

Teaching The Principles of
LEAVE NO TRACE

Cub Scouts



**A nationally recognized outdoor skills and ethical
awareness program.**

This handbook is designed to introduce *Leave No Trace* skills to Tiger Cubs, Cub Scouts and Webelo Scouts.

Additional resources and teaching ideas are available in the complete handbook prepared for teaching skills needed to earn the *Leave No Trace Awareness Award*.

We thank the following people for their time and effort in making this handbook possible:

**Aaron Gale - Utah National Parks Council
Kay Russon - Utah National Parks Council
David Witt - Utah National Parks Council
Fred Jepsen - Great Salt Lake Council
David Munford - Great Salt Lake Council
Kim Hardcastle - Trapper Trails Council
Stew Jacobson - Bureau of Land Management
Bill Wagner - Bureau of Land Management
Sarah Flinders - Forest Service**

A special thanks to Tu-Cubin-Noonie Lodge *Leave No Trace* Advisor and William T. Hornaday Gold Medal recipient Donald M. Gale for preparing this handbook.

November 1, 2001

Teaching *Leave No Trace* - A Challenging and Rewarding Experience

We all love the beautiful outdoors and find peace and contentment there when we can experience it in a natural condition. However, when we find it has been abused and or trashed, it affects our whole experience. The principles of the *Leave No Trace* program can help us all enjoy the outdoors while at the same time keeping it beautiful and clean.

With more and more people and fewer and fewer places to enjoy the outdoors, our future opportunities to enjoy these areas will depend on how well we live the principles of *Leave No Trace*. I know the activities in this handbook can bring the principles to life, making it fun and enjoyable to teach and learn.

This *Leave No Trace* activity handbook will provide a variety of activities to teach the *Leave No Trace* principles and provide a good foundation to build your own additional activities. It will help youth and adults alike catch the spirit of *Leave No Trace* and its importance in their lives in helping keep the great outdoors great.

**Stew Jacobson
National Coordinator
Leave No Trace & Tread Lightly
Bureau of Land Management**

"Man always kills the things he loves, and so we pioneers have killed our wilderness. Some say we had to. Be that as it may, I am glad I shall never be young without wild country to be young in. Of what avail are forty freedoms without a blank spot on the map?"
--Aldo Leopold

The *Leave No Trace* Patch And *Leave No Trace* Awareness Award Program

1. *Leave No Trace* patch:

For Tiger Cubs, Cub Scouts and Webelos Scouts

If the Scout leader takes on the *Leave No Trace* challenge, he/she trains his/her unit in *Leave No Trace* principles. Federal land management agencies have additional resources relating to *Leave No Trace*. Using the hand book as a guide, the Scouts receive an overview of wilderness ethics and principles of *Leave No Trace* camping. Following the training the scout leader should lead the scouts in the discussion found on page 12 to verify the Scouts understanding of these ethics and principles. Upon completion of the discussion the Scouts and leader are qualified to wear the *Leave No Trace* patch.



2: *Leave No Trace* Awareness Award:

For Scouts age 11 and up.

The complete handbook contains information that will be helpful in successfully completing the *Leave No Trace* Awareness Award. The *Leave No Trace* Awareness Award patch will be earned by everyone that successfully completes the award requirements. Leaders interested in earning the award will complete their own list of requirements. Upon completion of either the *Leave No Trace* or *Leave No Trace* Awareness Award each Scout and Scouter qualify for the appropriate patch that is available at service centers and summer camp Trading Posts.



Training For the *Leave No Trace* patch and *Leave No Trace* Awareness Award

Steps for earning the *Leave No Trace* patch and *Leave No Trace* Awareness Award

***Leave No Trace* Patch (For Tiger Cubs, Cub Scouts and Webelos Scouts):**

1. Unit leaders obtain a copy of the workbook.
2. Leaders educate their unit in key *Leave No Trace* principles and skills and complete the discussion verifying understanding of *Leave No Trace* principles. (Participants qualify for *Leave No Trace* patch)
- 3: The Appendix contains masters that can be used for handouts.

***Leave No Trace* Awareness Award (For Scouts age 11 and up):**

1. Units apply training available in the workbook and complete requirements for the *Leave No Trace* Awareness Award.
- 2: Complete application found on back of *Leave No Trace* Awareness Award brochure, No. 21-105, and submit to local council service center.

It is also recommended that adults and youth take the opportunity to participate in other activities and earn other awards related to conservation and our environment.





AN OUTDOOR ETHIC

More and more people are taking to trails to discover America. On foot or horseback, on mountain bikes or with a Llama, there are vast expanses to be explored in National Forests, National Parks and on lands administered by the Bureau of Land Management. This trend is not without some problems. Many popular areas are already overcrowded with evidence of people, horses, tents, and campfires everywhere.

Outdoor areas are places to seek solitude and a "wilderness experience" away from crowds, noise, and daily pressures of urban life. This escape should be accompanied by a commitment to protect and preserve these areas. *Leave No Trace* practices are techniques that visitors can use to help reduce evidence of their presence in the outdoors. By following *Leave No Trace* skills and ethics, visitors can enjoy outdoor areas while preserving the beauty and solitude.

A *Leave No Trace* awareness and understanding is vital if we are to protect our remaining natural areas and if we are to retain the image and credibility of The Boy Scouts of America. *Leave No Trace* practices and ethics as taught by federal land management agencies is the first step in preparing Scouts and Scouters to be good outdoor citizens.

GUIDELINES

Leave No Trace guidelines help protect the land and lessen the sights and sounds of your visit.

Because most visitors do not live outdoors, they unknowingly violate the *Leave No Trace* ethic by:

- Traveling and camping in large groups.
- Traveling off trails or roads, thereby causing scars and soil erosion, and trampling vegetation.
- Leaving campfire scars.
- Leaving human waste and garbage at a campsite.
- Polluting lakes and streams.
- Making loud noises that disturb wildlife and other visitors.
- Wearing brightly colored gear and clothes that make them visible to others in the area (exception: for rescue have a "fluorescent" vest or similar item — include it in your pack).

1: PLAN AHEAD AND PREPARE

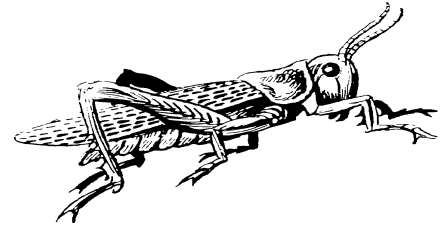
Lots of planning must go into a outdoor trip if it is to be safe and fun. Gathering information from the Forest Service, Bureau of Land Management, National Park Service, state land management offices, and private property owners can help. They can provide current maps, firsthand information on trails and campsites, and anything else pertinent to the anticipated trip. Consider the group size, when and where to go, equipment, and food selection when planning a trip.

Group Size:

- Small groups are ideal in open areas such as deserts, meadows, and above timberline.
- Plan to travel and camp with fewer than 8-10 people, who can be divided into hiking groups of 2-4 during the day.
- It is also easier to plan for small groups and to keep them together.
- Campsites for smaller groups are easier to find and they harmonize better with the environment.
- Check ahead to see if there is a group size limitation in the area you plan to visit.

When and Where to Go:

- To find maximum solitude, avoid outdoor trips on holidays and even some weekends.
- Since many popular trails and wilderness always seem to be crowded, visit less popular areas.
- Plan such trips for the spring, fall, or even winter.



What's Needed and What's Not:

- Brightly colored clothing, packs, and tents should be avoided because they can be seen for long distances and contribute to a crowded feeling. Consider choosing earth-tone colors to lessen the visual impact.
- Plan to carry a lightweight backpacking stove for all cooking.
- Be sure to inquire locally about open fire restrictions, since some areas are closed due to the potential for wildfires or the scarcity of fuel.
- Lighten your pack by re-packing the food and removing glass and aluminum packing. They do not burn and add extra weight.
- Check for local restrictions prohibiting cans and bottles.
- **IF YOU PACK IT IN, YOU SHOULD PACK IT OUT.**
- Carry extra trash bags for litter pickup in and around your campsite. They also make great emergency rain gear.
- Other suggested equipment is a small trowel or plastic garden shovel for burying human waste and for digging *Leave No Trace* firepits.
- Leave the axe and saw at home, unless you are traveling by horse and need them to cut a trail.
- Firewood that cannot be broken by hand should be left as part of the natural system.

Be Prepared:

- Obtain a good map, plan your route, and leave your itinerary with someone at home, in case someone has to search for you. Check with state and federal, as well as private property owners, for restrictions.
- Know what weather conditions to expect in that area at that time of year and come prepared for the extreme temperature, wind, snow, and rain you might be exposed to.
- A day hike requires minimal survival gear: extra food, a signal mirror, whistle, and warm clothing. A highly visible vest ("fluorescent" orange or red) should be included in your pack for rescue in the event you become lost.
- Carry extra water in desert areas (a minimum of 2 quarts per person per day).

Remember:

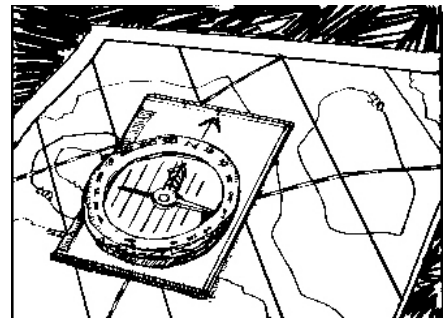
- Plan for small groups.
- Obtain information about the trip ahead of time and plan your route.
- Visit a less popular area.
- Plan an off-season trip if you wish to avoid crowds.
- Select earth-tone colors (clothing and tents) to blend with the environment.
- Repackage food.
- Check on local rules and regulations.
- Filter or boil water.

2: TRAVEL AND CAMP ON DURABLE SURFACES

Travel:

Trails are an important part of outdoor travel. They are designed to get people from one place to another with varying degrees of difficulty. Trails are also designed to drain water off with a minimum amount of soil erosion.

- Make an effort to stay on the trails no matter how you are traveling.
- Switchbacks are the most abused portion of the trail system. A switchback is a reversal in trail direction. Many people shortcut switchbacks and create new trails trying to save energy. Cutting switchbacks creates a new scar on the hillside that will cause soil erosion and scarring.



Cross-Country:

- Hiking or riding horses cross-country, off established trails is ok, but remember to stay spread out and off "social trails" that other users have begun.
- Avoid traveling through meadows and wet areas. They are fragile and will show the effect of footprints or hoofprints and group travel much longer than forested and rocky areas.
- Bicycles and motorized vehicles are allowed in some outdoor areas but not in wilderness. To ride them cross-country will create social trails and cause erosion.
- The feeling of solitude or adventure is broken when you see ribbons, signs, or even blazed trees that visitors have left to mark a path. Always discuss the planned route with your group members to avoid leaving these markers. If you must mark a route, remove markers before departing.

Remember:

- Stay on designated trails.
- Do not cut switchbacks.
- Plan your route so everyone knows where you plan to be.
- Select rocky or forested areas when traveling cross-country.
- Don't mark or blaze your cross-country route.

Camping:

- Choose a campsite away from popular places for more solitude and privacy.
- Try to camp 200 feet or more from lakes, streams, meadows, and trails when you have a choice. There will be less chance of damage to fragile areas.
- Select campsites in your local area that are designated or already well established. This will concentrate impacts in already disturbed places.
- Try to confine most activities to areas of the site that are already bare.
- When camping in pristine places, disperse your activities and use extra care.
- Space the tents, kitchen, and latrine, and try to avoid repeated traffic over any area. Before leaving camp, naturalize the area by replacing rocks and scattering leaves and twigs around the site.
- The best campsites are generally found on ridges, hills, or near canyon walls. These areas provide natural drainage so your camp will not flood.
- To hide it from view, arrange your campsite around trees, rocks, and shrubs.
- Beware of hazard trees, avalanche areas, potential hazards from falling rocks, or flash-flood sites.
- Never ditch or build trenches around your tent because they can start soil erosion and create lasting scars. Limit your stay to as few nights as possible to avoid waste accumulation and injury to plants. One night in each campsite is best and will make it easier to *Leave No Trace* of your visit when you depart.



Remember:

- Select a campsite 200 feet or more from trails, lakes, streams, and wet meadows.
- Keep your campsite from view.
- Don't dig ditches around the tents.
- Stay as few nights as possible in one place.
- Use designated or already impacted campsites when appropriate.

3: DISPOSE OF WASTE PROPERLY

Pack It In-Pack It Out: Trash

- If your outdoor trip has been well planned, there should not be too much trash.
- Never bury your trash because animals will probably dig it up.
- While you're hiking, make an effort to pocket all trash, including candy and gum wrappers, and then empty your pockets into a trash bag later.
- Remember peanut shells, orange peels, and egg shells are trash.
- **IF YOU PACK IT IN, YOU SHOULD PACK IT OUT.**

Sanitation

Sanitation practices in the back country require extra effort. Washing and disposal of human waste must be done carefully so the environment is not polluted and fish and aquatic life are not injured. Water can become polluted from the runoff soaps, food waste, and human waste. Toilet paper and other trash also leave an unsightly impact.

Water and Washing:

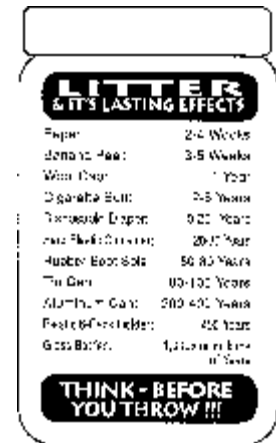
- There are *Giardia* bacteria and other contaminants in many streams, springs, and water sources, so plan to filter or boil all drinking water.
- Wash at least 200 feet away from camp and any water sources.
- For personal washing, use a container and rinse away from water sources.
- Put all kitchen and food waste in a plastic bag to be carried out and then wash dishes away from water sources.
- Use small amounts of biodegradable soap.
- Washing without soap would be better since any soap can pollute lakes and streams.
- Pour wash water on the ground at least 200 feet from water sources.

Human Waste:

- Use the "cat method" of making a shallow hole and covering it when done.
- It should be dug in the top 6-8 inches of organic soil and be at least 200 feet away from camp, trails, and water sources.
- Groups may need to walk well over 200 feet to ensure that catholes are scattered during their stay at that site.
- Latrines concentrate impacts and should be used only outside wilderness when large groups are staying for a long time in popular areas.
- Locate the latrines at least 200 feet away from camp, trails, and water sources.
- Dig a hole at least 12 inches deep, add soil after each use, and fill in once it is within 4 inches of being full.

Remember:

- Do all washing away from camp and water sources.
- Dig catholes 200 feet or more from camp, trails, and streams.
- Put all food scraps in a plastic bag and carry them out.
- Pack it in. Pack it out.
- Obtain special guidelines for grizzly bear country.



4: LEAVE WHAT YOU FIND

Many historical and archeological sites are found throughout national parks, Bureau of Land Management areas, and on national forests. You are invited to enjoy and learn from these remnants of the past. Visitors to these sites can help preserve them for the next generation by not disturbing

them in any way. Federal law prohibits disturbing historical and archeological sites or removing any objects from them. Do not camp in or near these special features. Camping too near the resources can disturb valuable archeological information that can never be reclaimed.

Do not dig tent trenches or build lean-tos, tables, or chairs. Never hammer nails into trees, hack at trees with hatchets or saws, or damage bark and roots by tying horses to trees for extended periods. Replace surface rocks or twigs that you cleared from campsite. On high-impact sites, clean the area and dismantle inappropriate user-built facilities such as multiple fire rings and log seats, or building structures.



5: MINIMIZE CAMPFIRE IMPACTS

- Practice *Leave No Trace* ethics by cooking on a stove and avoid building campfires. Today's backpacking stoves are economical and lightweight and provide fast, clean cooking.
- In some heavily used areas, fires are not permitted.
- In fragile environments, such as deserts and alpine meadows, fire leaves scars for many years and depletes wood supplies.
- Ask at the local Ranger Station or District Office about fire restrictions or closures and whether a campfire permit is required in the area you plan to visit.

Heavy-Use Areas:

If you are camping in a heavy-use area, there are probably some existing campfire rings nearby that are maintained for this use. Use them to concentrate the use to one area and lessen the overall impact.

Remote Areas:

- When camping in remote areas, you may choose to build a campfire, making sure the site is away from trees and shrubs.
- Campfires are best built on a sandy spot or hard ground since the scar can be easily hidden there.
- Never build a fire next to a rock because smoke will blacken it.
- Wildfire can easily start from campfires built on forest duff or peat.
- With your trowel, dig up the organic layer of soil and set it aside for later use.
- Avoid circling the fire with rocks. There is a misconception that the rocks will keep a fire from spreading. Actually the rocks may explode from intense heat, and the blackened rocks are hard to conceal.

Wood:

- Burning small sticks gathered from the ground is the best source of wood.
- Use only down dead wood.
- Never cut green trees or branches; they won't burn.

- Standing dead trees will burn but are valuable for cavity-nesting birds and aesthetics, so don't cut them.
- Small wood will burn completely, providing good coals for cooking. The remaining white ash is easier to dispose of than partially burned logs. Remember, never leave a fire unattended.

Leave No Trace:

- In heavily used camping areas, some fire rings are maintained and should be used.
- Make sure your fire is dead out before you pick out trash that did not burn.
- To verify that the fire is out, sprinkle it with water, and stir the coals. If the coals are cold to the touch, the fire is out.
- The remaining ash and coals should be carried several hundred feet from the campsite and widely scattered.
- After you pick up the trash to carry home, your campsite area is ready for the next visitor.
- A last minute check of your campsite for candy or gum wrappers, etc., will ensure that you *Leave No Trace*.
- In remote areas, follow the same procedures and then replace the organic material you set aside earlier.
- Be sure to completely naturalize the area. If you think it is a bother, difficult, and dirty — it is!
- Cooking on a stove eliminates these problems.

Remember:

- Use a lightweight stove rather than building a fire.
- Check local Ranger Station for fire regulations
- Use existing fire circles in heavy-use areas.
- Save sod for naturalizing fire rings.
- Build fires away from trees, shrubs, rocks, and meadows.
- Burn only small sticks.
- Make sure the fire is dead out.
- Scatter the ashes and naturalize the area.

6: RESPECT WILDLIFE

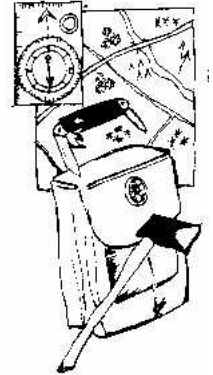
- Quick movements and loud noises are stressful to animals. Considerate campers practice these safety methods:
- Observe wildlife from afar to avoid disturbing them.
- Give animals a wide berth; especially during breeding, nesting, and birthing seasons.
- Store food securely and keep garbage and food scraps away from animals so they will not acquire bad habits. Help keep wildlife wild.
- You are too close if an animal alters its normal activities.



7: BE CONSIDERATE OF OTHER VISITORS

One of the most important components of outdoor ethics is to maintain courtesy toward others. It helps everyone enjoy their outdoor experience. Incompatible or competing activities must share limited facilities and areas. Excessive noise, unleashed pets, and damaged surroundings distract from a quality experience in the outdoors.

- Keep the noise level down while traveling on trails.
- Radios and tape players do not belong in the outdoors.
- If your group meets another group, give uphill hikers the right-of-way.
- When you encounter groups leading or riding livestock, you should step off the trail on the lower side and let them pass.
- Stand quietly since some horses are spooked easily.
- Keep pets under control at all times. No one wants someone's pets running through the area and frightening people and wildlife.
- Some wildernesses prohibit dogs or require them to be on a leash at all times.
- Wildflowers, picturesque trees, and unusual rock formations all contribute to the outdoor beauty we enjoy. Picking wildflowers, hacking trees, and chipping rocks disturb the natural ecosystem. Please leave them alone and protect them for others to enjoy.
- Take nothing but pictures...leave with only fond memories.



Leave No Trace Discussion

Discuss the following questions with your Scouts and verify their understanding of *Leave No Trace* principles to earn the *Cub Scout Leave No Trace* patch.

True-False

1. A wilderness looks natural and is an area where you can find solitude without loud noise and ugly trash.

- True
 False

2. "*Leave No Trace*" means you will leave no marks of your visit and your campsite will be left clean and natural looking.

- True
 False

3. Pre-trip planning will help you "*leave no trace*" of your visit.

- True
 False



4. It is best to visit Wilderness in large groups of 25 or more.

- True
 False

5. It is better to build fires in Wilderness areas than to carry your own small stove.

- True
 False

6. Since the outdoors is so large and spacious, radios, loud games, and lots of shouting will probably not disturb others.

- True
 False

7. You can avoid causing stress to wildlife by staying away from them?

- True
 False



8. Large logs should be burned in all outdoor firepits?

- True
 False

9. Earth-tone colors such as rust, brown, and green blend in best with the forest.

- True
 False

10. Cutting across trail switchbacks causes soil erosion and mars the scenery.

- True
 False

Choose the best answer:

1. The two basic elements to leaving "**NO TRACE**" of your visit are: (choose two)

- A. Be inconspicuous.
 B. Wash your dishes in the nearest stream or lake.
 C. Bury your garbage.
 D. Leave your campsite looking like no one had been there.

2. The size of the group you go with is important. There should be no more than:

- A. 25 people.
 B. 10 or 12 people.
 C. 4 people, one dog, three parakeets, and 4 horses.

3. When selecting a site for your camp, you should:
- A. Get as close to the supply of water as possible.
 - B. Camp close to a trail so you won't get lost.
 - C. Camp at least 200 feet from lakes, streams, and trails.
 - D. Camp in the open so the sun will warm your tent.
4. While you are at camp you should: (choose two)
- A. Be as inconspicuous as possible.
 - B. Build new fire rings since old ones look unsanitary.
 - C. Build lean-to's and benches for convenience.
 - D. Bury human waste 6-8 inches deep; at least 200 feet from camp and sources of water.
5. Most people go to outdoor areas to:
- A. Exercise and get in good condition.
 - B. Save money because Disneyland and New York are too expensive.
 - C. Get away from the crowds and noise of city life.
6. The best times to go into outdoor areas are:
- A. During the week rather than on weekends.
 - B. Early in the season.
 - C. Late in the season.
 - D. All of the above.
7. When choosing camping equipment, you should select:
- A. Equipment that is bright and shiny so you can find it in the forest.
 - B. Equipment that is old and worn so it is comfortable.
 - C. Equipment that has dark, earth-tone colors.
8. In planning your food supply, you should:
- A. Make sure the food is in air-tight cans or bottles.
 - B. Re-pack foods into light-weight bags of plastic.
 - C. Take several kinds of canned soft drinks, since they are light-weight and high in sugar for quick energy.
9. When traveling in the outdoors, you should:
- A. Always stay on the main trail and avoid shortcutting across trails.
 - B. Be quiet.
 - C. Keep pets under control at all times.
 - D. All of the above.

Complete the following:

1. The main reason "***NO TRACE***" camping is being emphasized is
2. Activities that are **NOT** appropriate while in outdoor areas are:
 - A.
 - B.
 - C.
3. Name three things which should be included in your plans for a outdoor camping trip or experience.
 - A.
 - B.
 - C.
4. Describe how you should do the following:
 - A. Wash or take a bath.
 - B. Dispose of trash that can't be burned.
 - C. Dispose of human waste.



Now The Challenge!



When this discussion is completed your Cub Scouts will know the basic principles to "*Leave No Trace*" in outdoor areas. They will have fun as they try to match the skills of yesteryear's Indians and mountain men.

As they gain proficiency, they will teach others how. The task for mountain men and Indians was to survive. Today the outdoors is trying to survive people. Working together — the visitors and their federal land management friends — can insure that quality outdoor experiences do survive. Thanks for doing your part.

Notes and Ideas:



Appendix

Handouts to Copy: Use your imagination; copy on parchment paper, burn the edges, frame, etc.
Make the handout something the participant will want to keep.

To Leave No Trace
Ideas to Remember
Outdoor Code



In the end we will conserve only what we love.
We will love only what we understand.
We will understand what we are taught.

-author unknown

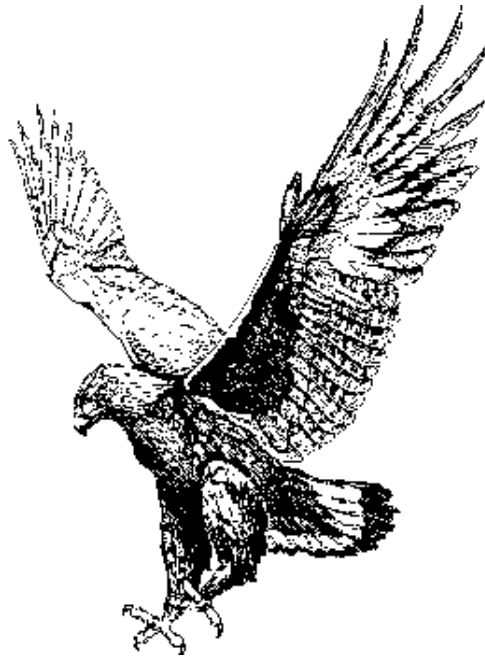
To Leave No Trace...

**One must travel and camp with care,
deliberately planning and guiding one's
actions so as not to harm the environment
or disturb others.**



Idea To Remember

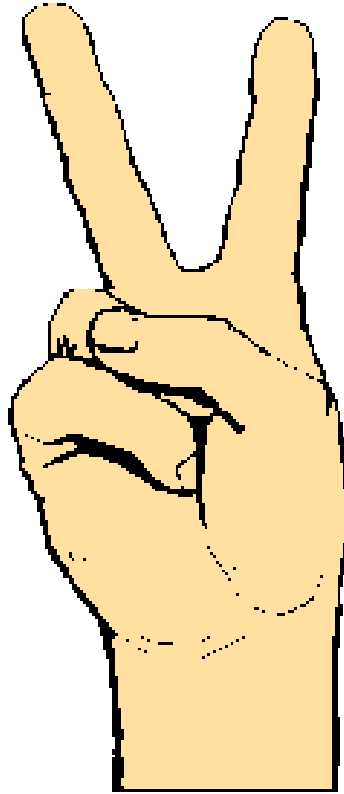
LEAVE NO TRACE— Traveling and camping with care, deliberately planning and guiding one's actions so as not to harm the environment or disturb others.



The Seven Leave No Trace 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.**

OUTDOOR CODE



As an American I will do my best to:

Be clean in my outdoor manners,

Be careful with fire,

Be considerate in the outdoors,

and

Be conservation minded