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NATIONAL CONSERVATION AREA

LNT Introduction

Introduction to Leave No Trace: Skills & Ethics

Since 1994, one set of guidelines has been changing the attitudes of campers and environmentalists all over the world. The ideas behind Leave No Trace seek to “teach the American people how to enjoy the wilderness without destroying it.” It brings interactive programs and activities to people of all ages and from all backgrounds to educate about the importance of preserving our environment for the future and for all those who wish to see the wonder of nature’s beauty.

In the year 2000 it was predicted that nearly 30 million people would go camping. Imagine that. 30 million people. That is more than 15 times the number of people who live in the *ENTIRE* state of Nevada. So, just think about what would happen if everyone from Nevada decided to go camping all in one day? Think about what would happen if that happened 15 times? Now imagine if all of those people left behind their trash, or went to the same areas, or took all the interesting rocks and artifacts that they found on the trails. There would be little left of our wildlands to go out and experience. While generally everyone who goes out camping likes nature, it has been said that we are “loving our parks to death.”

The Leave No Trace Outdoor Ethics guidelines seek to both preserve our nation’s wilderness and inspire a love of safe camping for all ages. All of this is accomplished through 7 simple principles:

1. Plan Ahead and Prepare.
2. Travel and Camp on Durable Surfaces
3. Dispose of Waste Properly
4. Leave What You Find
5. Minimize Campfire Impacts
6. Respect Wildlife
7. Be Considerate of Other Visitors.

Simply follow these guidelines for a safe, fun, and considerate trip!



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LNT Principal 1: Plan Ahead and Prepare

Objective: To prevent mishaps and accidents by planning a trip to wildlands that is appropriate for the size, skill level, first aid knowledge, and equipment of the group.

Overview:

Educate yourself. Familiarize yourself and your group with the area you will be visiting, including learning about plants and animals in the region, regulations and permits required for your trip, and how to Leave No Trace wherever you go. Research your trip at local libraries, conservation organizations, and through the internet.

Plan for your group. Be aware of the skills and experience level of your group before the trip. Find out about group size limitations at your destination, and avoid visiting wildlands with a large group. Try to minimize the impact your group has on the area by explaining the principles of Leave No Trace ahead of time.

Schedule your trip to avoid times of high use. Avoid popular wildlands on weekends and holidays, and plan your trip by obtaining necessary permits in advance. Find out about times of drought, high temperatures, or any extreme weather conditions that could make environmental impacts more severe.

Use proper gear. Bring a camp stove, fuel, matches, a pot, a first aid kit, a whistle, a map of the area, and plenty of food and water. Prepare clothing appropriate for the weather conditions, and be prepared for an emergency, extreme weather, or other hazards. Drink lots of water! A minimum of one gallon per person per day is recommended.

Plan your meals. Use reusable containers or plastic bags that you can take home, and plan meals to avoid having leftovers. Remember that bringing too much can weigh you down, but it is essential to have adequate supplies.

Develop the skills. Take a course or hire a guide for your trip. Know your own physical limits, and be prepared in first aid, navigation, and self-rescue. Be aware of local potential hazards and water sources.

Take responsibility. Register your trip with the ranger or at the trailhead. Plan a trip that matches your skill level and your group's abilities. Be prepared for difficult situations and use good judgment when making decisions. Be aware of your surroundings, and let people know where you are going to be. Stay with your group and keep a map, flashlight, and water on hand at all times. Remember to follow Leave No Trace policies to minimize your impact on the environment.



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LNT Principal 2: Travel and Camp on Durable Surfaces

Objective: To travel and camp on surfaces that have a high resistance to impact, and to avoid causing damage to the environment that will require a long recovery period.

Recognize durable surfaces. Stay on “durable surfaces” when traveling, including trails, expanses of rock, established campsites, gravel, sand or dry creek beds.

Concentrate use in popular areas. Stick to durable surfaces, walk single file in the center of trails, and use established roads and trails to visit campsites and other points of interest. Do not create shortcuts that will require costly restoration, and avoid areas where vegetation or soil is being rehabilitated.

Good campsites are found, not made. Try to find a flat camping area that does not need to be altered. Leave your campsite clean and natural looking. If camping in a wooded area, do not break off branches as this opens trees up to disease and causes scarring (see Principle 5 regarding proper firewood collection). Use campsites that are appropriate for your group size, or use designated camping areas.

Disperse use in pristine areas. Only visit remote areas if you are fully committed to the Leave No Trace principles. Again, find durable surfaces and avoid creating trails or campsites. Camp in areas best suited to minimum impact camping. Vary your travel routes when obtaining water or using the bathroom to prevent creating trails.

Breaking camp. Before departing, disguise your site by replacing rocks, raking away footprints, and re-covering scuffed up areas.

Protect water resources. Become familiar with the area’s water regulations, including the distances required between campsites and water sources. Attempt to pack in and out your own water as much as possible (see Principle 3). Remember that natural water sources are the only available water for animals, and when their supplies dry up, their lives are threatened.



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LNT Principal 2: Travel and Camp on Durable Surfaces

Special Considerations for Arid Wildlands

Avoid areas where cryptobiotic soil crusts grow. This crust, also known as cryptogam, looks like tiny, black, irregularly raised pedestals in the sand, and forms a self-sustaining community that is essential to the ecology of arid lands. Human activities such as walking, bicycling, and driving compress the crust and it can take between five and seven years for even a thin layer of crust to return to a disturbed area. A full recovery can take 50 years or more!

This is why it is so important to stick to durable surfaces. If crust absolutely cannot be avoided, step directly in one another's footsteps, as the first step causes the most damage to cryptogam. Never camp on cryptogam.

Another surface to be avoided is desert pavement, which has a smooth veneer of varnished rocks embedded in the soil. Moving these rocks creates a visible impact, and it can take hundreds, if not thousands, of years for the varnish to return.



Desert Pavement (Above)

Cryptobiotic Soil Crust (Left)



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LNT Principal 3: Dispose of Waste Properly

Objective: To educate students on the importance and impact waste awareness and removal on the trail.

Overview:

Pack it in, Pack it out. To minimize damage and impact to the environment, all hikers and campers should be aware of the materials that they bring into the wilderness. All food, trash and waste materials should be taken when one departs. Any trash left behind can cause significant environmental damage and injure or kill the species that inhabit the area. As clean water is a valuable (and sometimes rare) resource, campers should pack in their own clean water. This not only assures that they have access to potable water, but also that humans don't utilize resources that other animals need for survival.

Practice Good Sanitation. "Where do I go to the bathroom?" The question is an important one because improper disposal of human waste can lead to water pollution, the spread of illnesses such as Giardia and Hepatitis, and generally unpleasant experiences for all those who follow. *Latrines*, and *cat holes* are the solution. When making a cat hole, campers walk about 200 feet from camp and carefully dig a hole 6 to 8 inches deep. The hole should be away from water sources and other campsites. After use of a cat hole, cover it with the dirt removed from the hole to help assure that it won't be accidentally uncovered. A latrine is usually used when campers are staying in a large group or are staying somewhere for multiple days. When digging a latrine, follow the same rules as digging a cat hole and be sure to cover feces with dirt after use. Unless using natural toilet paper (grass, river rocks, sticks, snow), it should be packed out along with the rest of the trash. When one urinates on the trail, it is suggested that they keep a safe distance from camp sites and water supplies (about 200 feet) and that they dilute the urine on the ground by rinsing the area

Wastewater. Campers should use little soap to wash dishes as it can make its way into ground water and other sources. A clean pot or jug should be used to collect all waste water. When washing dishes, go about 200 feet from any water source for dispersal (the soil can act as a filter). Water should be strained to remove any food particles before dispersal and food should be placed into a plastic bag with any leftovers. Under no circumstances should food be given to animals.



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LNT Principal 4: Leave What You Find

Objective: To allow visitors and specialists to discover and explore the natural world by avoiding impacting the environment in such a way that would impair the function of natural ecosystems and affect rare species, so that others might enjoy the same discoveries.

Overview:

Preserve the past. If you discover evidence of earlier cultures, such as rock art, arrowheads, or ruins, leave them as you find them. Artifacts are protected by law, and not to be taken as souvenirs. Consider whether it is necessary to enter a fragile site, or if you can visit it from a distance. Use trails already built to access the sites, and do not touch anything.

Leave natural features undisturbed. Take photographs, but not souvenirs! Do not collect plants, nests, or feathers.

Avoid spreading non-native plants and animals. Do not transport flowers, weeds, or aquatic plants into wildlands. Empty and clean your packs, tents, stock trailers, boats, fishing equipment, vehicles, and other gear after every trip. Clean the dirt out of your boots or tire treads.



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LNT Principal 5: Minimize Campfire Impact

Objective: To educate students about both the aesthetic effects and real dangers posed by fire construction.

Overview:

Use a Stove. Campfires of any size pose a very real danger to the environment in which they are placed, and in the desert there is no natural place for fire in the eco-cycle. Bring a camping stove, pot, matches or a lighter, and enough fuel to cook all meals. Camp with pre-cooked meals or bring food that doesn't require heating. Stoves aid in containing the fires size and intensity, and thus help prevent them from spreading out of control.

Build a Minimum-Impact Fire. Know the area where you are building a fire. Consider the possibility of a fire ban due to a drought, the need for permits, hazardous weather and wind conditions, and the animals and vegetation that surround the fire. One option is to use an *established fire ring or fire grate*. When an established fire ring cannot be found, campers can carefully dig out a small depression in a site that has no organic soil. Ashes should be scattered among the trees and the soil should be cleaned and reburied to help keep sites hidden. A *pan fire* is a fire that is built in an unused metal pan and lined with a few inches of inorganic soil and elevated with stones for the prevention of damage to vegetation. *Mound fires* are built on pedestals of sand, gravel, or soil with low organic content. The pedestal should be 6-8 inches thick and 18-24 inches in diameter and should be on top of a tarp or ground cloth (which helps in the clean-up). The fire should be constructed in the middle of the mound. After the fire is fully extinguished, the soil should be returned to its source.

Use Dead and Downed Wood. Gather dead sticks from the ground that can easily be broken with the hand. Snapping off branches from trees (either living or dead) is discouraged because it can scar and destroy them. Be mindful of taking things that contribute to the aesthetic beauty of the terrain. Pick up dead wood lying on the ground en route to the campsite so that the wood around the camp site isn't depleted by repeated gathering.

Manage Your Campfire. Never leave a campfire unattended, don't put foil lined packets or other garbage in the fire don't break up larger wood into fire wood until needed, burn wood completely to ash, saturate the ash with water to ensure it is fully cooled, remove any trash, restore the fire site to its natural appearance.



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LNT Principal 6: Respect Wildlife

Objective: To take responsibility for co-existing peacefully with wildlife, and protecting all species.

Overview:

Never feed animals. Feeding wildlife can damage their health, alters their natural behavior, and exposes them to predators and other dangers.

Store food and trash securely. Keep your camp clean, hang food securely a few feet from the ground and away from tree limbs, and remember that wildlife is also attracted to garbage, canned goods, toiletries, and pet food. Pack food in reusable containers to keep critters out.

Observe from a distance. Be careful not to follow or approach any wildlife, for their protection and your own. Avoid quick movements and direct eye contact. Travel quietly. Be aware of the increased hazards at night.

Avoid sensitive times and habitats. This includes mating season, defending mates and territories, birthing, and guarding their young or nests. Research local wildlife to prepare for these times.

Hantavirus. This disease, carried mostly by rodents, has a low chance of infection, it is best to steer clear of exposure, which can be fatal. Infection is associated with rodent urine, droppings or nests, and when viral particles are disturbed they can become airborne and inhaled. Avoid rodents, their feces, or camping in their habitats.

Control your pet. Always leave your pet at home if you can, but if not, check to see if there are any restrictions on pets. Be sure your pet is in good condition for a trip. Always use a collar and short leash to control dogs. Remove waste from trails, picnic areas, and campsites by packing it out, or using cat holes.



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LNT Principal 7: Be Considerate of Other Visitors

Objective: To give students an understanding of how they can protect the environment not only for wildlife, but for those people who also witness the beauty of nature.

Overview:

Respect other visitors and protect the quality of their experience.

It is important for all campers to remember that there are other people who wish to enjoy the nature that surrounds them. Campers should keep an open mind and generous spirit when it comes to their travelers. Ultimately it is their attitudes that affect not only their journey, but the journey's of all those that they meet on the road.

Yield to others. While on the trail, hikers and campers will encounter many different people. It is important for everyone to show the respect that they would like to see from others. Campers should greet each other, share information, and help others in need. They shouldn't interrupt the delicate natural or manmade events that happen every day in nature by straying into private territory, making excessive noise, or visually distracting others. Bicyclists and hikers should yield to herds of animals and horses, as they frighten easily. Every hiker should announce their presence to others and proceed with caution.

Keep a low of profile. When taking breaks or camping, one should move a short distance from the trail to avoid distracting others who maybe hiking behind them.

Let nature's sounds prevail. One thing that frustrates campers more than anything else is the increasing presence of radios and electronic devices on the trail. Bring them if necessary, but remember that any music or the radio may distract you and others from the beautiful sounds of nature's symphony. Keep all noise down as much as possible. Remember, this is everyone's experience



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The Future of Leave No Trace

Conclusion

Come forth into the light of things,
Let Nature be your teacher.

William Wordsworth

Since the beginning of humanity, we have always strived to peacefully coexist with nature. Through this delicate relationship humans learned to survive and flourish in sometimes harsh and unforgiving circumstances. Unfortunately, as the population continues to grow and resources shrink, we must face a world where wildlife and nature as a whole is increasingly rare. We must cherish each inch of natural land that we still have. We must be the ones that assure that future generations can take a step outside and see everything from the largest glowing sunsets to the smallest sapling without having to worry about trash, pollution, and disease. The future of Leave No Trace, and indeed the whole world, is in all of our hands. It is incumbent upon us to preserve this world that has given us so much. Only if we pull together and fully commit to the ideals of programs like Leave No Trace can we assure that future generations will know that, as Aristotle said “In all things of nature there is something of the marvelous.”

We must be the teachers of preservation. If we are to leave a mark on this world, let it be one that shows all of humanity that we are one with nature and that to save it is to save ourselves.

For more information please see the LNT website: www.LNT.org

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