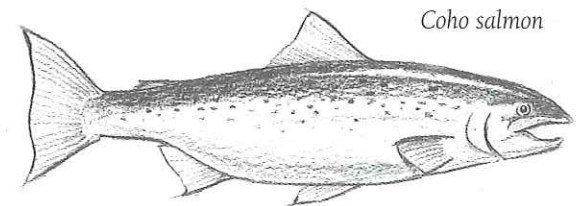
Soaps and Lotions.

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 fresh water sources and rinse with water carried in a pot or jug. This technique allows the soil to act as a filter.

For bathing in the ocean environment, consider going soapless. If you chose to bathe with soap, do so below the high tide line. This technique will allow the gravel or sand to filter the water. Avoid washing directly in salt water that is rich in intertidal life.

Dispose of game entrails.

The remains of fish and other game should be left well away from trails, fresh water sources and campsites. In some situations, it may be appropriate to bury, completely burn, or pack out the viscera with the garbage. In bear country, it is sometimes recommended to dispose of entrails directly in the ocean. If conditions permit, paddle offshore and deposit the viscera in deeper water. Official guidelines vary considerably from place to place, so call your land manager for specifics.



Coho salmon

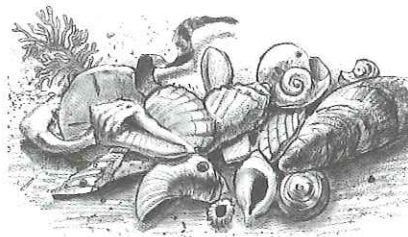
People visit wildlands for many reasons, including the desire to explore nature's mysteries and surprises. When we leave rocks, shells, plants, antlers, feathers, fossils and other objects of interest as we find them, we pass the gift of discovery on to those who follow.

PRESERVE THE PAST. Discovering evidence of earlier cultures such as rock tools, clay pots, carved utensils and antique glass is exhilarating, and it's tempting to take such things home as souvenirs. However, these archaeological and historical artifacts are reminders of the rich human history of the landscape and they belong to all people for all time. Structures, dwellings and artifacts on public lands in the United States are protected by the Archaeological Resources Protection Act and should not be disturbed. Protected artifacts include seemingly insignificant potshards, arrowheads and logging or fishing equipment from 50 or more years ago. Excavating, disturbing or removing these resources from any public lands is illegal. Observe, but do not touch them.

It is important to learn to recognize cultural sites so you can avoid damaging them. Be alert for shell middens (mounds of mollusk shells, sometimes layered in the soil), grave markers and other human artifacts that may indicate a historically significant site. In the coastal rainforests of the Northwest there are many old garden sites still recognizable by the regular rows of soil seen through the moss and the open canopy or young forest growing

there. These gardens indicate occupancy by traditional peoples and you should avoid camping on the site and confusing the archaeological record with your deposits of campfire coals and disturbance of rocks and soils. Ask land managers how to identify and appreciate cultural sites without causing damage.

LEAVE NATURAL FEATURES UNDISTURBED. Load your camera, not your boats. Let photos, drawings and memories be your souvenirs. Federal law applies to wildlands. Practice and encourage restraint, and remember that removing or collecting many things from federal lands may require a permit.



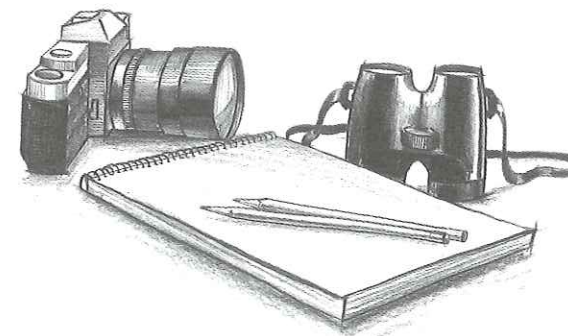
Help children investigate the role of natural objects in their own environments. Remind them that these things fill important ecological niches: an antler is gnawed by a kangaroo rat in order to obtain needed nutrients; a scorpion finds shade under a piece of driftwood; a feather is woven into the nest of an osprey, and a snail's shell becomes the home of a hermit crab. Objects in nature derive much of their beauty from their surroundings and never look quite the same back home.

AVOID SPREADING NON-NATIVE PLANTS AND ANIMALS. Invasive species of plants, animals and micro-organisms can cause large-scale, irreversible changes to ecosystems by eliminating native species over time. 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. Invasive plants affect every habitat type found in the nation's forests, parks and other public lands. There is no effective treatment for many invasive species, and because of them we are losing the native, living natural heritage that protected lands were intended to conserve.

Recreationists play a role in the spread of invasive species by transporting live animals, plants, seeds, and agents of disease, such as giardia. The potential for new infestations increases every

day as more and more kayakers travel from one wildland to another around the globe. We can help prevent the spread of invasive species by following a few practical suggestions.

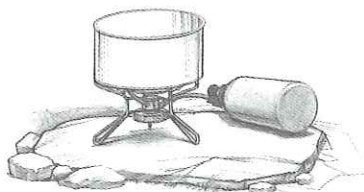
- Don't transport flowers, weeds or aquatic plants into wildlands.
- Empty and clean your tents, boats, fishing equipment and other gear after every trip. Water, mud and soil may contain harmful seeds, spores or tiny plants and animals.
- Clean the dirt out of your shoes or tire treads.
- Never discard or release live bait.
- Make sure pets are immunized, and their coats are free of seeds, twigs and harmful pests such as ticks.
- 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*

The natural appearance of many recreation areas has been compromised by the careless use of fires and the demand for firewood. Campfires are beautiful by night but the enormous rings of soot-scarred rocks—overflowing with ashes, partly burned logs, food and trash—are unsightly by day. More importantly, campfires can and do ignite wildfires.

Some of us grew up with the tradition of campfires but they are no longer essential to comfort and food preparation. However, fires can be enjoyable if they are done right. Many of the lasting impacts associated with campfires can be avoided by using lightweight stoves, fire pans, mound fires and other Leave No Trace techniques.



USE A STOVE. Paddlers should carry a stove, pot, matches and sufficient fuel to cook all meals. Build fires only when conditions are right: the danger of wildfire is low, driftwood is plentiful, and there is sufficient time to prepare the fire site, burn all the wood to cold ash, and clean up.

KNOW THE LAW. Consider whether a fire is allowed or if it makes good sense at your campsite or picnic area. Ask about pertinent regulations and campfire management techniques. Many areas have regulations regard-

ing when and where you can build fires. For example, in the Apostle Islands campfires are allowed only in established fire rings or grills, except on the 15 islands where wilderness zones have been established. There, no fires are permitted. The Maine Island Trail Association recommends no open fires although there are some islands where they are allowed with a state permit. These fires must be kindled below the high tide line using only driftwood for fuel. At Point Reyes National Seashore in California, fires are allowed with a permit, but they must be built below tide line using driftwood only. In Washington's San Juan Islands fires are restricted to existing campsites.

No fire regulations exist for much of the coastlines of Alaska, British Columbia and Baja California. However, regulations or not, fires are not always appropriate in these areas. Due to the sparse vegetation and difficult growing conditions found in Baja, fires should only be built in areas that have a great deal of driftwood. Also in many parts of Baja people still cook all of their meals over fires so be considerate of their needs when gathering wood for a social campfire.

BUILD A MINIMUM-IMPACT FIRE.

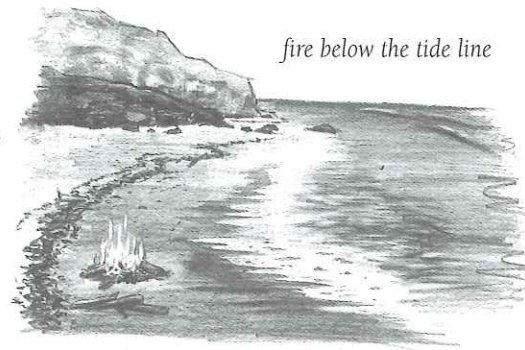
Pit fires. Pit fires are campfires built in a shallow pit where there is no vegetation. In a coastal environment, the ideal location is below high tide line or below the high waterline on a freshwater lake. Excavate a shallow depression in the inorganic beach sand or gravel, and keep your fire

MINIMIZE *Campfire Impacts*

within this area. Burn the wood down completely, remove and scatter all the ash, pack out any leftover charcoal, and restore the beach to its natural appearance when you are done.

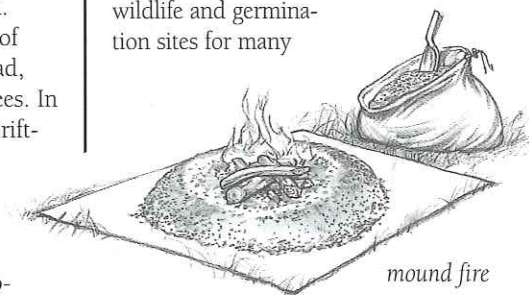
Mound fire. Mound fires are built on pedestals of sand, gravel or soil with a low organic content. Collect this material below tide line or the high water mark. Haul it to a durable fire site using a stuff sack (it will require several loads). Construct a pedestal 6-8 inches thick and 18-24 inches in diameter on top of a tarp or ground cloth. The tarp helps facilitate clean-up. It can be rolled up under the edge of the mound to prevent embers from singeing it. A 6-8 inch mound is thick enough to insulate the ground and the tarp or ground cloth from the heat of the fire. When the fire is out and cool, scatter the ashes and return the soil to its source.

USE DEAD AND DOWNED WOOD. Keep fires small. Don't snap branches off of trees, either living or dead, because this scars the trees. In a coastal environment, driftwood is the preferred source of firewood. Milled lumber is especially good because it is an unnatural compo-



nent of the coastal environment. Milled wood can be used if cut with a small saw and split with an ax or hatchet.

If there is not a supply of driftwood, use only downed wood smaller in diameter than your wrist. Firewood of this size breaks readily 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. Larger pieces of downed wood also play an important role in forest nutrition, water cycling and soil productivity, as well as providing shelter for small wildlife and germination sites for many



MINIMIZE *Campfire Impacts*

plant species. For these reasons, leave dead, rotting logs in the forest.

Gather firewood away from camp so the immediate vicinity does not look unnaturally barren. Take time to walk at least five minutes away and then gather the wood over a wide area.

MANAGE YOUR CAMPFIRE.

- Judge the wind, weather, location and wood availability. Decide whether it's safe and responsible to build a campfire.
- Never leave a fire unattended.
- Have a trowel or small shovel and a container for saturating the ashes with water.

- Don't try to burn foil-lined packets, leftover food or other garbage.
- Burn the wood completely to ash. Stop feeding the fire and give yourself an hour or more to burn all the remaining unburned stick ends.
- Saturate the ash with water.
- Scatter ash in a saltwater environment. Pack out all charcoal.
- In areas where a fire ring or grate is present, use it. Leave the grate or ring clean when you are done. In remote areas, clean up thoroughly and disguise the fire site to make it appear as natural and untouched as possible.

RESPECT *Wildlife*

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

—Colin Tudge, Wildlife Conservation

Encounters with wildlife inspire long moments of wonder and tall tales. Unfortunately, wildlife around the world faces threats from the loss and fragmentation of habitat, invasive species, pollution, over-exploitation, poaching and disease. Protected lands offer a 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 species adapt readily to humans in their domain. They resume their nor-

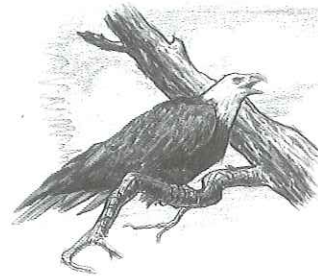
mal behaviors and are said to be "habituated." Other animals flee, abandoning their young or critical habitat when humans approach. Still others are attracted and endangered by human food and trash.

Because outdoor recreation occurs throughout the year, its impacts on wildlife can be extensive. Fish, birds and reptiles, as well as mammals, are affected by people using their habitats. We are responsible for coexisting peacefully with wildlife.

AVOID SENSITIVE TIMES AND HABITATS. Consider the seasonal stresses that wildlife face. In general,

RESPECT *Wildlife*

animals are sensitive to recreationists while pursuing and defending mates and territories, birthing, guarding young or nests, and when food is scarce. For sea kayakers, this means that in late summer and fall, many birds and animals come down to the



river drainages for water. Bears are plentiful at river outlets during salmon runs, while falcons, eagles, terns, oystercatchers and songbirds are all wary of humans when nesting in spring or summer. In situations like these it is best to avoid encounters both for your safety and for the animals'.

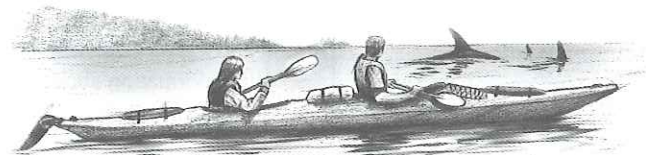
The more you understand about a species, the more considerate you can be of the animals' needs and temperament, especially at critical times and in critical places. To learn more about wildlife you may encounter on your trip, contact a local U.S. Fish and Wildlife Service or State Fish and Game biologist before you go.

OBSERVE FROM A DISTANCE.

Always watch or photograph animals from a safe distance to avoid startling them or forcing them to flee. Bring binoculars, spotting scopes and telephoto lenses to watch wildlife. Do not follow or approach them. Marine mammals in United States waters are protected by the Marine Mammal Protection Act which requires humans maintain enough distance from all marine mammals to preserve the animals' normal behaviors. When traveling in sensitive species' habitats, give points and blind corners a wide berth in order to avoid inadvertently scaring animals. All animals have a unique "critical distance" which is dictated by species, sensitivity, habituation, season and activity.

Be alert for changes in an animal's behavior when you approach. Continue on to another beach if animals react to your presence. You have more options in your movements than animals do. Treat them generously.

Avoid quick movements and direct eye contact. Such behavior may be interpreted as aggression by animals. Don't disturb wildlife (e.g. by shouting to get their attention) to get a better photo. Travel quietly except in bear country. Don't hike at night where nocturnal predators may present a hazard to safety.



NEVER FEED ANIMALS. Feeding wildlife damages their health, alters natural behaviors and exposes them to predators and other dangers. Human foods and products are harmful to wildlife because they keep animals from eating a nutritious diet derived from their natural environment. Serious illness or death can occur when wildlife consumes food wrappers and other non-digestible items.

STORE FOOD AND TRASH SECURELY. "Food" includes garbage, canned food, pet food, fuel and scented or flavored toiletries. Most of these items should be stored with your kitchen food. Taking a stuff sack lined with a garbage bag that will fit easily in your boat's packing system is best for managing the garbage you create while traveling. Each member can have a small stuff sack for toiletries that allows them to leave it with the other kitchen items if camping in bear country. Appropriate storage and transportation methods can vary from place to place, so consult local managers for the best practices. Keep a clean camp by removing all garbage and even the tiniest food scraps.

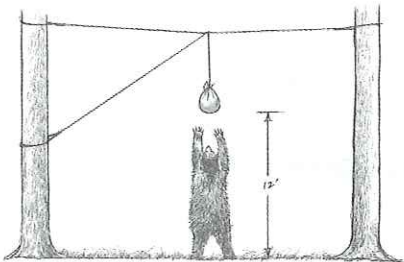
Animals are adept opportunists. When offered the temptations of an untidy backcountry kitchen or a hand-

out from a curious camper, they can overcome their natural wariness of humans. Aggressive or destructive behavior may follow, and in conflicts with humans, animals ultimately lose. Prospects of an easy meal also lure wildlife into hazardous places such as campsites and trailheads, or roads and entry points, where they can 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.

In terms of negative human/animal encounters in wildlands, bears draw the most attention for tearing into tents, coolers and cars in search of a meal. The primary concern in dealing with bears is for safety, both for the visitor and the bear. When traveling in bear country, be sure to scout the beach for any fresh scat, tracks or actual sightings of a bear before committing to landing.

Where black bears or grizzly bears are present, camp organization and cleanliness take on an increased significance. Avoid keeping food in tents or around sleeping areas. Hang "food" from tree limbs 12 feet off the ground, 6 feet from the tree's trunk, and 6 feet below the supporting limb. Or store it in specially designed bear-resistant canisters or on-site lockers.

Never leave your food stored inside your kayak. Many kayaks have been damaged by bears looking for food. Consider doing rotations to watch the food and keep bears away. Seek specific information about the potential for bear encounters and preferred safety techniques from local land managers or at visitor's centers and trailheads.

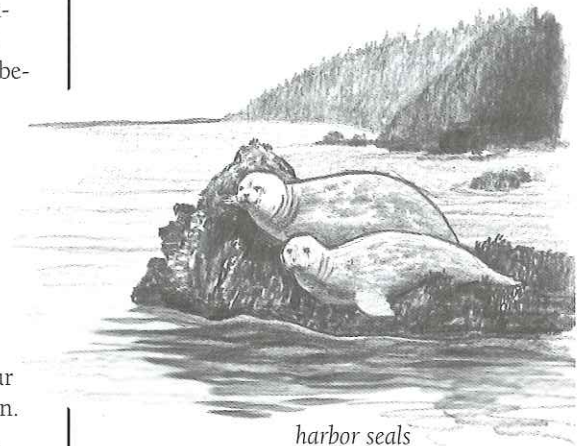


Rodents, raccoons or birds looking for a handout can be a concern in some paddling environments. These animals pose little threat to human safety, but their presence is a nuisance, they can be vectors for disease, and their reliance on human food is a detriment to their own well-being. Keep your food under constant supervision to avoid adding to the problem.

CONTROL YOUR PET. Many people take their pet sea kayaking. Wildlife and pets are not a good mix—even on a leash, dogs harass animals and may disturb other visitors. The best option is to leave your pet at home. Obedience champion or not, every dog is a potential carrier of diseases that infect wildlife. Check for restrictions in advance. Most national parks prohibit dogs on all trails.

If you do choose to bring your pet, ensure your animal is in good condition. Dogs should have current vaccinations to avoid being carriers of or contracting infectious diseases such as rabies and parvo-virus, especially in areas with wolf populations. Always use a collar and a short leash to control your dog. Dispose of pet feces in a cat hole or deposit it in a trash can.

TEACH CHILDREN. Adult behaviors influence the relationships of children to the natural world. Show respect and restraint by teaching children not to approach, pet or feed wild animals. Always keep children in immediate sight. They're often the same size as animal prey. Don't encircle or crowd wildlife, nor should you tease or attempt to pick up a wild animal. Young animals, removed or touched by well-meaning people, may be abandoned by their parents. If you find an animal in trouble, notify a game warden.



SPECIAL CONSIDERATIONS FOR MARINE MAMMALS AND BIRDS. Studies have shown that sea kayakers approaching or even turning towards hauled-out seals often causes the seals to dive into the water. Young may be trampled

RESPECT *Wildlife*

by the adults and mothers and pups separated when this occurs. To avoid disturbing hauled-out marine mammals, cruise slowly and parallel to the shoreline when you first see the animals on land. Avoid changes in speed and don't turn your kayak directly toward the animals, even from a distance.

Coastal shores provide an important and protected nesting habitat for a variety of marine birds. Birds circling or flushing out from a shoreline may be an indication of nesting areas. If you go ashore and see a nest, you're already too close. Once the adult has been disturbed from a nest, predators may invade to eat the young.

Be aware that oystercatchers and other shorebirds build camouflaged nests on gravel and rock beaches and along rock outcroppings. When humans are near, a shorebird parent may make obvious distraction displays, or it may simply skulk away

unobserved, leaving its eggs unprotected from the elements and predators. Eventually, if you remain long enough, the parents may abandon the nest entirely. When you are considering walking, camping or exploring in a known nesting area, look carefully for a vigilant shorebird, shorebird pair or other signs of nesting shorebirds. Camp elsewhere or at a distance from birds you suspect may be nesting.

Seaducks depend on undisturbed shoreline habitat when they are molting and may lose valuable energy if disturbed during this flightless period. Evidence from Glacier Bay and elsewhere suggests that kayakers may have more detrimental effects on seaducks than any other type of disturbance. Avoid "pushing" ducks ahead of you if you are boating along the shoreline. Move out and around them instead.

BE CONSIDERATE of *Other Visitors*

Today, we must share wildlands with people of all recreational persuasions. There is simply not enough country for every category of enthusiast to have exclusive use of trails, lakes, beaches, rivers and campgrounds.

Yet, in spite of the growing crowds, the subject of outdoor "etiquette" is often neglected. We're reluctant to examine our personal behaviors, especially in wildlands, where to many a sense of freedom is paramount.

RESPECT OTHER VISITORS AND PROTECT THE QUALITY OF THEIR EXPERIENCE. Some people visit wildlands to enjoy quiet and solitude. Others come for camaraderie. Outdoor recreation comes in many forms. Not only is it becoming inevitable that you will encounter others when you kayak in most parts of North America, it is also inevitable that you will encounter others who are looking for something very different from their experience than you are. To avoid

BE CONSIDERATE of *Other Visitors*

potential conflicts, take care not to impose your experience onto other visitors.

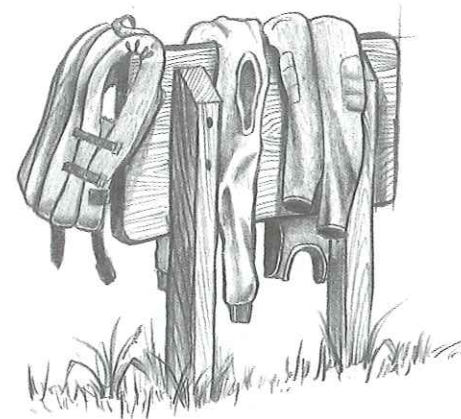
CHOOSE TO MAINTAIN A COOPERATIVE SPIRIT IN WILDLANDS.

Our interactions should reflect the knowledge that we can and do rely on each other when mishaps occur. Many kayakers who deride powerboats fail to realize that it is the powerboater who more often than not comes to the rescue when things go bad. Quite often, our experiences ultimately depend on our treatment of others and their attitudes toward us. Although our motivations and sense of adventure vary, there's always room on the water for people with open minds and generous hearts.

YIELD TO OTHERS. The little things are often the most important. Simple courtesies such as offering a friendly greeting while passing other boating parties, fishermen or landowners, or preserving the quiet, make a difference.

On many coastlines, the availability of campsites is limited. Asking other parties in advance where they plan to camp can avoid uncomfortable interactions later in the day. It makes sense for small parties to use small camps and leave larger camps for larger groups. If

sharing beaches or campsites is allowed by the management agency, consider confining your group to one area of a large beach to allow room for other late arriving parties. If others are not amenable to sharing a site, be courteous and remember that



there are often alternatives.

Keep your group together to lessen your impacts on other users. Few people mind seeing a group pass quietly. It is more disturbing to see a boat go by every few minutes. Staying together is also a safer way to travel.

There is a lot of motorized travel in many of the areas we paddle. Remember how small sea kayakers appear on the water. Wear brightly colored PFDs, paddle close together and announce your presence over channel 16 when moving through congested waterways. Get as

much information as you can on the boat traffic in the area and plan your route accordingly. There can also be float plane traffic, so be aware of seaplane ports and patterns. Make your intentions obvious so others know where you are heading.

Show respect to native peoples whose communities and seasonal camps support a subsistent lifestyle in a wildland setting. Be friendly, unobtrusive and self-sufficient. Take note of tribal land boundaries, ask permission if you are stopping on private land, and obey special laws and restrictions. On Prince William Sound and in Southeast Alaska, there is native land dispersed throughout the public land. Along the California and Maine coasts, and in Washington's San Juan Islands, private and public lands are often confusingly interspersed. When traveling in these areas, join and support local boating access organizations. Use local handbooks and maps to be sure that you are landing and camping on appropriate beaches. Respecting archaeological sites, and tribal or private land is important to maintain the freedom to travel in these areas.

There are also many individuals whose livelihoods depend on the resources through which you are traveling. Learn about fishing season openings and avoid working vessels. Except in dire emergencies, don't ask these people for assistance because they often have a limited amount of time for a particular catch. Respect nets and traps. In some areas, you may be prosecuted for disturbing fishing gear. In many areas with low productivity, consider buying local seafood from fishermen versus gathering your own.

LET NATURE'S SIGHTS AND SOUNDS PREVAIL.

Avoid the use of bright lights, radios, electronic games and other intrusive devices. To some, technology is a necessity even in wildlands. To others, it is inappropriate. Avoid conflicts by making a conscious effort to allow everyone his or her own experience.

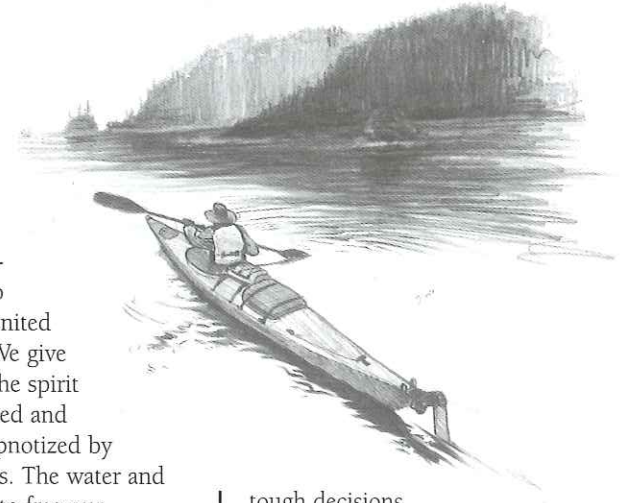
As much as possible, keep the noise down. Sound travels easily across the water, so be aware of your group's noise level as you pass other camps. Wear headphones to listen to music. Keep voices low. Use cellular phones discreetly. Most of all, tune in to the sounds of nature.

"The Arctic kayak appeals to us on an emotional level beyond that inspired by more prosaic items of material culture. It has a romantic image associated with fur-clad eskimos silently gliding along, hunting their sustenance or playing like otters in the waves; it illustrates the artistry and ingenuity of man in fashioning a superior means of transportation in an unforgiving climate. But perhaps we relate to the kayak on an even deeper level—it represents a means of man becoming at one with the rhythms of the sea; as a means of transportation, it represents a singular image of freedom."

David W. Zimmerly, Qajaq, Kayaks of Siberia and Alaska

With the very first forward stroke, the sea kayak propels us into a new world of motion and perspective. We are so close to—almost united with—the water. We give ourselves over to the spirit of the sea, captivated and receptive, even hypnotized by its changing moods. The water and the kayak conjoin to free our thoughts and feelings, to prepare us for the magic around us.

Kayaking is a great way to take in the natural world. The rhythm of the paddle, the glimpse of a harlequin duck or a soaring eagle, the gentle patter of rain on the boat deck, and the slow passage of cliffs, beaches and forests distance us from the



tough decisions of everyday life.

It wasn't always this way. The word kayak comes from the Greenland Inuit word 'qajaq,' which means 'hunter's boat.' For the Inuit people, a kayak and the skills of an experienced boater made life possible. Adept rolling and sculling made the difference between dinner and

WILDLAND *Ethics*

drowning in the face of a thrashing wounded animal tangled in the harpoon line. The boat was an elegant and beautiful but very practical tool.

Today we still use these boats to explore wild shorelines and play in the sea. We still gather excitement, adrenaline and serenity from our adventures, but we no longer have to venture out on the water for sustenance. Modern sea kayaking is a luxury and the memories we gather from

our trips are gifts from nature. With our voices and passion we can return the favor to the places that capture our hearts by speaking out for protection and conservation. Like the silent passage of a kayak, so much of the wildness around us is slipping away for good, unseen, unheard. We need to practice Leave No Trace both in the wilderness and back home to help protect the lands we love. Isn't that what a wildland ethic is really about?

A FEW TERMS *Defined*

established campsite: Campsite made obvious by revegetated ground or "barren core."

invasive species: Plant or animal that aggressively out-competes native species.

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

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

Selected REFERENCES

Cole, D.N. 1989. Low-impact recreational practices for wilderness and backcountry. General Technical Report INT-265. Ogden, UT, USDA, Forest Service, Intermountain Forest and Range Experiment Station.

Hammitt, V.E. and Cole, D.N. 1998. Wildland Recreation: Ecology and Management. New York, NY: John Wiley.

Hampton, B. and Cole, D.N. 1998 Soft Paths 2nd Edition. Harrisburg PA, Stackpole Books.

Hodgson, Michael. Minimizing Impact on the Wilderness

Leung, Y.F. and Marion, J.L. 2000. Recreation and impacts and management in wilderness: A state-of-knowledge review. In Cole, D.N., McCool, S.F., Borrie, W.T., O'Loughlin, J., (comps), Proceedings: Wilderness Science in a Time of Change. Vol. 5, Proceedings RMRS-P-15-Vol-5. Ogden, UT, USDA Forest Service, Rocky Mountain Research Station.

Bureau of Land Management. 1996. Teaching Leave No Trace: Activities to teach responsible backcountry skills. Salt Lake City, UT, USDI, Bureau of Land Management, Utah State Office

Douchette, J.E. and Cole, D.N. 1993. Wilderness visitor education: Information about alternative techniques. General Technical Report INT-295. Ogden, UT: USDA Forest Service, Intermountain Research Station. 37p.

Cilimburg, A., Monz, C. and Kehoe, S. 2000. Human waste disposal in wilderness: A review of ecological concerns. Environmental Management 25(6): 587-598.

ON THE WEB:

Marion, J.L. and Reid, S., 2001. Development of the U.S. Leave No Trace program: An historical perspective. www.LNT.org/history.html

Tread Lightly, Inc. 1-800-966-9900, www.treadlightly.org

www.wilderness.net

¹ State of the Coast; National Oceanic and Atmospheric Association

MANY Thanks

John Andrew, PaddleMasters, St. Paul, Minnesota

Caroline Blair-Smith, Hurricane Island, Outward Bound School

Karen L. Brand, Misty Fjords Ranger District, Ketchikan, Alaska

Dave Castor, San Juan Marine Area Parks and Recreation, Olga, Washington

Maureen deZeeuw, U.S. Fish and Wildlife Service, Anchorage, Alaska

Kevin Hood, U.S. Forest Service, Southeast Alaska

Brad Hunter, Tongass National Forest,
Petersburg, Alaska

Chris Monz, National Outdoor Leadership School

John Neary, Admiralty Island National Monument, Juneau, Alaska

Rachel Nixon, Maine Island Trail Association, Portland, Maine

Scott Reid, Leave No Trace Inc., Boulder, Colorado

Roger Schumann, Santa Cruz, California

Jan Shriner, Santa Cruz, California

Chris Smith, Tongass National Forest, Petersburg, Alaska

Natalie Springuel, Maine Sea Grant Program, Orono, Maine

SPECIAL THANKS TO

Clayton T. Russell, Sigurd Olson Environmental Institute



Northland College
Ashland, WI 54806-3999

written by Lynn Morrison and David Craig

illustrated by Scott Knauer

cover photo courtesy of Tom Bol

...and to the following people who provided input for this book

Dr. Christian Bisson, Northland College—Dept. of Outdoor Education

Dr. Kenneth "Mark" Bryden, Iowa State University
—Dept. of Mechanical Engineering

Cindy Dillenschneider, Northland College—Dept. of Outdoor Education

Ellen Hawkins, Superior National Forest

Dr. Bob Henderson, McMaster University—Outdoor Education

Jeffrey F. Herrett, Nicolet National Forest

Jim Dale Huot-Vickery

Chad Jones, Canoe Country.com

Lynda Lancaster, Voyageurs National Park

Joe Panci, Trees for Tomorrow Natural Resources Education Center

Dr. Tom G. Potter, Lakehead University
—School of Outdoor Recreation, Parks and Tourism

Mary Rasmussen, Ottawa National Forest

Jeff Rennie, Backpacker Magazine

Barb Soderberg, USDA Forest Service

Adam Sokolski, Friends of the Boundary Waters Wilderness

Robert Sprague, Michigan DNR—Porcupine Mountain Wilderness State Park

A FINAL Challenge

Humans need to know about wild places, to experience them and understand the rhythms they follow. We need to contemplate our place within these wildlands, to discern what it is that draws us there. We need to carry with us an ethic that recognizes the value of wild places, and acknowledges our responsibility to treat them with respect, and apply good judgement as we visit and travel within them. We need to care for wild places as if they were our homes because, in many ways, they are. To do this is good for us, it's good for those who will surely follow, and it's good for the wild places, wherever they may be found.

Contact land management agencies and groups in your area and see how you can help. Be active in the planning and management of areas that are important to you. Volunteer for trail clean ups and maintenance, habitat restoration efforts, and public education programs, or organize them for your local area. Get involved and let your opinions on land use be known. Support wildlands and sustainable recreation.

Information on obtaining Leave No Trace curriculum materials, courses and trainings is available by calling 800-332-4100 or visiting the extensive Leave No Trace website: www.LNT.org.

NOTES
