

M A S T E R E D U C A T O R

H A N D B O O K



L E A V E N O T R A C E

O u t d o o r E t h i c s

PRINCIPLES OF LEAVE NO TRACE

PLAN AHEAD AND PREPARE

- Know the regulations and special concerns for the area you'll visit.
- Prepare for extreme weather, hazards, and emergencies.
- Schedule your trip to avoid times of high use.
- Visit in small groups. Split larger parties into groups of 4-6.
- Repackage food to minimize waste.
- Use a map and compass to eliminate the use of rock cairns, flagging or marking paint.

TRAVEL AND CAMP ON DURABLE SURFACES

- Durable surfaces include established trails and campsites, rock, gravel, dry grasses or snow.
- Protect riparian areas by camping at least 200 feet away from lakes, streams.
- Good campsites are found, not made. Altering a site is not necessary.

In popular areas

- Concentrate use on existing trails and campsites.
- Walk single file in the middle of the trail, even when wet or muddy.
- Keep campsites small. Focus activity in areas where vegetation is absent.

In pristine areas

- Disperse use to prevent the creation of campsites and trails.
- Avoid places where impacts are just beginning.

DISPOSE OF WASTE PROPERLY

- Pack it in, pack it out. Inspect your campsite and rest areas for trash or spilled foods. Pack out all trash, leftover food, and litter.
- Deposit solid human waste in catholes dug 6 to 8 inches deep at least 200 feet from water, camp, and trails. Cover and disguise the cathole when finished.
- Pack out toilet paper and hygiene products.
- To wash yourself or your dishes, carry water 200 feet away from streams or lakes and use small amounts of biodegradable soap. Scatter strained dishwater.

LEAVE WHAT YOU FIND

- Preserve the past: observe, but do not touch cultural or historic structures and artifacts.
- Leave rocks, plants and other natural objects as you find them.
- Avoid introducing or transporting non-native species.
- Do not build structures, furniture, or dig trenches.

MINIMIZE CAMPFIRE IMPACTS

- Campfires can cause lasting impacts to the backcountry. Use a lightweight stove for cooking and enjoy a candle lantern for light.
- Where fires are permitted, use established fire rings, fire pans, or mound fires.
- Keep fires small. Only use sticks from the ground that can be broken by hand.
- Burn all wood and coals to ash, put out campfires completely, then scatter cool ashes.

RESPECT WILDLIFE

- Observe wildlife from a distance. Do not follow or approach them.
- Never feed animals. Feeding wildlife damages their health, alters natural behaviors, and exposes them to predators and other dangers.
- Protect wildlife and your food by storing rations and trash securely.
- Control pets at all times, or leave them at home.
- Avoid wildlife during sensitive times: mating, nesting, raising young, or winter.

BE CONSIDERATE OF OTHER VISITORS

- Respect other visitors and protect the quality of their experience.
- Be courteous. Yield to other users on the trail.
- Step to the downhill side of the trail when encountering pack stock.
- Take breaks and camp away from trails and other visitors.
- Let nature's sounds prevail. Avoid loud voices and noises.

THE LEAVE NO TRACE MASTER EDUCATOR INSTRUCTOR COURSE HANDBOOK

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The Master Educator Course requires a minimum of four eight-hour days and at least three nights camping in the field. It does not teach outdoor skills other than those based on the principles of Leave No Trace.

The Leave No Trace Center for Outdoor Ethics and/or its course providers reserve the right to deny a Master Educator certificate to a participant if in the opinion of both instructors the participant failed to 1) attend the entire course, or 2) failed to display the skills necessary to train Trainers, conduct outreach programs, or otherwise carry forward the Leave No Trace message in a productive way.



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Hike out.

OF MASTER EDUCATORS it is well said they are ceaselessly students of education. The learning process never ends as long as the brain continues to function, and the most wise—and perhaps also the most happy—are aware of this. To perform at the highest level possible as a Leave No Trace Master Educator, you must be not only committed to the preservation of wildland but also to the process of education.

THE PURPOSE OF THE LNT MASTER EDUCATOR HANDBOOK

The purpose of this handbook is to serve as a resource that will 1) enable instructors to teach the Leave No Trace message in general and the Master Educator and Trainer Courses specifically with greater consistency, 2) to enable instructors to improve their ability to teach, and 3) to enable instructors to improve their ability to teach teachers. It is not the intention of this handbook to create inflexible policy, but this handbook does represent common practices and proven methods. This handbook, in other words, is not all about what you have to do but about what you can do.

You will find here educational goals, outlines, basic content suggestions, resources, and lesson plans. You will not find here your experiences, the past experiences of your students, and the experiences you help create for your students. The best Leave No Trace courses are filled with rich experiences and not just academic information. The best Leave No Trace educators use their life experiences and the life experiences of their students to support the information. This handbook is intended to ease the burden of preparing the information so you, the educator, can better focus on developing opportunities for life-changing experiences.

And ethics, remember, are created by experiences, not by information. This handbook should be used to help create courses where students meet on the common ground of respect for wilderness, and where they focus on the ethics of Leave No Trace. Then they may learn not only local adaptations of the principles but also the universal framework in which the principles need to be applied.

HOW TO USE THE LNT MASTER EDUCATOR HANDBOOK

Although you could conceivably teach a Leave No Trace course with this handbook alone as a resource, the best use of this material is as a springboard. Education is, among other things, a blend of what you know, what you have experienced, and what you learn as you go. By consciously evaluating yourself and your students in relation to the goals of your teaching, you will become an increasingly more effective educator.

Please keep in mind that a Leave No Trace Master Educator or Trainer Course must be defined by activities. The participants, if the goals of the course are met, leave not only able to practice the principles of Leave No Trace and able to teach others to do the same, but also to teach others to teach others to practice the principles. And no matter how much you may think you know how to do something, you have no assurance until you try.

***Pay attention, and keep on keeping on.
The best educators are also the best students.***

“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*

EDUCATIONAL OBJECTIVES

By the end of the classes and activities, the participant should be able to:

1. Describe briefly the mission and history of the Leave No Trace program including the role of federal land management agencies, NOLS, and The Leave No Trace Center for Outdoor Ethics.
2. Describe the goals and objectives of the Master Educator Course.
3. Describe the goals and objectives of the Trainer Course.
4. State personal goals for the Master Educator Course.

TEXT FROM *Leave No Trace Skills & Ethics: North America*



People enjoy the outdoors in myriad ways. We explore on foot, kayak, horseback, mountain bicycles, skis, snowshoes, and crampons, to name a few, and there are more of us pushing our sports to greater extremes and into remoter parts of the natural world everyday. Our experiences are personally satisfying, but they can have a negative impact on 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. Even our mere presence has an influence. Considerable damage could be prevented if recreationists were better informed, especially about Leave No Trace techniques.

This course is part of a national educational program called Leave No Trace which aims to

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

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

We can respect and protect the places and wildlife that inspire us—in North America and beyond. First, let's educate ourselves and adopt the skills and ethics that enable us to *Leave No Trace*.

LEAVE NO TRACE MISSION

The mission of the The Leave No Trace Center for Outdoor Ethics is to promote and inspire responsible outdoor recreation through education, research, and partnerships.

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LEAVE NO TRACE HISTORY

“Leave No Trace,” the name and the first program, appeared within the United States Forest Service (USFS) in Utah in an attempt to deal with visitor impact to the Uinta Mountains. This was c. 1982. At about the same time, Tom Alt, forestry technician on the Beartooth District of the Custer National Forest (MT and WY) and several colleagues developed the “No Trace” program for their area, a program that spread slowly to many districts across the nation.

In 1990 Bill Thompson, a veteran forester, was asked to serve as the first Leave No Trace coordinator for the USFS and to promote a national program. Thompson approached the National Outdoor Leadership School (NOLS), and asked if NOLS would be willing to “carry the flag” since 1) NOLS was in the outdoor education field and had the expertise, and 2) a neutral organization was needed to bring the four national land management agencies together to sign a Memorandum of Understanding (MOU) in support of Leave No Trace. NOLS agreed.

NOLS had already helped develop a BLM Arid Lands Course that taught visitors to reduce their impact. This was c. 1987. The Arid

Lands Course became the model for the first Leave No Trace Master Educator Course. The initial six Leave No Trace principles were developed with the help of ecologists David Cole

and Jeff Marion. The five-day curriculum was first taught in September 1991.

The MOU was signed on 18 May 1993 by the USFS, the Bureau of Land Management (BLM), the National Park Service (NPS), and the United States Fish & Wildlife Service (USF&WS)—and by NOLS—making Leave No Trace the national wilderness ethics program.

In November 1994 Leave No Trace was incorporated in Colorado. Leave No Trace, Inc., was initially funded by the Sporting Goods Manufacturers Association (SGMA) with additional funding coming from the Outdoor Recreation Coalition of America (ORCA), NOLS, and a group of corporate sponsors.



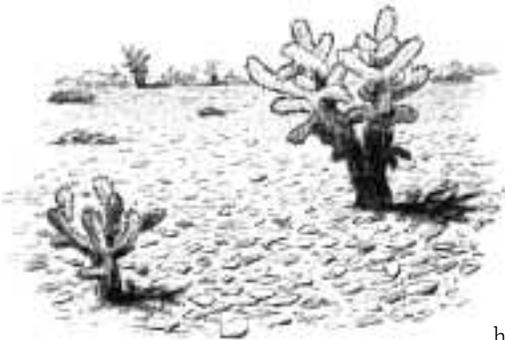
Leave No Trace, Inc., was to be the “fundraising and general clearinghouse of information” for Leave No Trace, and NOLS was to remain in charge of curriculum and education.

About this time, c. Nov 1994, the federal agencies involved signed an “empowerment letter” which gave Leave No Trace, Inc., the authority to oversee the Leave No Trace program.

The Leave No Trace, Inc., Board of Directors, c. 1996, felt strongly that Leave No Trace, Inc., could not continue as simply a fundraising organization. They began to grow into different areas such as the Corporate Partnerships Program, the Retailers Program, the Subaru Trainers Program, and various research projects. The role of research projects is to provide a continually growing basis of scientific knowledge to support the principles of Leave No Trace.

In 1999, after more than six months of review, the Educational Review Committee (ERC), a subcommittee of the Leave No Trace, Inc., Board of Directors, revised the initial six principles of Leave No Trace and added two additional principles, a process that resulted in seven principles. In the words of the ERC, the original Leave No Trace principles did not “provide an adequate focus on two increasingly salient topics: visitors’ impacts to wildlife and visitors’ impacts to the experience of other visitors.”

In 2002 Leave No Trace, Inc. changed its name to The Leave No Trace Center for Outdoor Ethics to better reflect the organization’s broadened scope. The Center oversees all public outreach, education, and fundraising for the national Leave No Trace program. NOLS and The Appalachian Mountain Club (AMC) offer the Master Educator course and other Leave No Trace training.



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MASTER EDUCATOR COURSE GOALS

1. To provide safe, consistent, quality training for all participants.
2. To provide an easily implemented training structure that encourages training efforts.
3. To prepare the participants to be the best possible teachers of Leave No Trace.

MASTER EDUCATOR COURSE OBJECTIVES

A Leave No Trace Master Educator candidate (the student) will be able to accomplish the following objectives in three basic areas:

Role of the Master Educator.

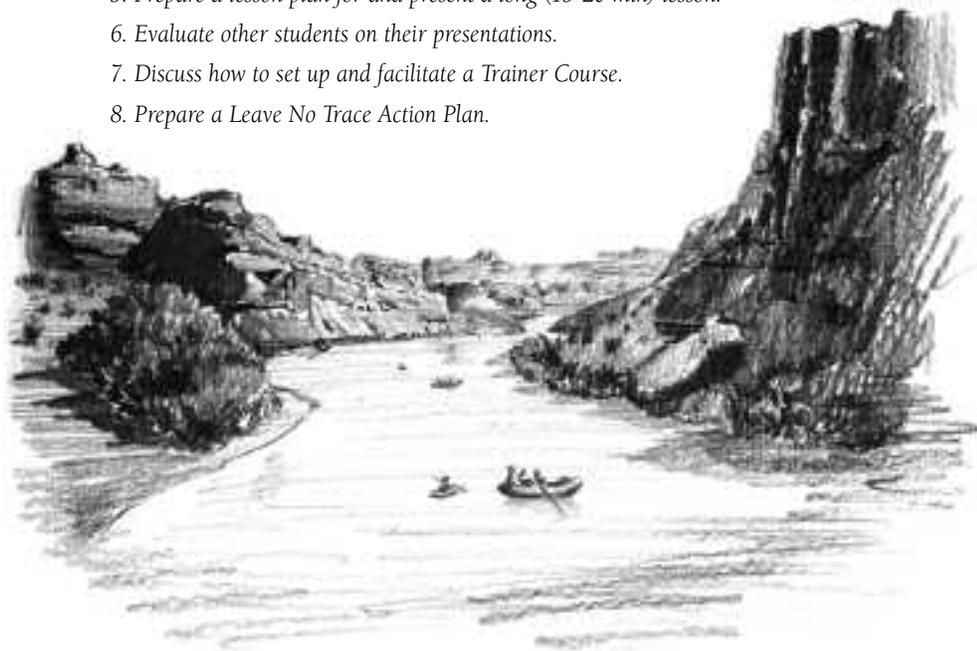
1. Describe the role of a Leave No Trace Master Educator.
2. Discuss the history, goals, and objectives of the Leave No Trace program.
3. Recognize recreation impacts and the means to minimize those impacts.

Principles and Practice of Leave No Trace.

1. Discuss the seven principles of Leave No Trace in relation to the local environment.
2. Discuss the seven principles of Leave No Trace for other environments.
3. Practice the seven principles of Leave No Trace.
4. Discuss the ethics of Leave No Trace.
5. Discuss the role of research and evaluation in Leave No Trace.
6. Discuss situations when firm rules vs. flexible rules are more appropriate.

Principles and Practice of Teaching.

1. Discuss the three basic learning styles—visual, auditory, kinesthetic—and ways in which teaching methods and techniques can reach all styles.
2. Define and prepare a class for a target audience.
3. Discuss the management of a class.
4. Prepare a lesson plan for and present a short (5 min) lesson.
5. Prepare a lesson plan for and present a long (15-20 min) lesson.
6. Evaluate other students on their presentations.
7. Discuss how to set up and facilitate a Trainer Course.
8. Prepare a Leave No Trace Action Plan.



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TRAINER COURSE GOALS

1. To provide safe, consistent, quality training for all participants.
2. To provide an easily implemented training structure that encourages training efforts.
3. To provide a rationale for the principles of Leave No Trace so that they can be appropriately applied to a variety of environments.
4. To prepare the participants to practice the principles of Leave No Trace and to train others in the Leave No Trace principles.

TRAINER COURSE OBJECTIVES

A Leave No Trace Trainer candidate (the student) will be able to accomplish the following objectives in three basic areas:

Role of the Trainer.

1. Describe the role of a Trainer.
2. Discuss the history, goals and objectives of the Leave No Trace program.
3. Recognize recreation impacts and the means to minimize those impacts.

*Principles and Practice of Leave No Trace.*

1. Discuss the seven principles of Leave No Trace in relation to the local environment.
2. Discuss the seven principles of Leave No Trace for other environments.
3. Practice the seven principles of Leave No Trace.
4. Discuss the ethics of Leave No Trace.
5. Discuss the role of research in Leave No Trace.

Principles and Practice of Teaching.

1. Discuss the three basic learning styles—visual, auditory, kinesthetic—and ways in which teaching methods and techniques can reach all styles.
2. Define and prepare a class for a target audience.
3. Discuss the management of a class.
4. Prepare a lesson plan for and present a 15-20 minute lesson.

Resources:**Introduction to the Master Educator Course**

Jeffrey Marion, and Scott Reid.
 "Development of the U. S. Leave No Trace program: An historical perspective." Leave No Trace, Inc., Boulder, CO. January 2001.

TEACHING TIPS

This topic works best in a classroom environment. Printed materials need to be given out and presented. The *Soft Paths* video (or another relevant LNT video) can be shown. Time should be given for participants to thoughtfully prepare and present their personal goals to the other participants. Instructors need to

evaluate their personal goals and objectives and be ready to present them to the participants. Instructors must take time to carefully evaluate each participant's lesson plan prior to the participants giving their presentations in the field—so be sure to give the students time to prepare a lesson plan.

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SUGGESTED LESSON PLAN: INTRODUCTION TO MASTERS COURSE**Material Needed**

- Master Educator Course Student Handbooks
- *Soft Paths*, by Hampton and Cole
- Leave No Trace Skills & Ethics Booklets
- *Soft Paths* video (or another relevant LNT video) and appropriate audiovisual equipment
- Blackboard, whiteboard, or flip chart with colored pens

Goal

Master Educator course participants will recognize and understand the need for the Leave No Trace program and the role they can play in taking the message to as many outdoor users as possible.

Objectives

Participants will be able to:

1. Describe briefly the mission and history of the Leave No Trace program including the role of federal land management agencies, NOLS, and The Leave No Trace Center for Outdoor Ethics.
2. Describe the goals and objectives of the Master Educator Course.
3. Describe the goals and objectives of the Trainer Course.
4. State personal goals for the Master Educator Course.

Motivator

Education, not legislation, will preserve our wildlands. This course is designed to prepare the participant to practice and to teach the principles of Leave No Trace.

Presentation**I. Introductions**

- A. Welcome.
- B. Introduce self and have students introduce themselves. Tell students this is their first presentation. Ask for specific information from them and give them a few moments to organize their thoughts. Ask them to stand while introducing themselves.

II. Brief course overview.

- A. What will be done?
- B. When will it be done?
- C. What is expected of students?
- D. Go over course paperwork: disclaimer, etc.

III. The Leave No Trace Center for Outdoor Ethics mission.

(Write this on the board and discuss.)

IV. Brief history of Leave No Trace.

Be sure to include the change from six to seven principles. (Lecture.)

V. Master Educator Course Goals and Objectives.

(Write these on the board and discuss.)

VI. Trainer Course Goals and Objectives.

(Write these on the board and discuss.)

VII. Personal goals of the group.

A. Write them on the board as each participant states his or hers.

B. Save a copy to review at the end of the course.

VIII. Review handbook, text and course materials.

IX. Show and discuss video.

Conclusion

Do the participants have any questions, concerns or comments?

The mission of the Leave No Trace program will be accomplished through the efforts of people like the participants, individuals willing to practice and teach to others the principles and ethics of leaving no trace.

Evaluation

Students will have participated in all class activities.



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“Tell me, and I will forget. Show me, and I will remember.

Let me do, and I will understand.”

– Confucius

“Too much challenge and our students miss the sweet taste of success.

Too little challenge and we dishonor them with low standards.”

– John Gookin

EDUCATIONAL OBJECTIVES

By the end of the class lecture and discussion, the participant should be able to:

1. Discuss the importance of the attitude and behavior of a teacher.
2. Discuss learning styles and the importance of knowing and understanding the audience.
3. Discuss teaching methods that meet the needs of different learning styles.
4. Demonstrate the ability to prepare a lesson plan.
5. Present at least one short (5 min) lesson and one long (20 min) lesson.
6. Critique other participants on their presentations.

TEACHING: THE SCIENCE, THE ART

Teaching is a science. New teachers can prepare themselves to deliver very good classes on their first try. Einstein said that genius is 10% talent and 90% hard work, and teaching fits this maxim well.

Teaching is also an art. Teachers, like artists, discipline themselves to master the basics. They rehearse new techniques until their subconscious automatically performs for them. Entering each presentation with a relaxed mind allows these habits of discipline to flow with ease, creating an enjoyable learning experience. Few people call themselves “master teachers” because true mastery of an art only comes from continuous self-improvement. Many master teachers refer to themselves as “students of education.”

Your Attitude and Behavior

The teacher’s attitude may be the single most important factor in ensuring effectiveness. Educators who like their job, believe in their subject matter, and enjoy teaching others are the most successful educators.

An educator’s attitude often depends on his or her comfort in teaching the particular material. Comfort often depends on adequate preparation, especially for the inexperienced teacher.

Gauge yourself by asking how comfortable you are with the material, and how you might prepare better. Be aware of your strengths and weaknesses. Be yourself . . . and be prepared.

Hand-in-hand with attitude goes behavior. “Practice what you preach.” Your behavior can either strengthen or weaken what you teach. Model the skills and techniques that you teach and the attitude you wish to instill in the participants. Your motto might well be “Leadership by Example.”

Ask yourself these questions:

- Have I developed good rapport with the audience—friendly, genuine, interactive?
- Have I shown enthusiasm for the subject and the learning process?
- Have I used personal experiences appropriately?
- Have I answered questions with care, even if the answer is “I don’t know, but I’ll try to find out.”
- Have I helped participants get excited about learning?
- Have I instilled a caring attitude toward the outdoors through modeling?



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LEARNING STYLES

“Emotions drive attention. Attention drives memory, learning, problem solving, and just about everything else.”

—Robert Sylvester

We do not all learn the same way. Some of us are highly oriented to Auditory Learning. We need to hear to learn. The needs of auditory learners are met, for example, by carefully prepared and presented lectures and by discussions. Keep in mind when you speak that only about 15% of your message will be received as a result of the meaning of your words. The other 85% is received from other stimuli such as tone of voice, volume, body language and especially perspective. Every human being has a unique perspective that results from recent and long past activities and interactions.

Some of us are primarily affected by Visual Learning. We need to see to learn. The needs of visual learners are often met by perfect demonstrations. When you prepare your demonstrations, keep in mind that people, in general, learn five to six times more by seeing than by hearing.

Some of us are primarily affected by Kinesthetic Learning. We have to do something to learn. Being actively involved in the learning process brings retention, a measure of learning, up to approximately 90% compared to 20% retention from hearing only and 50% retention from a combination of hearing and seeing.

Say less, mean more. Recent research indicates we can only focus enough to truly pay attention for approximately 10 minutes. Periods of reflective silence are critical in order to maximize learning.

In the end, all of us undoubtedly learn by the coordinated use of all senses—seeing, hearing and doing. Although there is a strong tendency to teach most comfortably in the style in which you learn best, facilitating different styles in your teaching will result in reaching your audience at a deeper level.

**Analyzing Your Audience**

The teacher must know who is being taught. Knowledge of your audience will give you insights that can affect many elements of your teaching. This information, for example, might determine your general message, the length and method used, and the specific language of the presentation you give.

Ask yourself these questions:

- What is the age range of the audience?
- What is their cultural/religious background?
- What do the individuals know about the organization you represent?
- What is their experience with the subject?
- How does the audience feel? Tired? Bored? Excited? Nervous? Cold? Hot?
- What is their level of interest in what you have to say?
- What other factors will affect their capacity to learn?

During Your Presentation

One key to successfully communicating your message is to be continually aware of your audience so that you can tailor the message to ensure it is well received. This means being flexible, ready to abandon or cut short a well-planned lecture for a game or interactive discussion. Note the level of enthusiasm and energy of your audience. Assess their level of physical comfort. Watch the questions they ask—or the lack of questions—and evaluate whether you are talking too far over their heads or boring them.

“Classroom” Management

Consider someone caught in a survival situation. What do we tell people: Panic Kills! Sit down, relax, and think. You can't think when you are a raging sea of anxiety-inducing hormones. How you feel, in other words, determines not only how much you learn but also how you act. It affects your ability to pay attention.

The same thing, on a smaller scale, can happen in the classroom. Education is enhanced by challenge and inhibited by stress. Stress releases a hormone called cortisol. Cortisol interferes with learning and memory—it numbs the mind. Therefore stress reduces learning. Insistence on a physically and emotionally comfortable “classroom” has a firm basis in science.

Ask yourself these questions:

1. What have I done to help the participants relax? Are they hydrated and well-fed? Do they feel safe (safe asking questions, accepted for who they are)?
2. Is everyone comfortably seated?

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3. Can they see you? Can they hear you? Is the sun in their eyes?
4. Are environmental factors (wind, cold, a rushing nearby stream, etc.) a distraction that can be avoided? Also ask yourself, Have I chosen an environmentally acceptable site for teaching?

TEACHING METHODS

“Almost any method of teaching will work if the quality of the teacher–student relationship is high.”

–Ken Thompson

There are numerous methods of teaching, and you must choose which to use. Subject matter, audience, setting, duration, group size, and your comfort level all should be considered when you choose a method. Creativity and a willingness to try new methods will expand your ability and confidence. A lesson is often more successful when a variety of methods are utilized to reach the goals of the lesson. Evaluating how a method worked for you will help you make decisions in the future. Creative instructors will develop new teaching methods that work for them, and no methods are exempt if they work.

Lectures

Lectures—short and long, simple and complex—are an efficient way to get information across. Lectures can be augmented with visual aids. Integrating brief but pertinent experiences can help learners better relate to your lectures, as well. The history and mission of Leave No Trace lends itself to lecture with the main points written on a board or flip chart as a visual aid. But do not rely on lectures for all audiences and/or all of the time.

Demonstrations

Demonstrations create lasting impressions of the main points of a lesson. They need to be performed as perfectly as possible. They work best if the participants can practice the task being taught immediately after seeing the demonstration. Clear and concise verbal communication and a thoughtful progression during a demonstration must not be overlooked. Teaching cat hole construction, for example, is an excellent chance to use a demonstration.



Activities

Activities offer an effective method of teaching a wide variety of skills. Activities can include games, observation exercises, and practicing an actual skill. The participants need to understand the goal of the activity. A review at the end is often necessary to reiterate the key points and add more information. Give the students an opportunity for reflection, a chance to put the experience into a personal context. Cleaning up a heavily impacted site is an excellent activity.

Inquiry

Inquiry is a method that allows students to use information received to form their own conclusions from the content. It involves the educator asking the audience a series of questions intended to stimulate independent thought. The inquiry method does not only ask a participant what they think, but why they think what they think. Students learn not only from the teacher but also from their own answers and from the answers of their peers. Inquiry can turn a lecture into a much more interactive experience. A period of inquiry can be inserted into any presentation. Use a checklist of key points that you want to make. Inquiry takes more time than downloading information via a lecture, but it tends to provide a better educational experience.

Teachable Moments

A teachable moment occurs when an unplanned opportunity to educate arises. Teachable moments are often so numerous the educator must choose which ones to use. Part of the reason that teachable moments are so effective is their spontaneity and their uncontrived nature, and the fact that they put the information into a personal context for the student. Finding an impact on the land or an artifact, for example, may create such a moment.

Storytelling, Role Playing, Skits

Fun and engaging, storytelling, role playing and skits are interactive methods of teaching a lesson. They can be woven into a longer lesson or they may stand alone. As with other methods, the goals of the lesson should stand out. Role playing a Leave No Trace enthusiast facing a messy camper in an attempt to get the message across is an example.

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Learning Stations

A number of different skills can be taught effectively through the use of learning stations. Larger groups can be broken into smaller, more manageable groups. Usually several stations are employed and the participants rotate through the stations. The stations can be self-guided with the use of written materials and/or illustrations. This is an excellent method for introducing the seven principles to some groups.

Debates

Debates provide learners the opportunity to discuss a controversial issue in a structured form of argument. The educator may act as a facilitator and as a resource. To be successful the participants need to be fairly well versed in the subject area or given sufficient time to prepare. Debate is a very good method to expose students to opposing sides of an argument and, perhaps, to a new perspective. Beware: Improperly managed, a debate can have a negative effect.

Discussions

Discussions rely on group participation and interaction to explore issues and ideas. Discussions can have many formats from free-form to guided and structured. The educator needs to decide what format is best for meeting the lesson objectives. One tactic for making discussions successful is to prepare the participants ahead of time so that they can be thinking about their points of view and what they can add to the discussion. A discussion should be concluded by a summary of the key points elicited during the discussion. The topic of “wildland ethics” lends itself well to discussion.

Other Teaching Strategies

Teachers may want to explore ways of varying their role.

Team teaching employs two or more teachers working together on the same lesson. Each may present a different segment or component of the lesson.

Peer teaching utilizes students to teach each other. Not only do students learn from each other, they learn a great deal by teaching others.

Guest speakers can provide a welcome alternative for both teacher and student.



THE LESSON PLAN

The first step in preparing for a class is to establish your goals: What you would like to see your students accomplish as a result of the class? The Leave No Trace curricula are designed to instill certain skills and ethics that will affect behavior far into the future. Consequently, the goals for many Leave No Trace classes should not be focused only on the outcome of the class but on how the students will conduct themselves anytime they recreate. As an educator, you need to remember that it is equally important that your audience understand the goal of the class as well as the vision behind it.

The more a teacher knows about the subject, the more at ease they are passing the information on to others. Gathering and studying background materials helps in understanding any topic more completely. Consulting peers and experts is an effective way to gain insight and check your level of knowledge and understanding.

Once research and information gathering has been completed, select the most important material and information to present. You cannot, in other words, feed a horse the whole haystack at one time. Most teachers find that having an abundance of information to sift through is preferable to having a minimal amount to stretch into a class. The best teachers almost always know much more than they present.

Organizing Your Material

An outline is an effective way to organize your material. Look for recurrent themes in your material and natural transitions between sections that will help determine the lesson content and progression. Creating an outline instead of a “text” to read from will make your presentation more natural and, almost always, more enjoyable. Use a format that works for you, and improve your outlines as you grow as an educator.

Preparing Your Lesson Plan

The lesson plan is a more structured and detailed tool for preparing a class. The plan is a reminder of the most important components needing to be presented and a guide to follow while making the presentation.

continued ➔

1. Material Needed.

NOTES

Training aids are often an important component of getting the lesson across. They help to graphically and visually explain concepts and allow you to connect with many types of learners. If training aids are too complex or overpowering, however, they may detract from your lesson. Examples of training aids are whiteboards and flip charts, maps, models, slides, photographs, videos, and props. Props can serve as a reminder of the key points to cover, and a visual stimulant for the visual learner.

2. Goal.

The goal describes the anticipated outcome, whether immediate or long-term.

3. Objectives.

Objectives define specifically what you expect your students to be able to do after the class. Objectives need to be measurable and have observable outcomes.

4. Motivator.

With a new group of participants, it is critical to take time to make general introductions. The students learn who you are and why you are motivated to provide the instruction. It is almost always best to allow time for the group to trade basic information about each other including their individual motivations for taking the class.

Each lesson also requires an introduction in which the participants learn what you intend to teach them and why it is important. You need to motivate them to become involved in your presentation. Motivators can be stories, analogies, anecdotes, facts and figures—anything to grab the attention of the audience.

5. Presentation.

The presentation is the body of the lesson, an outline of an organized progression. It needs to include the method of teaching you have chosen to use.

6. Conclusion.

The conclusion summarizes the key points of the lesson and gives closure to the class.

7. Evaluation.

The evaluation is your method of determining whether or not your students have met the objectives of the class.

CRITIQUE GUIDELINES

Having a presentation critiqued can provide valuable feedback that will help the participant grow as a teacher. It is helpful to have people with different backgrounds provide the critiques. Different personalities and perspectives will appreciate different styles of teaching—a reminder to take critiques with “a grain of salt.” Those who critique should be encouraged to be subjective, spontaneous, and up-front so that the participant can more fully understand how he or she comes across. If you are kind, and if you can “sandwich” negative comments between positive comments, the critique will be more valuable.

Master Educator Instructors should take the opportunity to critique the teaching of participants. When evaluating others, remember to relax. You don't need to justify everything you write down because the person being critiqued needs general impressions much more than an objective or detailed appraisal. Be as discrete an observer as possible to help set up the participant for success. Be tactfully honest. Improvement is the goal of critiquing. It tends to be at least somewhat uncomfortable for everyone, but it is critically important.

TEACHING TIPS

Rehearse your lesson. “Practice makes perfect.” Rehearsals will improve your smoothness, efficiency and confidence. They will help you determine your timing, your flow and your delivery.

Consider your delivery a critical element of all successful presentations. The components of delivery include voice (Is it natural? Is it varied in inflection?) and volume (Are you speaking loudly enough?) and tone (Is it genuine, friendly and relaxed?).

Interact with your audience. By interacting you can assess how your audience is doing and keep them paying attention. Make eye contact with everyone but do not intimidate a few with intense eye contact. Lack of eye contact suggests distance between the teacher and the group. Ask questions to stimulate learning and increase curiosity. Move around to heighten awareness, focus and engagement of the audience. Your comfort and enthusiasm will be indicated by your body language. Be aware of your posture, hand gestures, expression and mannerisms. Do they attract your audience or distance your audience?

Resources:

Principles of Education

Caine, Renate Nummela, and Geoffrey Caine. *Making Connections: Teaching and the Human Brain*. Addison-Wesley Publishing Company, Menlo Park, CA. 1994.

Gookin, John. “Training, Teaching, Educating.” NOLS Newsletter, June 1993.

Jacobsen, David. *Methods of Teaching*. Merrill Publishers. 1981.

National Outdoor Leadership School. *Wilderness Educators Notebook*, NOLS, Lander, WY. 2003.

Ratey, John J. *A User's Guide to the Brain: Perception, Attention, and the Four Theaters of the Brain*. Pantheon Books, New York, NY. 2001.

Sylvester, Robert. *A Celebration of Neurons: An Educator's Guide to the Human Brain*. Association for Curriculum Development, Alexandria, VA. 1995.

Thompson, Ken. “Learning: Structural changes in the brain that result in a change in behavior.” WMI of NOLS annual staff meeting, Lander, WY. February 2003

NOTES

SUGGESTED LESSON PLAN: PRINCIPLES OF EDUCATION**Material Needed**

- Blackboard, whiteboard or flip chart with colored pens
- Sample lesson plans for each participant
- A list of students and their teaching assignments

Goal

Master Educator course participants will recognize and understand the principles of education and their importance in taking the message of Leave No Trace to others.

Objectives

Participants will be able to:

1. Discuss the importance of the attitude and behavior of a teacher.
2. Discuss learning styles and the importance of knowing and understanding the audience.
3. Discuss teaching methods that meet the needs of differing learning styles.
4. Demonstrate the ability to prepare a lesson plan.
5. Present at least one short (5 min) lesson and one long (20 min) lesson.

Presentation

I. What is a teacher? (Discussion/inquiry and write key points on the board.)

- A. Attitude.
- B. Behavior.

II. Learning styles. (Lecture, and write on key points on the board.)

- A. Auditory.
- B. Visual.
- C. Kinesthetic.

III. Knowing the audience. (Lecture, and write key points on the board.)

IV. Teaching methods. (Activity and lecture.)

- A. The Snot Game: Divide the group into four small groups. Give each group the assignment of teaching "Snot Disposal in the Wilderness" within a five minute time limit. One group will use lecture, one will use discussion, one will use a skit, and one will use demonstration/doing. This will be acceptable as the five-minute presentation required of each student.

B. Lecture.

C. Demonstration.

D. Activities.

E. Inquiry.

F. Teachable moments.

G. Storytelling, role playing, skits.

H. Learning stations.

I. Debates.

J. Discussions.

K. Other teaching strategies.

V. The lesson plan. (Hand out sample lesson plan. Discuss. Write key points on board.)

A. Material needed.

B. Goal.

C. Objectives.

D. Motivator.

E. Presentation.

F. Conclusion.

G. Evaluation.

VI. Critique guidelines. (Lecture/discussion, and write key points on the board.)

- A. Be subjective.
- B. Be spontaneous.
- C. Be honest.

VII. Student presentations. Each participant should have been given a teaching assignment prior to arriving for the Masters Course. Give them time to prepare a lesson plan. Evaluate the lesson plan and give feedback prior to their presentation. Prepare the participant to succeed. Tell the participants they will all be given a copy of all the lesson plans created during the course.

Conclusion

How you teach is equal to or more important than what you teach. Prepare well to present well. Fail to plan, plan to fail.

Evaluation

Students will have participated in all class activities and will have produced a lesson plan for evaluation prior to their presentation.

NOTES

“Prior planning prevents poor performance.”

—Anonymous

“Good planning is living the experience in advance.”

—Sir Edmund Hillary

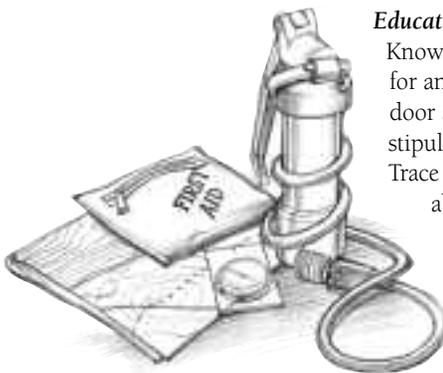
EDUCATIONAL OBJECTIVES*By the end of the class lecture, discussion, and practical sessions, the participant should be able to:*

1. State what it means to “plan ahead and prepare.”
2. Discuss the importance of pre-trip planning.
3. Demonstrate the ability to plan ahead and prepare including but not limited to a) knowledge of local regulations, b) knowledge of local environment, c) preparations for weather and environmental emergencies, d) choice of gear and clothing, and e) repackaging of food.
4. Develop a lesson plan for teaching others to Plan Ahead and Prepare.

TEXT FROM *Leave No Trace Skills & Ethics: North America*

Plan ahead by considering your goals and those of your group. Prepare by gathering information, communicating expectations, and acquiring the technical skills, first aid knowledge, and equipment to do the trip right.

Build Leave No Trace into your plans by picking an appropriate destination for your group and allowing plenty of time to travel and camp in good style. Be prepared to sit tight or turn back if you sense danger or sustain an injury. That way, you won't have to abandon Leave No Trace techniques for the sake of safety. For instance, poor planning or disregard for approaching bad weather can transform an easy hike into a risky encounter with hypothermia. Cold and wet, it's tempting to think that the impacts of poorly sited campfires and makeshift shelters are warranted.

***Educate yourself***

Know the regulations and special concerns for any area you visit. Because every outdoor area is unique, regulations and permit stipulations vary. Learn how to Leave No Trace wherever you go. Start by asking about local ecology and local minimum impact practices and guidelines.

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

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

Plan for your group

Recreation managers can suggest places suited to your group. Your group, its skills, and behavior should fit well with your wildland destination. For example, people expect some noise and commotion around picnic areas, large campgrounds, and developed recreation



sites. In the backcountry, visitors want to experience nature without these distractions.

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. Whenever possible, visit wildlands in small groups. Large groups can be boisterous and disruptive unless they are well supervised. If you are planning for a large group, try to include enough experienced leaders so the group can be divided to hike and, if possible, camp separately. Avoid problems by teaching everyone about Leave No Trace before leaving home. Always inquire

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NOTES

PRINCIPLE 1: *Plan Ahead and Prepare*

about group size limitations in advance. Large and less knowledgeable groups are best accommodated in areas where there are already developed trails and campsites.

Schedule your trip to avoid times of high use

Visits to popular wildlands during peak use periods, such as holidays and weekends, are often fraught with traffic, crowding, delays, and conflicts with other groups. Instead, visit at other times, such as midweek, for a less crowded—and more enjoyable—experience. Or, explore out-of-the-way places. Make reservations and obtain permits well ahead of time to avoid unpleasant surprises. Avoid travel when environmental conditions, such as muddy trails, make recreation impacts more likely or severe.

Use proper gear

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

Equipment that keeps us safe can also reduce impacts to our surroundings. A camp stove, which provides a quick meal without charring a single stone, is a prime example. On muddy trails—where we might want to step on trailside vegetation to keep our feet dry—gaiters or weatherproof boots let us forge ahead without getting wet.

Plan your meals

Adequate gear can be essential to the success of a trip, but it's a mistake to bring too much stuff. Get a jump on waste management by planning meals to avoid leftovers. Package food in reusable containers or plastic bags.

Get rid of wrappers and heavy packaging in advance, so you won't be tempted to leave them behind.

Develop the skills

Know the skills and gear that are needed for your chosen activity. Learn from an experienced friend, take a course, or hire a compe-

tent guide. Make sure that first aid, navigation, and self-rescue are part of your training, and be sure you're in adequate physical shape for the trip. Leave No Trace practices vary geographically. In the BLM's Moab Field Office Area, UT, for example, it's important to know what cryptobiotic soils look like. In Everglades National Park, FL, you'll be more concerned with potential impacts to marl prairies. Learn as much as you can about your destination and how to have fun there while staying safe and protecting the land.

Take responsibility

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

Register at the trailhead or with the ranger. Be a competent navigator. Always carry a map and know where you are at all times. Stay with your group. Just in case, give a friend your itinerary and instructions explaining what to do if you don't return on schedule. Stick to your itinerary as closely as possible. Don't build cairns or deface rocks or trees to mark your way. Flagging should also be avoided. If flagging is absolutely necessary, be sure to remove it before leaving the area.

TEACHING TIPS

This topic needs to be taught prior to the field trip. In addition to the presentation, the participant can see how you have planned ahead and prepared for the trip. They need an opportunity to look at maps with the route marked, discuss and evaluate the terrain and weather forecast, discuss and evaluate the gear and clothing, discuss menus, repack food, test stoves, etc. Be prepared to answer questions relative to gear choices, etc. Group needs to be divided into small cook groups.



Resources:

Plan Ahead and Prepare

Teaching Leave No Trace: Activities for Teaching Responsible Outdoor Skills. BLM, Utah State Office and USFS Wasatch-Cache National Forest Center for Wilderness Education.

NOTES

PRINCIPLE 1: *Plan Ahead and Prepare*

SUGGESTED LESSON PLAN: PLAN AHEAD AND PREPARE**Material Needed**

- Information from contact with local land managers
- Weather forecast
- Maps of the route of the field trip
- Gear and clothing for the field trip
- Food for the field trip
- White board or flip chart

Goal

Master Educator course participants will understand the principle of Plan Ahead and Prepare and the importance of teaching the principle to others.

Objectives

Participants will be able to:

1. State what it means to “plan ahead and prepare.”
2. Discuss the importance of pre-trip planning.
3. Demonstrate the ability to plan ahead and prepare including but not limited to a) knowledge of local regulations, b) knowledge of local environment, c) preparations for weather and environmental emergencies, d) choice of gear and clothing, and e) repackaging of food.
4. Develop a lesson plan for teaching others to Plan Ahead and Prepare.

Motivator

Adequate prior planning and preparation for trips into the outdoors helps you to maximize your safety and enjoyment and minimize your impact on the land.

Presentation

I. Why is planning and preparation important? (Discussion.)

- A. Maximize safety.
- B. Minimize impact.
- C. Increase comfort.

II. Key elements to consider. (Lecture, and write key points on the board.)

- A. Trip expectations and goals.
 1. Know your group and develop goals and expectations.
 2. Match your route to your group's ability.
 3. Plan to visit pristine areas only with prior commitment to expending the additional time and energy to leave no trace.

B. Knowledge of the area.

1. Contact local land managers and know local regulations.
2. Learn the Leave No Trace techniques required for the specific regional environment.

C. Time of year and expected weather.

1. Know what you can expect to find and experience.
2. Trails and campsites may be less durable due to rain, snow, wind, or dry conditions.
3. Avoid situations where safety may be jeopardized and/or the impact on natural resources increased.

D. Type of equipment.

1. Make choices that allow flexibility in order to minimize impact.
 - a. Sleeping equipment: tents, bags, pads.
 - b. Cook stoves.
 - c. Means to disinfect and carry water.
2. Choose colors that blend into the environment.
3. What not to bring.

E. Clothing.

1. Choose properly in order to remain warm and dry.
2. Choose colors that blend into the environment.

F. Food.

1. Plan a menu to avoid waste.
2. Repackage food into plastic bags or reusable containers.

III. Preparation for the field trip.

- A. Go over group goals and expectations, maps, local regulations, etc.
- B. Evaluate each individual's gear and clothing.
- C. Break group into food groups and disperse food and stoves, etc.

Conclusion

There is no greater predictor of success than how well you plan ahead and prepare. Know what to expect and prepare accordingly.

Evaluation

Students will have participated in all class activities. During the field trip students will demonstrate awareness of and adherence to the plan made prior to going into the field. Participants should now be ready to leave for the field.

NOTES

PRINCIPLE 1: *Plan Ahead and Prepare*

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

—Curtis H. Flather and H. Ken Cordell

EDUCATIONAL OBJECTIVES

By the end of the class lecture, discussion, and practical sessions, the participant should be able to:

1. Give a definition of and comparison of “durable surfaces.”
2. Discuss the importance of traveling and camping on durable surfaces.
3. Demonstrate the ability to travel and camp on durable surfaces including but not limited to a) trail use, b) use of non-trailed areas, and c) choice and use of campsites in popular areas and in pristine areas.
4. Develop a lesson plan for teaching others to Travel and Camp on Durable Surfaces.

TEXT FROM *Leave No Trace Skills & Ethics: North America*

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 cryptobiotic soil, to a gravelly river bank and rain forest moss.

Unfortunately, trampling causes vegetation damage and soil erosion in virtually every environment. Recovery that takes a year in the southern Appalachians might require 25 years or more in Glacier National Park, MT. Other impacts are also possible. Most soils contain animals that live or feed on decaying plants.

Trampling destroys habitat for insects, earthworms, mollusks, and snails, as well as the fungi that fertilize the soil and help make regrowth possible. Vegetation protects underlying soils. Once plant growth is destroyed, erosion can continue with or without further use.

Wherever you travel and camp, use surfaces that are resist-

ant to impact such as rock outcrops, sand, gravel, dry grasses, snow, and water. Avoid non-durable surfaces such as fragile plants, riparian zones, muddy sites, and cryptobiotic crusts.

Concentrate use in popular areas

In popular areas, concentrate use on trails,

established campsites, and other developed sites such as trailheads and picnic areas. Concentrating use in these areas and, if necessary, on the surfaces mentioned earlier, will minimize disturbances to soils and vegetation. Because animals learn to expect people on trails, they’re less disturbed by encounters with people on-trail than off.

Stay on designated trails. On trails, walk single file in the center of the tread—even where it’s wet, rocky or muddy. Trails become progressively wider and form parallel paths where people walk on trail margins or detour around obstacles. Likewise, “social trails” mar campgrounds and other popular areas. Always use established roads and trails to visit campsites and other places of interest. Short-cutting a trail, especially on switchbacks, has severe consequences. Shortcuts become trails or gullies that require costly restoration. Keep out of areas where efforts to restore vegetation and soils are in progress.

Boating, fishing and other water-based activities can damage shorelines, wetlands, and reefs. Inquire locally about how to minimize your impact on these resources, and review the outdoor ethics relative to water-based recreation. Always choose durable sites to launch, anchor, and dock your boat, and avoid tide pools, coral reefs, and wildlife habitats.

Use established campsites. Choose a well-established campsite that’s big enough for your group. Some popular areas have officially designated campsites, shelters or platforms. Use of these amenities can reduce damage to vegetation and other natural features. Where camp-

continued ➡



cryptobiotic crust

NOTES

PRINCIPLE 2: *Travel and Camp on Durable Surfaces*



sites are not formally designated, look for and use sites where the ground cover is already worn away. Wear soft-soled shoes and concentrate your activities in the center of the site to avoid enlarging it.

In grizzly bear country, it is advisable to separate the sleeping and cooking areas. Otherwise, tents, packs, gear, and the kitchen area should be concentrated in one area on previously compacted, naturally resistant, or reinforced surfaces. This approach protects surrounding vegetation and prevents development of “satellite” sites.

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

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. Find a level spot, do not create one. We can bring our own lightweight furniture and conveniences along to eliminate the need to create them on-site. Camp stoves, mattresses, tables, chairs, lanterns—even solar showers—are readily available at reasonable prices, and they pack in and out with ease.

Leave your campsite clean and natural looking—naturalize it. 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, and unsightly fire rings are thoughtless acts. By taking the time to pick up after ourselves and others, if necessary, we’ll all benefit.

Trees are often damaged near campsites. Take care not to break off branches while securing tent or clothes lines, and when sus-

pending food or game carcasses. Don’t use wire or nails. Place a stuff sack or other material under ropes or where padding is necessary to protect bark. Likewise, place lanterns where they won’t singe bark. When traveling with stock, use high lines, portable fencing or hobbles to restrain the animals without tying them directly to trees. Trees shouldn’t be targets or storage sites for hatchets and knives.

Even in campsites, leave the area as natural as possible. Breaking off a tree branch for firewood creates an ugly scar and opens the tree to disease. Proper firewood collection is discussed under Minimize Campfire Impacts.

Disperse use in pristine areas

Proliferation of trails and campsites has alarmed both resource managers and travelers across North America. Even where visitor use has remained relatively stable, such as the Spanish Peaks Wilderness, MT, campsites are sprouting up in traditionally low use areas. When you visit remote or pristine areas, commit yourself anew to Leave No Trace of your visit. Using established routes, trails, and campsites is always preferable to pioneering new ones.

If you must travel off-trail, use the most durable surfaces such as rock, snow and ice, gravel, sand, and navigable water. Dry grasses and sedges (which resemble grasses) are also naturally durable due to their hardy root structures and flexible stems.

Stick to existing trails where soils are prone to erosion, rare species are present, or vegetation grows slowly. Surprisingly, some of the most sensitive plants and animals grow in the toughest places—like the sandy soils of southern Utah and the rocky ledges of upstate New York.

Avoid creating trails and campsites. Consult local land managers about off-trail travel and the appropriate use of game trails. In general, spread out when hiking across vegetation. If each person takes a slightly different route, a distinct trail is less likely to form because no single plant receives multiple footfalls. Walking single file is acceptable where there is little chance of trampling plants.

Off-trail travel may not be appropriate in some areas. For example, golden mountain heather grows on a few rocky ledges in the Pisgah National Forest, NC, and nowhere else on earth. Off-trail hikers and climbers are the

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NOTES

PRINCIPLE 2: *Travel and Camp on Durable Surfaces*



only serious threats to its survival. If you absolutely must travel through fragile terrain, try to place your footsteps in the least destructive locations and encourage your companions to step in exactly the same spots.

Campsites. Select the most durable camping location possible—or keep traveling until one is found. In pristine areas, pre-existing camping spots, even those that are lightly used, should be left alone to recover. Before unpacking your tent, 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. Look for a large rock slab, a graveled area, or other equally durable space to locate your kitchen. Concentrate your activities on this surface whenever possible to protect more fragile areas. If necessary, reserve less durable ground for your sleeping area.

In pristine areas, impacts can often be avoided by staying only one night. In these areas, vary your route to water, to the “bathroom” and to sleeping areas to prevent trails from forming. In general, manage your activity to avoid harming

the natural features of the site, especially those that do not regenerate or do so very slowly—such as lichens and trees.

Breaking camp

Before departing, naturalize and disguise the site by replacing any rocks or sticks you may have moved. Re-cover scuffed-up areas with leaf litter or pine needles. Fluff up matted grass and make the place less obvious as a campsite. As long as overall visitor use is very low, the site will retain its best qualities. Ideally, no trails or campsites will be created if visitors disperse their activities.

Protect water resources

Sand and gravel bars along large rivers or the ocean are durable surfaces that may be suitable for low-impact camping. However, vegetated lakeshores and the banks of small streams are fragile and easily eroded. Plants and animals also congregate at these water sources, so camp at least 200 feet (70 adult steps) away unless local guidelines indicate otherwise. In arid regions, this practice gives wildlife vital access to potholes and springs. By distancing camps from water, we are less likely to inadvertently pollute them.

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

TEACHING TIPS

This topic is filled with possibility for “teachable moments.” Plan a route for the field trip that exposes the participants to heavily used and pristine areas. Along the route, point out different surfaces and how thoughtless use has impacted them. Be sure to differentiate between ecological impacts and social impacts. Evaluate each participant’s campsite selection and use and kitchen site selection and use prior to moving on during the field trip.

Resources:
Travel and Camp on Durable Surfaces

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

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

Lueng, Y. F., and J. L. Marion. “Recreation impacts and management in wilderness: A state-of-knowledge review.” *Proceedings: Wilderness Science in a Time of Change*, Vol. 5, Proceedings RMRS-P-15-Vol-5, USDA Forest Service, Rocky Mountain Station, Ogden, UT, 2000.

NOTES

PRINCIPLE 2: *Travel and Camp on Durable Surfaces*

SUGGESTED LESSON PLAN: TRAVEL AND CAMP ON DURABLE SURFACES**Material Needed**

- Master Educator Course Student Handbooks
- *Soft Paths*, by Hampton and Cole

Goal

Master Educator course participants will understand the principle of Travel and Camp on Durable Surfaces and the importance of teaching the principle to others.

Objectives

Participants will be able to:

1. Give a definition of and comparison of “durable surfaces.”
2. Discuss the importance of traveling and camping on durable surfaces.
3. Demonstrate the ability to travel and camp on durable surfaces including but not limited to a) trail use, b) use of non-trailed areas, and c) choice and use of campsites in popular areas and in pristine areas.
4. Develop a lesson plan for teaching others to Travel and Camp on Durable Surfaces.

Motivator

During the day's hike point out misuse of trails and campsites. Refer back to these. Finding durable surfaces to travel and camp on lies at the heart of leaving no trace. Arguably no other considerations are as important in the field.

Presentation

I. Concentrate use in popular areas. (Lecture, with reference to misuse seen that day.)

- A. Understand the principle.
 1. Established sites and existing trails preserve the environment.
 2. Appropriate expectations preserve the experience.
- B. Main points.
 1. Stay on trails.
 - a. Hike single file in the middle of trails.
 - b. Avoid making multiple trails.
 - c. Do not use switchbacks.
 - d. Take rest breaks on durable surfaces and off trail when possible.
 2. Choose durable (and avoid non-durable) campsites. (Point out durable sites.)
 - a. Allow adequate time at day's end to choose a site.
 - b. Avoid proliferation of new sites.
 - c. Avoid enlarging sites.
 - d. Avoid creating social trails.

- e. Avoid inappropriate or illegal established sites.
3. Camp away from trails and water sources. (Step off proper distance.)
 - a. Minimize visual impacts.
 - b. Minimize impact to and contamination of water sources.
 4. Leave a site cleaner than you found it.
 - a. Pack out all garbage and litter.
 - b. Help other visitors choose the site instead of creating new ones.

II. Disperse use in pristine areas. (Lecture, with reference to pristine sites seen that day.)

- A. Pristine areas.
 1. Shows little or no human use.
 2. Often fragile and easily damaged.
- B. Traveling in pristine areas.
 1. Spread out and hike in small groups.
 2. Stay on durable surfaces.
 3. Minimize impact to fragile vegetation.
 - a. Resistant vegetation: characteristics.
 - b. Resilient vegetation: characteristics.
 4. Avoid fragile areas.
- C. Camping in pristine areas.
 1. Choose a durable surface.
 2. Consider camp layout carefully.
- D. Leaving a pristine campsite.
 1. Do not stay long.
 2. Naturalize and disguise: leave no sign of use.

III. Avoid places where impact is just beginning. (Lecture and activity of asking the group to find subtle signs of human use.)

- A. Learn to recognize subtle signs of human use.
- B. Avoid lightly impacted trails.
- C. Allow subtle impacts to heal.

Conclusion

We leave the greatest trace on the land by inappropriate choice of the surfaces on which we travel and camp.

Evaluation

Students will have participated in all class activities. Students will have demonstrated an understanding of high-use vs. pristine areas and will have applied the principle of traveling and camping on durable surfaces. Evaluate each campsite chosen by participants.

NOTES

PRINCIPLE 2: *Travel and Camp on Durable Surfaces*

“Cleanliness is next to godliness.”

—Anonymous

EDUCATIONAL OBJECTIVES*By the end of the class lecture, discussion, and practical sessions, the participant should be able to:*

1. Give a definition of “waste.”
2. Discuss the importance of proper waste disposal.
3. Demonstrate the ability to dispose of waste properly including but not limited to a) solid human waste, b) urine, c) trash and litter, d) leftover food, e) water from dishwashing, and f) water from personal hygiene practices.
4. Develop a lesson plan for teaching others to Dispose of Waste Properly.

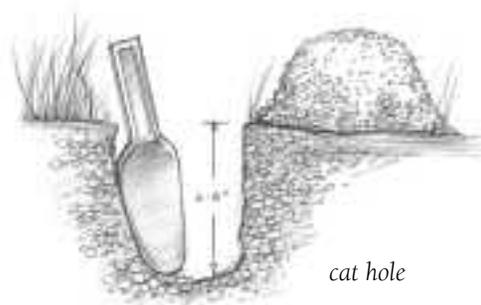
TEXT FROM *Leave No Trace Skills & Ethics: North America****Pack it in, pack it out.***

“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. It is critical to wildlife that we pack out kitchen waste, such as bacon grease and leftovers. Don't count on a fire to dispose of it. Garbage that is half-burned or buried will still attract animals and make a site unattractive to other visitors.

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.

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 “micro-garbage” such as bits of food and trash, including cigarette filters and organic litter like orange peels, or egg and pistachio shells.



cat hole

Practice good sanitation***Human waste***

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

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

Improper disposal of human waste can lead to water pollution, the spread of illnesses such as Giardia, and unpleasant experiences for those who follow. Wherever soils are thin or sparse, such as the arctic tundra or above treeline, rainstorms can flush food wastes and other pollutants from campsites directly into water sources. Both livestock and wildlife can also be responsible for the presence of bacteria in wildland areas.

Facilities/ outhouses. Whenever possible, take time to locate and use bathrooms, outhouses, and other developed sites for human waste disposal.

Cat holes. If no facilities are available, deposit solid human waste in “cat holes” dug 6 to 8 inches deep at least 200 feet from water, camp, trails, and drainages. Bring a trowel to dig the hole, and disguise it well after use. The microbes found in 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 water sources. If

continued ➔

NOTES

PRINCIPLE 3: *Dispose of Waste Properly*

the cat hole method is ill suited to your group, try to camp where an outhouse or pit toilet is available.

Good cat hole sites isolate waste from water sources such as lakes, streams, dry creek beds, ravines, bogs, pot holes, and other visitors. Whenever possible, use a remote location during the day's travel to help prevent high concentrations of cat holes near campsites.

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 as possible and bury it deeply in the cat hole. Burning toilet paper at the site has caused wildfires, rarely burns completely, and is not recommended. "Natural" toilet paper like grass, sticks, and snow can be surprisingly effective. Always pack out feminine hygiene products because they decompose slowly and attract animals.

Latrines. When traveling with children—and in other situations where cat holes may not be used properly—it might be best to dig a latrine. Site the latrine as you would a cat hole and make sure that the route to the latrine is over durable surfaces. Dig a trench 6-8 inches deep, and long enough to accommodate the needs of your party. Use soil from the trench to cover the feces after each use. Dispose of toilet paper by packing it out in a plastic bag or burying it at the bottom of the trench. Naturalize the site before leaving.

Carrying waste out. Visitor use is often high and soils sparse in alpine and desert areas. Recreation managers trying to protect human health and water sources employ a spectrum of toilet designs and approaches to managing human waste—even airlifting waste with helicopters. One option is to carry and use a homemade container such as a "poop tube" or a commercial device designed for transporting human waste. Dispose of the contents in pit toilets, porta-johns, or according to package instructions. Local land managers may recommend other appropriate disposal techniques.

Urine. While the odor of urine can be a problem in arid areas, especially along river corridors, it is typically not a health concern. Urinate well away from camps and trails. In rainy environments, urine attracts wildlife with salt-deficient diets. Animals sometimes defoliate plants to consume the salt in urine, so urinate on rocks or bare ground rather than on

the vegetation. Where water is plentiful, consider diluting the urine by rinsing the site.

Special Environments

Winter. Winter conditions present special challenges. Water is everywhere—it just happens to be frozen—and the soil may be several feet out of reach and as hard as a rock. Poop tubes or other "packing out" products may be the best disposal options unless you can locate a patch of bare ground, usually under a tree where a trowel might penetrate the duff.

Waterways. Carrying a portable toilet has become a standard practice on many waterways and may be required. At the conclusion of a trip, the toilet's holding tank is flushed out at a RV or boat dump station. The station delivers the waste and toilet paper to a municipal sewage treatment plant. The dumping of solid human waste in landfills is usually illegal. While on a river, be sure to site the toilet on a durable spot where no new trails will be created to reach it. Urinate, unless instructed otherwise by a land manager, directly into rivers where dilution is the solution to pollution.

Wastewater

To wash yourself or your dishes, carry water 200 feet away from streams or lakes. Scatter strained dishwater. Hand sanitizers that don't require rinsing allow you to wash your hands without worrying about wastewater disposal.

For dish washing, use a clean pot or expanding jug to collect water, and take it to a wash site at least 200 feet away from water sources. This lessens trampling of lakeshores, riverbanks and springs, and helps keep soap and other pollutants out of the water. Use hot water, elbow grease, and little or no soap. Strain dirty dishwater with a fine mesh strainer before scattering it broadly. Do this well away from camp, especially if bears are a concern. 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 developed campgrounds, food scraps, mud and



continued ➔



poop tube

NOTES

PRINCIPLE 3: *Dispose of Waste Properly*

Resources:**Dispose of Waste Properly**

Cilimburg, Amy, and Christopher Monz, Sharon Kehoe. "Wildland recreation and human waste: A review of problems, practices and concerns." *Environmental Management*, Vol. 25, No. 6, pages 587-598. 2000.

Teaching Leave No Trace: Activities for Teaching Responsible Outdoor Skills. BLM, Utah State Office, and USFS Wasatch-Cache National Forest Center for Wilderness Education.

Tilton, Buck, and Rick Bennett. *Don't Get Sick: The Hidden Dangers of Camping and Hiking*. The Mountaineers Books, Seattle, WA. 2002.

odors can accumulate where wastewater is discarded. Contact your campground host for the best disposal practices and other ways to Leave No Trace at your campsite.

Soaps and lotions

Soap, even when it's biodegradable, can affect the water quality of lakes and streams, so minimize its use. Always wash yourself well away from shorelines (200 feet), and rinse with water carried in a pot or jug. This allows the soil to act as a filter. Where fresh water is scarce, think twice before swimming in creeks or potholes. Lotion, sunscreen, insect repellent and body oils can contaminate these vital water sources.

Dispose of game entrails

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

TEACHING TIPS

This topic lends itself to numerous demonstrations: stepping off distances, digging and filling cat holes, straining food scraps from wastewater, and disposing of wastewater. Be prepared to discuss why food scraps need to be packed out.

NOTES

SUGGESTED LESSON PLAN: TRAVEL AND CAMP ON DURABLE SURFACES**Material Needed**

- Trowel
- Toilet paper
- Strainer/nylon stocking
- Garbage bags

Goal

Master Educator course participants will understand the principle of Dispose of Waste Properly and the importance of teaching the principle to others.

Objectives

Participants will be able to:

1. Give a definition of “waste.”
2. Discuss the importance of proper waste disposal.
3. Demonstrate the ability to dispose of waste properly including but not limited to a) fecal matter, b) urine, c) trash and litter, d) leftover food, e) water from dishwashing, and f) water from personal hygiene practices.
4. Develop a lesson plan for teaching others to Dispose of Waste Properly.

Motivator

During the day’s hike ask participants to find and save for the presentation any waste they see. Imagine your favorite campsite, and then imagine it heavily impacted. Litter is distressing and potentially dangerous to wildlife. Human waste is disgusting and potentially dangerous to human life. A little litter and waste encourages more.

Presentation

- I. Pack it in, pack it out. (Lecture, and show samples if any have been found.)
 - A. Common sources of wilderness waste.
 1. Food and food packaging: the most common.
 2. Fishing tackle.
 3. Cigarette butts, gum and toilet paper.
 - B. Main points.
 1. Reduce litter at the source, before you leave town.
 2. Pack all non-burnable trash—and most trash is non-burnable.
 3. Dispose of food-related garbage properly.
 - a. Plan rations to avoid leftovers.
 - b. Cook carefully to avoid burnage and over-spiced meals.
 - c. Pack out leftovers in a garbage bag—burning food is not acceptable.
 - d. Strain out scraps from wastewater, and pack out. (Demonstrate.)
 4. Be familiar with special regulations or considerations for the area.
 - C. Fine points.

1. Check campsites carefully for small and often forgotten waste.
2. Pick up litter left behind by others.
3. Report extensive litter and/or litter too big to pack out to local land managers.

II. Practice good sanitation. (Demonstrate and have students practice.)

- A. Disposal of human waste.
 1. Objectives in disposal of human waste.
 - a. Avoid pollution of water sources. (Step off distance.)
 - b. Maximize the rate of feces decomposition.
 - c. Avoid the social impact of finding human waste.
 2. Cat holes.
 - a. Advantages over other methods.
 - b. Where and how to dig and hide a cat hole.
 3. Alternatives to cat holes.
 - a. When they are appropriate.
 - b. What is appropriate, e.g., latrines.
- B. Urination.
 1. On rocks or bare ground.
 2. In large waterways.

III. Management of wastewater.

- A. Cleaning dishes and cookware.
 - a. The use of soap.
 - b. The distance from water sources.
 - c. Straining and packing out scraps.
- B. Disposal of wastewater. (Demonstrate.)

IV. Personal washing.

- A. The use of soap.
- B. Washing hands after using a cat hole and prior to cooking.
- C. Distance from water sources.
- D. Do you need to bathe?

V. Fishing and hunting.

- A. Proper disposal of fish entrails.
- B. Hunting considerations.

Conclusion

Improper management of waste places other visitors and wildlife at risk in addition to creating highly unappealing eyesores.

Evaluation

Students will have participated in all class activities. Students will have demonstrated an understanding of and will have applied the principle of disposing of waste properly.

***“The earth, like the sun, like the air, belongs to everyone—
and to no one.”***

—Edward Abbey

EDUCATIONAL OBJECTIVES

By the end of the class lecture, discussion, and practical sessions, the participant should be able to:

1. State what it means to “leave what you find.”
2. Discuss the importance of leaving what you find.
3. Demonstrate the ability to leave what you find including but not limited to a) preserving evidence of the past, and b) leaving natural objects undisturbed.
4. Develop a lesson plan for teaching others to Leave What You Find.

TEXT FROM *Leave No Trace Skills & Ethics: North America*

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

Leave natural features undisturbed

Load your camera, not your packs. Let photos, drawings and memories comprise your souvenirs. Although natural objects may be collected on some public lands, a permit is often required. Collecting is prohibited in national



It’s the missing elements of our favorite places that should disturb us the most. Leave What You Find means retaining the special qualities of every wildland area—for the long term.

Preserve the past

Discovering evidence of earlier cultures such as clay pots, rock art, and antique glass is exhilarating, and it’s tempting to take such things home as souvenirs.

Archeological and historical artifacts are reminders of the rich human history of the landscape and belong to all people for all time. Structures, dwellings and artifacts on public lands are protected by the Archaeological Resources Protection Act and the National Historic Preservation Act and should not be disturbed. These include seemingly insignificant potsherds, arrowheads and logging or railroad equipment from 50 or more years ago. It is illegal to excavate, disturb or remove these resources from any public lands. Observe but do not touch them.



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

Help children investigate the role of sea shells and other natural objects in their own environments. Remind them that these things fill important ecological niches: an antler is gnawed by a kangaroo rat; a scorpion finds shade under a piece of driftwood; some petrified wood shelters the entrance of a pika’s burrow; and a feather is

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NOTES

PRINCIPLE 4: *Leave What You Find*

woven into the nest of an osprey. 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 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. At least 1.5 million acres of National Park Service lands are severely infested. Invasive plants affect every habitat type found in national forests and Bureau of Land Management lands in the U.S. There is no effective treatment for many invasive species and we are losing the native, living natural heritage protected lands were intended to conserve.

Recreationists play a role in the spread of invasives by transporting live animals, plants and seeds, and agents of disease such as *Giardia*. The potential for new infestations increases every day as more and more outdoor seekers travel from one wildland to another around the globe. On campsites in the Bob Marshall Wilderness, MT, for example, three of the four most common species are non-native plants.



ragweed



tamarisk

Resources:

Leave What You Find

See below General Resources.

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 packs, tents, boats, fishing equipment, vehicles, 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 boots or tire treads.
- Never discard or release live bait.
- Make sure pack stock and pets are immunized, and their coats are free of seeds, twigs, and harmful pests such as ticks.
- If you carry hay or other feed, make sure it's weed-free. Feed pack animals food that is certified weed-free for at least three days before entering wildlands.
- Help landowners or land managing agencies initiate control efforts by alerting them to infested areas.

TEACHING TIPS

This topic lends itself to discussion and debate. Be prepared to answer questions from those with a collector mentality. Explore well your own reasons for leaving what you find before presenting this topic.

NOTES

SUGGESTED LESSON PLAN: LEAVE WHAT YOU FIND

Material Needed

Local and national regulations governing removal of artifacts and natural objects



Goal

Master Educator course participants will understand the principle of Leave What You Find and the importance of teaching the principle to others.

Objectives

Participants will be able to:

1. State what it means to “leave what you find.”
2. Discuss the importance of leaving what you find.
3. Demonstrate the ability to leave what you find including but not limited to a) preserving evidence of the past, and b) leaving natural objects undisturbed.
4. Develop a lesson plan for teaching others to Leave What You Find.

Motivator

During the day’s hike watch for examples of things that should be left. Beautiful rocks, flowers, antlers and other natural objects are stolen from others who want and value the discovery of such things. Cultural artifacts carry the same wonder with discovery—and may be illegal to remove.

Presentation

- I. Preserve the past. (Discussion.)
 - A. The wonder of discovery of archaeological and historical artifacts.
 - B. Legal and ethical reasons to leave what you find.

- II. Leave natural features undisturbed. (Discussion and/or debate.)
 - A. The wonder of discovery of natural objects.
 - B. What the law says about removal of natural objects.
 - C. Avoid damage to trees and plants, and removal of flowers.
- III. Avoid spreading non-native plants and animals. (Lecture.)
 - A. Intentional transportation of plants and animals.
 - B. Gear and clothing.
 - C. Live bait.
 - D. Pack stock and pets.
 - E. Alerting land managers to infestations.

Conclusion

Removing or disturbing natural objects and cultural artifacts reduces the opportunity for other to enjoy them and is often illegal.

Evaluation

Students will have participated in all class activities. Students will have demonstrated an understanding of and will have applied the principle of leave what you find.



“In gaining the lovely and the usable, we have given up the incomparable.”

—Wallace Stegner

EDUCATIONAL OBJECTIVES

By the end of the class lecture, discussion, and practical sessions, the participant should be able to:

1. State what it means to “minimize campfire impacts.”
2. Discuss the importance of minimizing the impact of campfires.
3. Demonstrate the ability to minimize the impact of campfires including but not limited to a) use of camp stoves, b) use of established fire rings, fire pans and mound fires, c) choice of firewood, and d) proper disposal of ashes.
4. Develop a lesson plan for teaching others to Minimize Campfire Impacts.

TEXT FROM *Leave No Trace Skills & Ethics: North America*

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. More important, campfires can and do ignite wildfires.

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

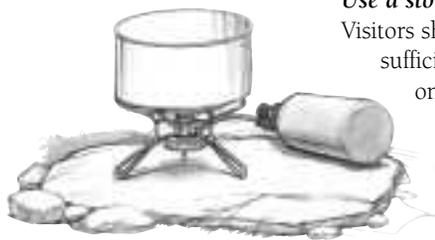
Use a stove

Visitors 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, downed and dead wood is plentiful, and there is sufficient time to prepare the fire site, burn all the wood to cold ash, and clean up.

Fires are inappropriate in fragile environments where plant growth is extremely slow. Wood from an arctic willow or alpine krumholz, which is hundreds of years old, will burn only a few short minutes.

Build a minimum impact fire

Consider whether a fire makes good sense at your picnic or campsite.



If a campfire is important to you:

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

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

Beach fires. A gravel bar or beach campfire is made by excavating a shallow depression in the sand or gravel along the shorelines of oceans or large rivers. Make sure to remove all the ash, and scatter it before refilling the depression. If

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NOTES

PRINCIPLE 5: *Minimize Campfire Impacts*

left in place, the ash will “float” through the sand or gravel, and the fire site will be obvious to others.

Pit fires. Pit fires are campfires built in a shallow pit, as beach fires are, where there is no overlying vegetation. Use gravely, rocky or sandy sites only. Avoid organic soils and duff, and places where the fire could damage plants or other natural features. Remove and scatter the ashes before filling in and disguising the pit.

Mound or pan fires. Fire pans are metal oil pans or aluminum roasting pans that make good containers for low-impact fires. Use a pan on a durable, unvegetated surface away from cliffs or overhangs. Line it with a few



inches of inorganic soil, and elevate it with stones to prevent damage to vegetation and soils below. Drill two or three holes through the side of the pan to attach it to a pack with cord for transport.

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

Use dead and downed wood

Keep fires small. Don't snap branches off of trees, either living or dead, because this scars them. For example, in the early 1980s, 95 percent of the trees in Eagle Cap Wilderness, OR,



campsites were damaged by people collecting firewood or damaging tree trunks. Use only sticks from the ground that can be broken by

hand. Larger pieces of downed wood play an important and unique role in nutrition, water cycling, and soil productivity. They provide shelter for wildlife such as lizards and, while decaying, germination sites for many plant species.

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

Manage your campfire

No matter which campfire technique you employ:

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

In popular areas, leave a single, small, clean rock ring centered in the campsite. Dismantle and clean up any extra fire rings. If a fire grate is present, don't build or use a rock ring. Leave the grate clean and ready for the next person. In remote areas, clean up thoroughly and disguise the fire site to make it appear as natural and untouched as possible. In most situations, it will be best to check with local land managers to get their recommendations.

TEACHING TIPS

This topic offers the opportunity to demonstrate and have the participants practice gathering acceptable firewood, building an acceptable fire, and hiding all signs of the fire. Be prepared for strong feelings within the group, either supportive or non-supportive—fires are loved by many, looked down on with disgust by others.

**Resources:
Minimize Campfire
Impacts**

Cole, D. N., and J. Dalle-Molle. "Managing campfire impacts in the backcountry." USDA Forest Service, Intermountain Forest and Range Experiment Station, Research Paper INT-135, Ogden, UT, 1982.

NOTES

PRINCIPLE 5: *Minimize Campfire Impacts*

SUGGESTED LESSON PLAN: MINIMIZE CAMPFIRE IMPACTS**Material Needed**

- Camp stove
- Trowel
- Large stuff sack (for carrying soil for mound fire)
- Firestarting material (e.g., matches, lighter)
- Optional: firepan

Goal

Master course participants will understand the principle of Minimize Campfire Impacts and the importance of teaching the principle to others.

Objectives

Participants will be able to:

1. State what it means to “minimize campfire impacts.
2. Discuss the importance of minimizing the impact of campfires.
3. Demonstrate the ability to minimize the impact of campfires including but not limited to a) use of camp stoves, b) use of established fire rings, fire pans and mound fires, c) choice of firewood, and d) proper disposal of ashes.
4. Develop a lesson plan for teaching others to Minimize Campfire Impacts.

Motivator

If possible, point out misuse of fires you’ve seen that day. Although campfires are eagerly anticipated by many, the use and abuse of campfires has a major impact on the environment. If you choose to build a fire, you must know when to build and how to build a fire.

Presentation

- I. Stoves vs. fires. (Lecture and/or discussion.)
 - A. Advantages of stoves.
 1. Fast and convenient with fewer cooking mistakes.
 2. More flexibility in cooking sites.
 3. Easily moved if impact is noticed.
 4. No major site clean up time.
 5. No worry over firewood availability.
 6. Less danger of forest fire.
 - B. Advantages of fires.
 1. Aesthetically pleasing and comforting.
 2. An important emergency skill.
- II. Minimum impact fires. (Lecture.)
 - A. General considerations.

1. Local regulations and/or restrictions.
2. Forest fire danger.
3. Site durability.
4. Availability of firewood.

B. Firewood. (Lecture, and have students gather firewood.)

1. Use only dead and downed wood—do not break off branches.
 - a. Burns more readily.
 - b. Easier to gather.
 - c. Less impact from gathering.
2. Size.
 - a. No larger around than your wrist.
 - b. Smaller pieces burn more completely.
 - c. Large pieces contribute to the ecosystem.
3. Gather from over a large area.
4. Do not use saws, axes or hatchets.

C. Fires in high-use areas.

1. Use existing fire rings.
2. Clean up within the ring after use.
3. If multiple rings exist in one spot, remove all signs of unnecessary rings.

D. Fires in pristine areas. (Demonstration.)

1. Fire pans.
2. Mound fires.
3. Gravel bars and beaches.

E. Campfire management.

1. Never leave a fire unattended.
2. Do not put non-burnable trash in the fire.
3. Burn the wood completely to ash.
4. Saturate the ash with water.
5. Scatter all the ashes widely with a small shovel or pot lid.
6. Restore the appearance of the fire site.

Conclusion

Fires are pleasing in many respects, but they carry a heavy burden of proper use and management.

Evaluation

Students will have participated in all class activities. Students will have demonstrated an understanding of and will have applied the principle of minimizing campfire impacts. Optional: Students will properly build and manage a campfire.

NOTES

PRINCIPLE 5: *Minimize Campfire Impacts*

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

—Colin Tudge, Wildlife Conservation

EDUCATIONAL OBJECTIVES*By the end of the class lecture, discussion, and practical sessions, the participant should be able to:*

1. State what it means to “respect wildlife.”
2. Discuss the importance of respect for wildlife.
3. Demonstrate the ability to respect wildlife including but not limited to a) observing wildlife from a distance, b) never feeding wildlife, intentionally or unintentionally, and c) avoiding wildlife during sensitive times such as mating and nesting.
4. Develop a lesson plan for teaching others to Respect Wildlife.

TEXT FROM *Leave No Trace Skills & Ethics: North America*

Encounters with wildlife inspire tall tales and long moments of wonder. Unfortunately, wildlife around the world faces threats from loss and fragmentation of habitat, invasive species, pollution, over-exploitation, poaching and disease.

Protected lands offer a last refuge from some, but not all, of these problems.

Consequently, wild animals need recreationists who will promote their survival rather than add to the difficulties they already face.

We know that animals respond to people in different ways. Some species adapt readily to humans in their domain, resume their normal behaviors and are said to be “habituated.” Other animals flee from humans, abandoning their young or critical habitat. Still others are attracted and endangered by human food and trash.

Because outdoor recreation is dispersed over large areas and at all times of the year, its impacts on wildlife can be equally extensive. Fish, birds, and reptiles, as well as mammals, are affected by people using their habitats. We are responsible for coexisting peacefully with wildlife.

Observe from a distance

Always watch or photograph animals from a safe distance to avoid startling them or forcing them to flee. Do not follow or approach them. If you’re hunting, know your game and take only safe, clean shots.

Use the observation areas, platforms and trails

provided in many areas, and bring binoculars, spotting scopes, and telephoto lenses to watch wildlife. Back away if animals react to your presence. To leave the area, move away from the animal even if you must detour from your intended travel direction. You have more options in your movements than animals do. Treat them generously.

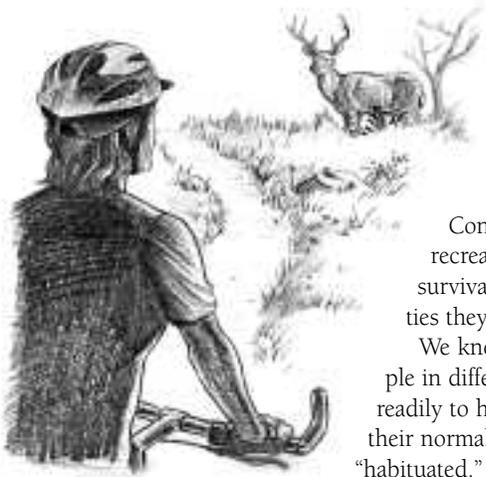
Avoid quick movements and direct eye contact, which may be interpreted as aggression. Don’t disturb wildlife (i.e. by shouting to get their attention) to get a better photo. If animals are on the move, stay out of their line of travel. Travel quietly except in bear or mountain lion country. Don’t hike at night where nocturnal predators may present a hazard to safety.

Adult behaviors influence the relationship 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, 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.

Avoid sensitive times and habitats

Consider the seasonal stresses that wildlife face. In some situations, avoid their habitats, for your safety and the animals’. For example, in Mark Twain National Forest, MO, wintertime disturbance of endangered Indiana and gray bats greatly decreases their chance of survival. Grizzly bears frequent berry patches in late summer in Montana. Eagles and songbirds are wary of

continued ➔



NOTES

PRINCIPLE 6: *Respect Wildlife*

humans and trails when choosing nesting territories in early spring in many wildland areas.

In general, animals are sensitive to recreationists while pursuing and defending mates and territories, birthing, guarding young or nests, and when food is scarce.

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



loon

Never feed animals

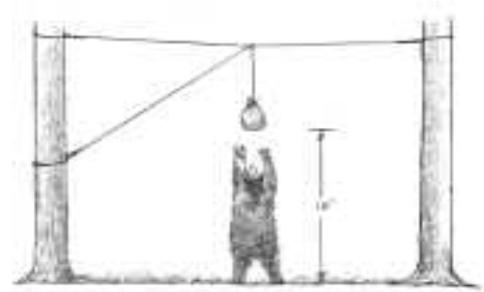
Feeding wildlife damages their health, alters natural behaviors, and exposes them to predators and other dangers. Headlines are made when wildlife is attracted to humans and their food. Bears get the most attention for tearing into tents, coolers and cars in search of a meal, but campers more commonly have to deal with the annoyance of rodents, raccoons or birds looking for a handout. 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.

Human foods and products are harmful to wildlife because animals would otherwise forage and eat a nutritious diet derived from their natural environment. Serious illness or death can occur when wildlife consumes food wrappers, vehicle antifreeze and other "inedibles."

Animals are adept opportunists. When offered the temptations of an untidy backcountry kitchen or a handout 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 locales such as campsites and trailheads, 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.

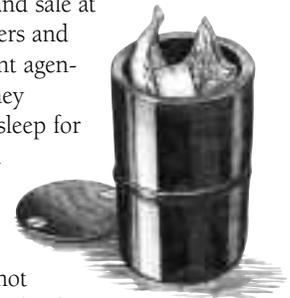
Store food and trash securely

"Food" includes garbage, canned food, stock feed, pet food, fuel and scented or flavored toiletries. The salt in hiking boots, backpacks or clothing also attracts many small mammals. Appropriate storage and transportation methods vary considerably from place to place, so consult local land managers about the best practices. Keep a clean camp by removing all



garbage and even the tiniest food scraps. Be careful not to drop food on the trail as well.

In bear country, 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. Canisters are available for rent and sale at sporting goods suppliers and some land management agencies. Used properly, they ensure a good night's sleep for you and a natural diet for bears.



Control your pet

Wildlife and pets are not a good mix—even on a leash, dogs harass wildlife and disturb other visitors. The best option is to leave them at home. Obedience champion or not, every dog is a potential carrier of diseases that infect wildlife.

If you must travel with your pet, check for restrictions in advance. Most national parks prohibit dogs on all trails. Ensure your animal is in good condition for the trip. 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. Remove pet feces from trails, picnic areas, and campsites by disposing of it in a cat hole, as you would human waste, or in a trash can.

TEACHING TIPS

This topic can be greatly enhanced by the teacher who knows the local wildlife and ways they are threatened by unwary and/or uncaring visitors. Prior to the field trip alert the participants as to what species might be encountered. Keep a record of what animals and/or tracks are seen. Is this area a primary breeding spot? What do the animals of this area eat? Have any species disappeared from this area? Why?

Resources:

Respect Wildlife

Knight, R. L., and D. N. Cole. "Effects of recreational activity on wildlife in wildlands." *Transactions of the North American Wildlife and Natural Resources Conference* 56:239-247. 1991.

Knight, R. L., and D. N. Cole. "Factors that influence wildlife responses to recreationists." *Wildlife and Recreationists: Coexistence Through Management and Research*, R. L. Knight and K. J. Gutzwiller, editors, pages 71-79. Island Press, Washington, DC. 1995.

Knight, R. L., and D. N. Cole. "Wildlife responses to recreationists." *Wildlife and Recreationists: Coexistence Through Management and Research*, R. L. Knight and K. J. Gutzwiller, editors, pages 51-69. Island Press, Washington, DC. 1995.

NOTES

PRINCIPLE 6: *Respect Wildlife*

SUGGESTED LESSON PLAN: RESPECT WILDLIFE**Material needed**

- Information on local wildlife, their habits and habitat
- Garbage bag
- Cord or rope
- Binoculars

Goal

Master Educator course participants will understand the principle of Respect Wildlife and the importance of teaching the principle to others.

Objectives

Participants will be able to:

1. State what it means to “respect wildlife.”
2. Discuss the importance of respect for wildlife.
3. Demonstrate the ability to respect wildlife including but not limited to a) observing wildlife from a distance, b) never feeding wildlife, intentionally or unintentionally, and c) avoiding wildlife during sensitive times such as mating and nesting.
4. Develop a lesson plan for teaching others to Respect Wildlife.

Motivator

On the trail watch for teachable moments involving wildlife. Encounters with wildlife often provide the high points of a wilderness experience, but wild animals in many areas are threatened by human use and abuse of wildland.

Presentation

- I. Observe from a distance. (Lecture and/or discussion.)
 - A. Avoid startling wild animals.
 - B. Avoid actions that could be interpreted as aggressive.
 - C. Avoid causing animals to detour around you.

II. Avoid sensitive areas and/or sensitive times. (Lecture.)

III. Never feed wildlife. (Lecture and/or discussion.)

- A. Store food and trash properly. (Demonstration.)
- B. Keep camp clean—food scraps endanger wildlife.
- C. Special considerations for bear country.
 1. Black bears vs. grizzly bears.
 2. Campsite layout.
 3. Cooking and wastewater.
 4. Food storage.

IV. Pets. (Lecture or debate.)

- A. Control pets at all times.
- B. Dangers of pets to wildlife.
- C. Consider leaving pets at home.

Conclusion

The way we treat wildlife greatly affects their health and well being.

Evaluation

Students will have participated in all class activities. Students will have demonstrated an understanding of and will have applied the principle of respecting wildlife.



marmot

NOTES

PRINCIPLE 6: *Respect Wildlife*

“Supreme over all is silence.”

—John McPhee

“Silence is the element in which all great things are fashioned.”

—Thomas Carlyle

EDUCATIONAL OBJECTIVES

By the end of the class lecture, discussion, and practical sessions, the participant should be able to:

1. State what it means to “be considerate of other visitors.”
2. Discuss the importance of consideration for other visitors.
3. Demonstrate the ability to be considerate of other visitors.
4. Develop a lesson plan for teaching others to Be Considerate of Other Visitors.

TEXT FROM *Leave No Trace Skills & Ethics: North America*

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, rivers, and campgrounds.

Yet the subject of outdoor “etiquette” is often neglected. We’re reluctant to examine our personal behaviors, least of all 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. Even remote wildlands are under increasing pressure. So, whenever possible, find an established campsite out of sight and sound of 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. More often than not, 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 trail 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 on the trail, wearing earth-toned clothing to blend in with the scenery, stepping aside to let someone pass, waiting patiently for a turn, or preserving the quiet, all make a difference.

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

Likewise, don’t disturb the livestock or equipment of ranchers, anglers, loggers, trappers, miners and others who derive their income from the permitted use of public lands. Leave gates open or shut, as you find them.

Groups leading or riding livestock have the right-of-way on trails. Hikers and bicyclists should move to the downhill side and talk quietly to the riders as they pass, since horses and other pack stock frighten easily. Stay in control while moving quickly whether you are jogging, skiing or riding a mountain bike. Before passing others, politely announce your presence and proceed with caution. Boaters, climbers, campers and other visitors to popular areas frequently find themselves waiting in line.

Keep a low profile

Take rest breaks a short distance from the trail on durable surfaces, such as rock or bare ground. If the vegetation around you is thick or

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PRINCIPLE 7: *Be Considerate of Other Visitors*



Resources: Be Considerate of Other Visitors

Hammit, W. E., and D. N. Cole. *Wildland Recreation: Ecology and Management*. John Wiley, New York, NY. 1998.

Manning, R. E. *Studies in Outdoor Recreation: Search and Research for Satisfaction, Second Edition*. Oregon State University Press, Corvallis, OR, 1999.

easily crushed, pick a wide spot in the trail so others can pass by. If possible, camp out of sight and sound of trails and other visitors.

Let nature's sounds prevail

Avoid the use of bright lights, radios, electronic games, and other intrusive devices. If you must carry something that makes noise, carry ear-phones in order to keep the noise to yourself.

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.

Some outdoor activities are necessarily loud. The discharge of firearms can be heard for miles, the barking from a sled dog team almost as far. As much as possible, keep the noise down, especially at night or in remote areas. Sight-in rifles on a firing range. Teach dogs to be quiet. Wear headphones to listen to music. Keep voices low. Use cellular phones discreetly. Most of all, tune in to the sounds of nature.

TEACHING TIPS

This topic lends itself well to discussion. It may be valuable to discuss why this principle was added. Most participants will be able to recount stories in which they were negatively impacted by other visitors. Can they remember times when they were the cause of a negative impact on others? What has been done on this Masters Course to Be Considerate of Other Visitors? Were there ways in which this group could have been more considerate?

NOTES

SUGGESTED LESSON PLAN: BE CONSIDERATE OF OTHER VISITORS**Material Needed**

- Whistle

Goal

Master Educator course participants will understand the principle of Be Considerate of Other Visitors and the importance of teaching the principle to others.

Objectives

Participants will be able to:

1. State what it means to “be considerate of other visitors.”
2. Discuss the importance of consideration for other visitors.
3. Demonstrate the ability to be considerate of other visitors.
4. Develop a lesson plan for teaching others to Be Considerate of Other Visitors.

**Motivator**

Blow the whistle to announce the start of the class. Be ready to discuss the negative impact of the whistle's use. There is no such thing as exclusive rights to use the outdoors. How we treat other visitors will not only affect their wilderness experience but may also add to or detract from their willingness to participate in the preservation of wilderness.

Presentation

- I. The experience of other visitors: How much is our responsibility? (Discussion.)
- II. Respecting other visitors. (Lecture and/or inquiry.)
 - A. Where to camp.
 - B. How much sound to make. How to keep the sound down.
 - C. Choice of colors for gear and clothing.
 - D. A cooperative spirit.
- III. Yielding to other visitors. (Lecture and/or inquiry.)
 - A. Simple courtesies.
 - B. Native people.
 - C. Right-of-way.
 - D. Rest breaks.

Conclusion

The consideration we show other visitors may do more than anything else to encourage them to preserve the wildlands.

Evaluation

Students will have participated in all class activities. Students will have demonstrated an understanding of and will have applied the principle of being considerate of other visitors.

“Those of us with a stake in the future of wilderness must begin to develop... an agenda which will place a clear, strong, national focus on the question of the responsibility of the wilderness user to wilderness.”

—Paul Petzoldt

“In wildness is the preservation of the earth.”

—Henry David Thoreau

EDUCATIONAL OBJECTIVES

By the end of the class lecture and discussions, the participant should be able to:

1. Define “ethics” in general and “wilderness ethics” in particular.
2. Discuss the importance of wilderness ethics. Why is Leave No Trace important?
3. Relate verbally and/or in writing a personal perspective on wilderness ethics.
4. Develop an Action Plan to begin meeting the objectives of being a Master Educator.

TEXT FROM *Leave No Trace Skills & Ethics: North America*

Paul Petzoldt believed in the power of the “wild outdoors” to make us better, more capable, compassionate people. Over a 70-year career he traveled wild lands around the globe teaching technical outdoor skills, leadership, and “expedition behavior” to thousands of young adults. Paul was an advocate nonpareil of youth and wilderness. The father of “minimum impact” died in 1999 at the age of 91.

Like others, Paul noticed that outdoor recreation altered the land, but he was the first to develop a systematic approach to reducing the impacts of camping and outdoor travel.

At first this meant tossing tin cans into the willows where they wouldn't be seen and building smaller fires. Ultimately, it meant an entirely new way of seeing and appreciating nature.

Paul thought that people could enjoy wildlands without harming them—if they were educated. Millions of outdoor enthusiasts have shared his dream of sustainable

outdoor recreation. But that dream is fading as more and more acres are lost to development around the globe. The pursuit of non-motorized outdoor recreation, long considered a “non-consumptive” use of wildlands, is taking a toll on native species, the appearance of the land, and the quality of our experiences.

We can travel the world, climb the peaks, ride the waves, float the rivers, and sail down the single track, but we won't save a single acre unless we put our experiences to use as wildland advocates. The future of wildlands and wildlife depends on responsible recreation—and a whole lot more.

Defining an “ethic”

ethic n. 1. the body of moral principles or values governing or distinctive of a particular culture or group . . . 2. A complex of moral precepts held or rules of conduct followed by an individual. (Random House Dictionary, 1987)

“Ethics” can also be defined as the study of competing (and subjective) moral values. We learn ethics (choosing between “right and wrong,” between “good and bad”) by understanding different facets of a situation and by learning to value the ever-changing pros and cons of our actions. Aldo Leopold wrote that ethics are the “social approbation for right actions, social disapproval for wrong actions.” Leopold's statement implies knowledge and consensus about the thorny issue of what constitutes a “right action” (e.g., it is “wrong” to hurt



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NOTES

WILDLAND ETHICS

an infant, but it is “right” to give it an injection with a needle full of medicine). As humans, learning always includes knowledge and feelings. For many people, feelings and emotions are the most important guide to what is right and wrong.



Education develops knowledge, and can also affect feelings about a topic. What role does education play in the evolution of a wildland ethic? Regarding the evolution of ethics, Charles Darwin wrote that “(a)s soon as (a) virtue is honored and practiced by some few men, it spreads through instruction and example to the young and eventually becomes incorporated in public opinion.” Ethics evolve, therefore, much as other physical human attributes do. In our society, this requires the participation of all our cultural systems and institutions: economic, political, religious, and educational.

In his 1949 publication *A Sand County Almanac*, Aldo Leopold wrote: “There is as yet no ethic dealing with man’s relation to land and to the animals and plants which grow upon it.” That is changing. Public land managers have a mandate to maintain the ecologi-

cal health and visual aesthetic of America’s wildlands. They have many tools from which to choose to encourage wilderness visitors to protect the land. Included in that management toolbox are rules and regulations—and educational efforts. Unfortunately, education often seems like a slow, inefficient means to an end. One look around would seem to indicate that educating people about their connection and consequent responsibility to the earth is a monumental task. On the other hand, education is probably the only viable means through which we can affect long-term changes in our society’s values and ethics.

But it is not enough to help others clarify their own values. This often results in an attitude of “What can I get away with?” rather than “What is the right thing to do?” An ethic must answer the question “What is the right thing to do?” Our actions define us. An ethic is meaningless unless it is reflected in an individual’s lifestyle and actions. The actions that define the ethics reflected in Leave No Trace are not based on feelings alone, but on the evidence of scientific research. Science tells us that practicing the principles of Leave No Trace will answer the question “What is the right thing to do in order to act responsibly toward the land and all its inhabitants?” We may think it is the right thing to do, but we can also know it is the right thing to do if wild lands are to be saved.

Wilderness as a classroom

Wilderness education is in a unique position to contribute to the evolution of a wildland ethic. Wilderness educators can teach important skills that help preserve our wildlands. Learning and using skills, such as Leave No Trace travel and camping techniques, are essential to wilderness preservation. These practices allow later visitors a sense of discovery and solitude, and, in some cases, preserve the long-term health of ecological communities.

Wilderness experiences give people the opportunity to live simply in and with the wilderness, cultivating a new kind of personal awareness. The immediate feedback of the wilderness environment helps people establish habits of self-scrutiny and careful decision making. We hope people learn to apply these habits to their daily lives and begin to think in terms of walking softly everywhere they go.

The strongest link between Leave No Trace education and wilderness users is the emotion

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NOTES

WILDLAND ETHICS



and deep enjoyment that all users in some way share. The Leave No Trace principles seek to combine skills and techniques with personal experience and commitment. No matter what their current habits, wilderness travelers and campers, for the most part, really want to do the “right” thing.

Teaching to instill ethics

People learn ethics best when they are exposed to ethics as a part of a satisfying discovery of how the world works. For a person in authority to help the public learn ethics, a comfortable relationship needs to be established first. Important components of this educational relationship include appropriate voice and body language, and establishing a common ground of interests or activities. That commonality is the base upon which we can build a new ethic. The different methods people use and the impacts we leave behind are the variables that extend from the ethical foundations of all recreationists.

The public needs to be convinced that you are there to help them, not to dictate their actions. You need to emphasize why adhering to a specific guideline or regulation protects their resources from being “loved to death.” Focusing on the resource, rather than blind obedience to a rule or authority figure, will help the public develop ethics they will not only embrace but will pass on to others. When we learn interesting things about how the world works in a non-confrontational setting, we can then relate that learning to other things we know, and we can use that learning to guide future value judgments (and thus ethics are born).

Once individuals develop an ethic, they tend to pass it on to others through their actions, passion, and commitment to wildland. This is where the power of “Education, not

Regulation” is made real. Novices usually hold more experienced wilderness users in high regard. Role modeling, by users and agencies, has a significant impact on the masses, especially in high use areas. Experienced wilderness enthusiasts will sometimes confront others regarding their high-impact practices. These experienced people care about the resource, and they realize that greater responsibility by users directly equates to less regulation by the agencies, and less degradation of the resource.

Learning, and adopting, ethics are as dependent on a comfortable learning atmosphere as it is on rational thought. Thoughtlessly extreme preservationism—like telling people that leaving grains of rice behind is evil because it irreversibly changes the ecology of the region—will impede the development of an ethic. When most of us realize we are being told exaggerated points just so we’ll behave a certain way, we feel deceived and alienated, often leading to an understandable skepticism about related topics as well. Put Leave No Trace principles in their real context. Be able to cite appropriate research or experiences, but don’t be afraid to also cite the higher philosophical goal of Leave No Trace. Pick up the rice, yes, because you brought it, and it is not a part of the local ecology.

A Master Educator should be able to give those we meet, and teach, a glimpse of our own commitment and passion for wild places. There is a place for passion. Cool analysis is an important component of the defense and protection of wilderness, but that analysis must be fueled by passionate conviction, or it becomes flat and ineffective. When it is clear to the public that we really care, and that we follow the “rules,” it becomes easier for them to do the same. Passion for wilderness, constructively channeled and effectively communicated in a cause-and-effect, non-judgmental way, will constitute a powerful example to others when they are learning a new set of ideas and guidelines. Consciously orchestrating emotion and reason will ultimately encourage all outdoor users to Leave No Trace.

Action Plans

The Action Plan is a specific strategy each participant develops to begin their role as a Leave No Trace Master Educator. The Plan involves the participants in setting a goal for a specific target group they wish to educate or reach with the Leave No Trace message. They will establish specific objectives for that group, deter-

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NOTES

WILDLAND ETHICS

Resources: Wildland Ethics

Gookin, John. "Learning ethics: What the research says." Leave No Trace Master Network Newsletter, Leave No Trace, Inc., Boulder, CO.

Hunt, Jasper. *Ethical Issues in Experiential Education, Second Edition*. Association for Experiential Education, Boulder, CO. 1990.

Leopold, Aldo. *A Sand County Almanac: And Sketches Here and There*. Oxford University Press, New York, NY. 1949.

Nash, Roderick. *The Rights of Nature: A History of Environmental Ethics*. University of Wisconsin Press, Madison, WI. 1989.

Nash, Roderick. *Wilderness and the American Mind*. Yale University Press, New Haven, CT. 1982.

Wallace, George N. "Law enforcement and the authority of the resource." *Legacy*, Vol. 1, No. 2.

Waterman, L., and G. Waterman. *Wilderness Ethics: Preserving the Spirit of Wilderness*. The Countryman Press, Woodstock, VT. 1993.

mining potential roadblocks and how to overcome them, and setting a timeline for completion of the action.

TEACHING TIPS

Discussion lies at the core of teaching ethics. There are several ways to approach the topic. You can prompt discussion with short readings and/or quotes and ask the group to reflect verbally on them. You can ask specific questions related to environmental issues. You can ask each member of the group to state his or her personal definition of ethics and, perhaps, attempt to reach a group consensus on a definition. You can ask whether or not ethics are important. The most important aspects of this presentation are 1) what is my personal relationship with wilderness, and 2) what are the practical implications of that relationship.

TEXT FROM *Leave No Trace Skills & Ethics: North America***A FINAL CHALLENGE**

Contact land management agencies and groups in your area to learn how you can help. Be active in the planning and management of areas that are important to you. Volunteer for clean up efforts, trail maintenance, and rehabilitation projects, or organize them for your local area. Get involved and let your opinions on land use be known. Today, that's what an outdoor ethic is all about.

**NOTES****General Resources:**

Boy Scouts of America. *Teaching Leave No Trace*. Boy Scouts of America, Irving, TX. 2003.

Canyon Soft Paths (video). Leave No Trace, Inc., Boulder, CO.

Hampton, Bruce, and David Cole. *Soft Paths: How to Enjoy the Wilderness Without Harming It*. Stackpole Books, Mechanicsburg, PA. 1995.

Leave No Trace Training Cookbook (The): Training Recipes for Educators. Leave No Trace, Inc., Boulder, CO.

Leave No Trace Skills & Ethics booklets: A series from *Alaskan Tundra* to *Western River Corridors*. Leave No Trace, Inc., Boulder, CO.

McGivney, Annette. *Leave No Trace: A Guide to the New Wilderness Etiquette*. The Mountaineers Books, Seattle, WA. 1998.

Soft Paths: How to Enjoy the Wilderness Without Harming It (video). NOLS, Lander, WY.

Tread Lightly, Inc. (800) 966-9900 or www.treadlightly.org.

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

SUGGESTED LESSON PLAN: WILDLAND ETHICS**Material Needed**

- Action Plan worksheets
- “What Impacts Can You Live With” Game

Goal

Master Educator course participants will understand the need to develop a personal wildland ethic and to encourage others to do likewise. Participants will be motivated to begin meeting the objectives of a Master.

Objectives

Participants will be able to:

1. Define “ethics” in general and “wilderness ethics” in particular.
2. Discuss the importance of wilderness ethics. Why is Leave No Trace important?
3. Relate verbally and/or in writing a personal perspective on wilderness ethics.
4. Develop an Action Plan to begin meeting the objectives of being a Master.

Motivator

If people are to be encouraged to behave responsibly on the land, they must also be encouraged to explore their own personal relationship with the land. Use the “What Impacts Can You Live With” game to initiate thought and demonstrate the variability of personal ethics.

Presentation

The following outline is meant to be used as stimulation for thought and discussion.

- I. Defining a wildland ethic.
 - A. Ethics.
 1. What is an ethic?
 2. Is an ethic merely an intellectual abstraction or does it imply action?
 - B. Wildland.
 1. What does “wild” mean to you?
 2. What does “wilderness” mean to you?
 3. What is essential for a wilderness experience?
- II. The relationship of humans to wildland.

A. People and wildland.

1. What is the appropriate human relationship to land, to wildland?
2. How are humans connected to or isolated from wildland?
3. What are the utilitarian values of wilderness to humans?
4. What is the symbolic value of wilderness?
5. Are humans essentially civilized—or does some part of our psyche or soul identify on a basic level with wilderness?
6. Does wilderness have a place in the “modern world?”
 - B. Stewardship vs. citizenship.
 1. Are we stewards of the natural environment with dominion over it or are we citizens of the natural world of equal value with the other citizens?
 2. What are the practical implications of these differing philosophies?

III. Personal responsibility.

- A. What can individuals do to mitigate their impacts on wildland?
- B. How can we “walk softly” after leaving wildland?
- C. Are there ways for wildland travelers to actually enhance and improve wildland?
- D. What are avenues for public participation in decisions regarding wildland management.
- E. Does the existence of a wildland ethic demand that level of participation?

IV. Action Plan.

- A. Developing an Action Plan.
- B. Sharing personal Action Plans with the group.

Conclusion

At its heart Leave No Trace is not about a uniformity of behavior or even of thought. It is about a convergence of values.

Evaluation

Students will have participated in all class activities. Participants will have developed an Action Plan and shared it with the group.

“You can preach a better sermon with your life than with your lips.”

—Oliver Goldsmith

EDUCATIONAL OBJECTIVE

By the end of the classes and activities, the participant should be able to run an effective Leave No Trace Trainer Course.

TRAINER COURSE GUIDELINES

After successfully completing the Master Educator Course, you are able to and strongly encouraged to conduct Trainer Courses. Although Master Educators do not need to be affiliated with an organization to offer Trainer Courses, you must comply with the Leave No Trace National Training Guidelines. The Training Guidelines describe the administrative and curricular requirements for the Leave No Trace Trainer Course. Other training options—Awareness Workshops, seminars, presentations—may be implemented as needed. Such departures from Trainer Courses are valuable and encouraged, and a curriculum for Awareness Workshops is available. You are further encouraged, however, to use Leave No Trace materials in all training activities regardless of the length or type of training.

Goals of the Trainer Course Guidelines

1. To strive for consistent, quality training for all Leave No Trace Trainer Course participants.
2. To provide an easily implemented training structure that encourages training efforts.
3. To establish a structure that allows The Leave No Trace Center for Outdoor Ethics to track and quantify training efforts.
4. To clarify the role of the Leave No Trace Center for Outdoor Ethics (formerly Leave No Trace, Inc.) in regard to training institutions, individual Master Educators, and individual Trainers.
5. To identify that there are inherent risks in outdoor activities and to discuss warnings and other information pertaining to Leave No Trace courses.

HOW TO RUN A TRAINER COURSE: STEP-BY-STEP

To set up and run a Trainer Course, follow these step-by-step directions (see Appendices for a flow chart).

Step 1

Successfully complete a Leave No Trace Master Educator course. The course leader for a Trainer Course must be a Leave No Trace Master Educator. Leave No Trace Trainer Course leaders should also have training and experience in outdoor leadership/instruction skills.

Step 2

Make sure that you are **currently certified at a minimum level of Standard First Aid and CPR**. If you are currently certified as a First Responder, Emergency Medical Technician, or Nurse Practitioner with CPR, you are qualified medically to lead a Trainer Course.

Note: For small group clinics, workshops, or seminar, other than Trainer Courses, a co-instructor is not required. A co-instructor is required for Trainer Courses. When a co-instructor is chosen, she or he can be a Leave No Trace Master Educator or Trainer and should have experience as a teacher/trainer within an organization offering a Trainer Course including instruction on at least one overnight Leave No Trace course. Co-instructors should also have training and experience in outdoor leadership/instruction skills and a current certification in Standard First Aid and CPR at a minimum.

Step 3

Make sure you have adequate **liability insurance**. As required by the Trainer Course Guidelines, individuals offering Trainer Courses must have a policy in the amount of \$1,000,000 (one million dollars) per occurrence, \$2,000,000 (two million dollars) aggregate, for bodily injuries and property damage. You may obtain

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HOW TO RUN A *Leave No Trace* TRAINER COURSE

this insurance coverage through your own carrier or through The Leave No Trace Center for Outdoor Ethics (the Center). The coverage through the Center costs \$65 for a one-year period (the policy period runs from April of any given year to the following April) and places the individual under the Center's policy as an additionally insured. An unlimited number of Trainer Courses may be offered during the coverage year. (The liability insurance requirement does not apply to federal agency employees offering courses within their agency job capacity.)

Step 4

Determine whether you are offering a Trainer Course as an individual or as an organization. If you are offering a Trainer Course as an individual, sign and submit the *Leave No Trace Training Agreement* to the Center (see Appendices). If you are offering a Trainer Course through an organization, sign and submit the *Leave No Trace Organization Training Agreement* to the Center (see Appendices). The submission of either document needs to occur only once. It will remain on file with the Center.

Step 5

Copy enough of the *Acknowledgment and Assumption of Risks* documents (see Appendices) so that every course participant can read a copy of the document prior to the course. The document is also available from the Center and from the Leave No Trace website.

Step 6

Run the course with attention to the core components of the *Trainer Course Curriculum* (see below).

Step 7

Submit a complete student roster with addresses, phone numbers, and email addresses. Include the statement: "Every course participant has read the Leave No Trace Center for Outdoor Ethics Disclaimer of Liability and Course Participant Acknowledgment and Assumption of Risks and has met my expectations as a Trainer." Trainer Courses can be reported on the Leave No Trace website. If you go to the site at <http://www.LNT.org> and link to the "Training Course Information" page, there is a link at the bottom entitled "send your course roster." Follow the steps and make sure that every

course participant is listed under the "current roster" heading before you submit the list. When you hit send the Center will receive an excel spreadsheet email of your course roster. It's quick and easy, and it will ensure that your Trainer Course participants receive their certificates in a timely fashion. *Rosters that are submitted via regular mail, fax, or simple email take longer to process.*

Upon receipt of a student roster, the Center will issue Trainer certificate packets directly to the Trainers. Every new Trainer is mailed a packet that includes the following:

1. A trainer certificate.
2. A letter from the Center's Executive Director welcoming them.
3. Information on the Tools For Teaching Fund.
4. A catalogue of the materials available for purchase.
5. Information about individual memberships.
6. A copy of the current Tracker newsletter.

If you have further questions or concerns, please contact the Center at 800-332-4100.

CHECKLIST FOR ORGANIZATIONS OFFERING TRAINER COURSES

Organizations offering Leave No Trace Trainer Courses must comply with the Leave No Trace Organization Training Agreement (see Appendices) and follow these Trainer Course Guidelines that include:

1. Possessing appropriate levels of insurance.
2. Assuring that staff, including any proposed Leave No Trace instructors or co-instructors, are appropriately trained in outdoor leadership/instruction skills and maintain current certification in Standard First Aid and CPR at a minimum.
3. Distributing the Leave No Trace Introduction and Discussion of Course Risks document (see Appendices).
4. Following the Trainer Course Curriculum.

Course Enrollment

Trainer Course enrollment is not limited, but organizations and individuals offering courses should strive to keep the instructor to student ratio low to enhance learning opportunities.

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HOW TO RUN A *Leave No Trace* TRAINER COURSE

Course Costs

Course costs are not set by the Center. It is recommended that course leaders and/or organizations set the cost of Trainer Courses to cover material, staff, and other expenses. The Center encourages course leaders and/or organizations to make course tuition as low as possible to encourage enrollment and training efforts.

TRAINER COURSE CURRICULUM

The Trainer Course requires a minimum of 16 hours of experiential education with at least 10 of those hours being taught in the field. An

overnight is strongly recommended. The Trainer Course does not teach outdoor skills other than those based on the principles of Leave No Trace.

Instructors of a Trainer Course reserve the right to deny a Trainer certificate to a participant if in the opinion of the instructors the participant 1) failed to attend the entire course, 2) failed to display the skills necessary to conduct outreach programs or otherwise carry forward the Leave No Trace message in a productive way, or 3) failed to exhibit behavior consistent with the Leave No Trace philosophy.

TRAINER COURSE SUGGESTED BASIC OUTLINE

Day One

- Welcome.
- Introduction to the Trainer Course.
- Principles of Education.
- Principle 1: Plan Ahead and Prepare.
- Shuttle to trailhead (if required).
- Lunch.
- Principle 2: Travel and Camp on Durable Surfaces.
- Hike in and set camp (if required).
- Principle 3: Dispose of Waste Properly.
- Introduce “Action Plans” after dinner.

Day Two

- Breakfast.
- Principle 4: Leave What You Find.
- Principle 5: Minimize Campfire Impacts.
- Principle 6: Be Considerate of Other Visitors.
- Principle 7: Respect Wildlife.
- Lunch, break camp, pack up, and evaluate impact.
- Wildland Ethics (and the Authority of the Resource).
- Share and discuss “Action Plans.”
- Hike out.
- Closing.

NOTES

HOW TO RUN A *Leave No Trace* TRAINER COURSE

SUGGESTED LESSON PLAN: INTRODUCTION TO THE TRAINER COURSE**Material Needed**

Handouts for students

- *Soft Paths*, by Hampton and Cole
- Leave No Trace Skills & Ethics booklets
- *Soft Paths* video (or other relevant Leave No Trace videos) and appropriate audiovisual equipment
- Blackboard, whiteboard, or flip chart with colored pens

Goal

Trainer Course participants will recognize and understand the need for the Leave No Trace program and the role they can play in taking the message to as many outdoor users as possible.

Objectives

Participants will be able to:

1. Describe briefly the mission and history of the Leave No Trace program including the role of federal land management agencies, NOLS, and the Leave No Trace Center for Outdoor Ethics.
2. Describe the goals and objectives of the Trainer Course.
4. State personal goals for the Trainer Course.

Motivator

Education, not legislation, will preserve our wildlands. This course is designed to prepare the participant to practice and to teach the principles of Leave No Trace.

Presentation

I. Introductions

- A. Welcome.
- B. Introduce self and have students introduce themselves. Tell students this is their first presentation. Ask for specific information from them and give them a few moments to organize their thoughts. Ask them to stand while introducing themselves.

II. Brief course overview.

- A. What will be done?
- B. When will it be done?
- C. What is expected of students?
- D. Go over course paperwork: assumption of risk, etc.

III. The Leave No Trace Center for Outdoor Ethics mission. (Write this on the board and discuss: "To promote and inspire responsible outdoor recreation through education, research, and partnerships.")

IV. Brief history of the national Leave No Trace program. Be sure to include the change from six to seven principles. (Lecture.)

V. Trainer Course Goals and Objectives. (Write these on the board and discuss.)

A. Trainer Course Goals:

1. To provide safe, consistent, quality training for all participants.
2. To provide an easily implemented training structure that encourages training efforts.
3. To provide a rationale for the principles of Leave No Trace so that they can be appropriately applied to a variety of environments.
4. To prepare the participants to practice the principles of Leave No Trace and to train others in the Leave No Trace principles.

B. Trainer Course Objectives:

1. Role of the Trainer.
 - a. Describe the role of a Trainer.
 - b. Discuss the history, goals, and objectives of the Leave No Trace program.
 - c. Recognize recreation impacts and the means to minimize those impacts.
2. Principles and Practice of Leave No Trace.



a. Discuss the seven principles of Leave No Trace in relation to the local environment.

b. Discuss the seven principles of Leave No Trace for other environments.

c. Practice the seven principles of Leave No Trace.

d. Discuss the ethics of Leave No Trace.

e. Discuss the role of research in Leave No Trace.

3. Principles and Practice of Teaching.

a. Discuss the three basic learning styles—visual, auditory, kinesthetic—and ways in which teaching methods and techniques can reach all styles.

b. Define and prepare a class for a target audience.

c. Discuss the management of a class.

d. Prepare a lesson plan for and present a 15-20 minute lesson.

SUGGESTED LESSON PLAN CONTINUED:

- VI. Personal goals of the group.
 - A. Write them on the board as each participant states his or hers.
 - B. Save a copy to review briefly at the end of the course.
- VII. Review course materials.
- VIII. Show and discuss video.

Conclusion

Do the participants have any questions, concerns, or comments? The mission of the Leave No Trace program will be accomplished through the efforts of people like the participants, individuals willing to practice and teach to others the principles and ethics of leaving no trace.

Evaluation

Participants will have participated in all class activities.

NOTES

SUGGESTED LESSON PLAN: PRINCIPLES OF EDUCATION**Material Needed**

- Blackboard, whiteboard or flip chart with colored pens
- Sample lesson plans for each participant
- A list of students and their teaching assignments

Goal

Trainer Course participants will recognize and understand the principles of education and their importance in taking the message of Leave No Trace to others.

Objectives

Participants will be able to:

1. Discuss the importance of the attitude and behavior of a teacher.
2. Discuss learning styles and the importance of knowing and understanding the audience.
3. Discuss teaching methods that meet the needs of differing learning styles.
4. Demonstrate the ability to prepare a lesson plan.
5. Present at least one 15-20 minute lesson.

Presentation

I. What is a teacher? (Discussion/inquiry and write key points on the board.)

- A. Attitude.
- B. Behavior.

II. Learning styles. (Lecture, and write key points on the board.)

- A. Auditory.
- B. Visual.
- C. Kinesthetic.

III. Knowing the audience. (Lecture, and write key points on the board.)

IV. Teaching methods. (Activity and lecture.)

- A. The Snot Game: Divide the group into four small groups. Give each group the assignment of teaching "Snot Disposal in the Wilderness" within a five-minute time limit. One group will use lecture, one will use discussion, one will use a skit, and one will use demonstration/doing.
- B. Lecture.
- C. Demonstration.
- D. Activities.
- E. Inquiry.

F. Teachable moments.

G. Storytelling, role playing, skits.

H. Learning stations.

I. Debates.

J. Discussions.

K. Other teaching strategies.

V. The lesson plan. (Hand out sample lesson plan. Discuss. Write key points on board.)

- A. Material needed.
- B. Goal.
- C. Objectives.
- D. Motivator.
- E. Presentation.
- F. Conclusion.
- G. Evaluation.

VI. Critique guidelines. (Lecture/discussion, and write key points on the board.)

- A. Be subjective.
- B. Be spontaneous.
- C. Be honest.

VII. Student presentations. Each participant should have been given a teaching assignment prior to arriving for the Trainer Course. Give them time to prepare a lesson plan. If they have a blank lesson plan form, this process is expedited. Since there may be more participants than principles, further relevant topics may be addressed in the teaching assignments, e.g., the authority of the resource, Leave No Trace specific to horsepacking, Leave No Trace specific to water-based trips, teaching Leave No Trace to kids, camping in bear country, etc. Evaluate the lesson plan and give feedback prior to their presentation. Prepare the participant to succeed. Tell the participants they will all be given a copy of all the lesson plans created during the course.

Conclusion

How you teach is equal to or more important than what you teach. Prepare well to present well. Fail to plan, plan to fail.

Evaluation

Participants will have participated in all class activities and will have produced a lesson plan for evaluation prior to their presentation.

NOTES

HOW TO RUN A *Leave No Trace* TRAINER COURSE

SUGGESTED LESSON PLAN: PRINCIPLE 1: *Plan Ahead and Prepare***Material Needed**

- Information from contact with local land managers
- Weather forecast
- Maps of the route of the field trip
- Gear and clothing for the field trip
- Food for the field trip
- White board or flip chart, and markers

Goal

Trainer Course participants will understand the principle of Plan Ahead and Prepare and the importance of teaching the principle to others.

Objectives

Participants will be able to:

1. State what it means to “plan ahead and prepare.”
2. Discuss the importance of trip planning.
3. Demonstrate the ability to plan ahead and prepare including but not limited to a) knowledge of local regulations, b) knowledge of local environment, c) preparations for weather and environmental emergencies, d) choice of gear and clothing, and e) repackaging of food.
4. Develop a lesson plan for teaching others to Plan Ahead and Prepare.

Motivator

Adequate prior planning and preparation for trips into the outdoors helps you to maximize your safety and enjoyment and minimize your impact on the land.

Presentation

I. Why is planning and preparation important? (Discussion.)

- A. Maximize safety.
- B. Minimize impact.
- C. Increase comfort.

II. Key elements to consider. (Lecture, and write key points on the board.)

- A. Trip expectations and goals.
 1. Know your group and develop goals and expectations.
 2. Match your route to your group's ability.
 3. Plan to visit pristine areas only with prior commitment to expending the additional time and energy to leave no trace.
- B. Knowledge of the area.
 1. Contact local land managers and know local regulations.

2. Learn the Leave No Trace techniques required for the specific regional environment.

C. Time of year and expected weather.

1. Know what you can expect to find and experience.
2. Trails and campsites may be less durable due to rain, snow, wind, or dry conditions.
3. Avoid situations where safety may be jeopardized and/or the impact on natural resources increased.

D. Type of equipment.

1. Make choices that allow flexibility in order to minimize impact.
 - a. Sleeping equipment: tents, bags, pads.
 - b. Cook stoves.
 - c. Means to disinfect and carry water.
2. Choose colors that blend into the environment.
3. What not to bring.

E. Clothing.

1. Choose properly in order to remain warm and dry.
2. Choose colors that blend into the environment.

F. Food.

1. Plan a menu to avoid waste.
2. Repackage food into plastic bags or reusable containers.

III. Preparation for the field trip.

- A. Go over group goals and expectations, maps, local regulations, etc.
- B. Evaluate each individual's gear and clothing (if required).
- C. Break group into food groups and disperse food and stoves, etc. (if required).

Conclusion

There is no greater predictor of success than how well you plan ahead and prepare. Know what to expect and prepare accordingly.

Evaluation

Participants will have participated in all class activities. If a field trip is planned, participants will demonstrate awareness of and adherence to the plan made prior to going into the field. Participants should now be ready to leave for the field (if required).

NOTES

HOW TO RUN A *Leave No Trace* TRAINER COURSE

SUGGESTED LESSON PLAN: PRINCIPLE 2: Travel and Camp on Durable Surfaces**Material Needed**

- Photos of degraded camps and trails (if no field trip is planned)

Goal

Trainer Course participants will understand the principle of Travel and Camp on Durable Surfaces and the importance of teaching the principle to others.

Objectives

Participants will be able to:

1. Give a definition of and comparison of “durable surfaces.”
2. Discuss the importance of traveling and camping on durable surfaces.
3. Demonstrate the ability to travel and camp on durable surfaces including but not limited to a) trail use, b) use of non-trailed areas, and c) choice and use of campsites in popular areas and in pristine areas.
4. Develop a lesson plan for teaching others to Travel and Camp on Durable Surfaces.

Motivator

Finding durable surfaces to travel and camp on lies at the heart of leaving no trace. Arguably no other considerations are as important in the field.

Presentation

- I. Concentrate use in popular areas. (Lecture.)
 - A. Understand the principle.
 1. Established sites and existing trails preserve the environment.
 2. Appropriate expectations preserve the experience.
 - B. Main points.
 1. Stay on trails.
 - a. Hike single file in the middle of trails.
 - b. Avoid making multiple trails.
 - c. Do not use short-cuts on switchbacks.
 - d. Take rest breaks on durable surfaces and off trail when possible.
 2. Choose durable (and avoid non-durable) campsites. (Point out durable sites if in the field.)
 - a. Allow adequate time at day's end to choose a site.
 - b. Avoid proliferation of new sites.
 - c. Avoid enlarging sites.
 - d. Avoid creating social trails.
 - e. Avoid inappropriate or illegal established sites.

3. Camp away from trails and water sources. (Step off proper distance.)
 - a. Minimize visual impacts.
 - b. Minimize impact to and contamination of water sources.
4. Leave a site cleaner than you found it.
 - a. Pack out all garbage and litter.
 - b. Help other visitors choose the site instead of creating new ones.

II. Disperse use in pristine areas. (Lecture.)

- A. Pristine areas.
 1. Shows little or no human use.
 2. Often fragile and easily damaged.
- B. Traveling in pristine areas.
 1. Spread out and hike in small groups.
 2. Stay on durable surfaces.
 3. Minimize impact to fragile vegetation.
 - a. Resistant vegetation: characteristics.
 - b. Resilient vegetation: characteristics.
 4. Avoid fragile areas.
- C. Camping in pristine areas.
 1. Choose a durable surface.
 2. Consider camp layout carefully.
- D. Leaving a pristine campsite.
 1. Do not stay long.
 2. Naturalize and disguise: leave no sign of use.

III. Avoid places where impact is just beginning. (Lecture, and activity of asking the group to find subtle signs of human use if in the field.)

- A. Learn to recognize subtle signs of human use.
- B. Avoid lightly impacted trails.
- C. Allow subtle impacts to heal.

Conclusion

We leave the greatest trace on the land by inappropriate choice of the surfaces on which we travel and camp.

Evaluation

Participants will have participated in all class activities. Participants will have demonstrated an understanding of high-use vs. pristine areas and will have applied the principle of traveling and camping on durable surfaces if in the field. Evaluate each campsite chosen by participants if in the field.

NOTES

HOW TO RUN A *Leave No Trace* TRAINER COURSE

SUGGESTED LESSON PLAN: PRINCIPLE 3: Dispose of Waste Properly**Material Needed**

- Trowel
- Toilet paper
- Strainer/nylon stocking
- Garbage bags

Goal

Trainer Course participants will understand the principle of Dispose of Waste Properly and the importance of teaching the principle to others.

Objectives

Participants will be able to:

1. Give a definition of “waste.”
2. Discuss the importance of proper waste disposal.
3. Demonstrate the ability to dispose of waste properly including but not limited to a) fecal matter, b) urine, c) trash and litter, d) leftover food, e) water from dish-washing, f) water from personal hygiene practices, and g) fish viscera.
4. Develop a lesson plan for teaching others to Dispose of Waste Properly.

Motivator

If hiking, ask participants to find and save for the presentation any waste they see. Imagine your favorite campsite, and then imagine it heavily impacted. Litter is distressing and potentially dangerous to wildlife. Human waste is disgusting and potentially dangerous to human life. A little litter and waste encourages more.

Presentation

I. Pack it in, pack it out. (Lecture, and show samples if any have been found in the field.)

A. Common sources of wilderness waste.

1. Food and food packaging: the most common.
2. Fishing tackle.
3. Cigarette butts, gum, and toilet paper.

B. Main points.

1. Reduce litter at the source, before you leave town.
2. Pack all non-burnable trash—and most trash in non-burnable.
3. Dispose of food-related garbage properly.
 - a. Plan meals to avoid leftovers.
 - b. Cook carefully to avoid burnage and over-spiced meals.
 - c. Pack out leftovers in a garbage bag—burning food is not acceptable.
 - d. Strain out scraps from wastewater, and pack out. (Demonstrate.)
4. Be familiar with special regulations or considerations for the area.

C. Fine points.

1. Check campsites carefully for small and often forgotten waste.
2. Pick up litter left behind by others.
3. Report extensive litter and/or litter too big to pack out to local land managers.

II. Practice good sanitation. (Demonstrate, and have students practice digging a cat hole.)

A. Disposal of human waste.

1. Objectives in disposal of human waste.
 - a. Avoid pollution of water sources. (Step off distance.)
 - b. Maximize the rate of feces decomposition.
 - c. Avoid the social impact of finding human waste.
2. Cat holes.
 - a. Advantages over other methods.
 - b. Where and how to dig and hide a cat hole.
3. Alternatives to cat holes.
 - a. When they are appropriate.
 - b. What is appropriate, e.g., latrines.

B. Urination.

1. On rocks or bare ground.
2. In large waterways.

III. Management of wastewater.

A. Cleaning dishes and cookware.

- a. The use of soap.
- b. The distance from water sources.
- c. Straining and packing out scraps.

B. Disposal of wastewater. (Demonstrate.)

IV. Personal washing.

- A. The use of soap.
- B. Washing hands after using a cat hole and prior to cooking.
- C. Distance from water sources.
- D. Do you need to bathe?

V. Fishing and hunting.

- A. Proper disposal of fish entrails.
- B. Hunting considerations.

Conclusion

Improper management of waste places other visitors and wildlife at risk in addition to creating highly unappealing eyesores.

Evaluation

Participants will have participated in all class activities. Participants will have demonstrated an understanding of and will have applied the principle of disposing of waste properly if in the field.

NOTES

HOW TO RUN A *Leave No Trace* TRAINER COURSE

SUGGESTED LESSON PLAN: PRINCIPLE 4: Leave What You Find**Material Needed**

Local and national regulations governing removal of artifacts and natural objects

Goal

Trainer Course participants will understand the principle of Leave What You Find and the importance of teaching the principle to others.

Objectives

Participants will be able to:

1. State what it means to “leave what you find.”
2. Discuss the importance of leaving what you find.
3. Demonstrate, if in the field, the ability to leave what you find including but not limited to a) preserving evidence of the past, and b) leaving natural objects undisturbed.
4. Develop a lesson plan for teaching others to Leave What You Find.

**Motivator**

If hiking, watch for examples of things that should be left. Beautiful rocks, flowers, antlers, and other natural objects are stolen from others who want and value the discovery of such things. Cultural artifacts carry the same wonder with discovery—and may be illegal to remove.

Presentation

- I. Preserve the past. (Discussion.)
 - A. The wonder of discovery of archaeological and historical artifacts.
 - B. Legal and ethical reasons to leave what you find.

II. Leave natural features undisturbed. (Discussion and/or debate.)

- A. The wonder of discovery of natural objects.
- B. What the law says about removal of natural objects.
- C. Avoid damage to trees and plants, and removal of flowers.

III. Avoid spreading non-native plants and animals. (Lecture.)

- A. Intentional transportation of plants and animals.
- B. Gear and clothing.
- C. Live bait.
- D. Pack stock and pets.
- E. Alerting land managers to infestations.

Conclusion

Removing or disturbing natural objects and cultural artifacts reduces the opportunity for other to enjoy them and is often illegal.

Evaluation

Participants will have participated in all class activities. Participants will have demonstrated an understanding of and will have applied the principle of leave what you find if in the field.



NOTES

HOW TO RUN A *Leave No Trace* TRAINER COURSE

SUGGESTED LESSON PLAN: PRINCIPLE 5: Minimize Campfire Impacts**Material Needed**

- Camp stove
- Trowel
- Large stuff sack (for carrying soil for mound fire)
- Firestarting material (e.g., matches, lighter)
- Optional: firepan

Goal

Trainer Course participants will understand the principle of Minimize Campfire Impacts and the importance of teaching the principle to others.

Objectives

Participants will be able to:

1. State what it means to “minimize campfire impacts.”
2. Discuss the importance of minimizing the impact of campfires.
3. Demonstrate the ability or describe how to minimize the impact of campfires including but not limited to a) use of camp stoves, b) use of established fire rings, fire pans and mound fires, c) choice of firewood, and d) proper disposal of ashes.
4. Develop a lesson plan for teaching others to Minimize Campfire Impacts.

Motivator

If possible, point out misuse of fires you’ve seen that day. Although campfires are eagerly anticipated by many, the use and abuse of campfires has a major impact on the environment. If you choose to build a fire, you must know when to build and how to build and manage a fire.

Presentation

I. Stoves vs. fires. (Lecture and/or discussion.)

A. Advantages of stoves.

1. Fast and convenient with fewer cooking mistakes.
2. More flexibility in cooking sites.
3. Easily moved if impact is noticed.
4. No major site clean up time.
5. No worry over firewood availability.
6. Less danger of forest fire.

B. Advantages of fires.

1. Aesthetically pleasing and comforting.
2. An important emergency skill.



II. Minimum impact fires. (Lecture.)

A. General considerations.

1. Local regulations and/or restrictions.
2. Forest fire danger.
3. Site durability.
4. Availability of firewood.

B. Firewood. (Lecture, and have students gather firewood.)

1. Use only dead and downed wood—do not break off branches.
 - a. Burns more readily.
 - b. Easier to gather.
 - c. Less impact from gathering.
2. Size.
 - a. No larger around than your wrist.
 - b. Smaller pieces burn more completely.
 - c. Large pieces contribute to the ecosystem.
3. Gather from over a large area.
4. Do not use saws, axes or hatchets.

C. Fires in high-use areas.

1. Use existing fire rings.
2. Clean up within the ring after use.
3. If multiple rings exist in one spot, remove all signs of unnecessary rings.

D. Fires in pristine areas. (Demonstration.)

1. Fire pans.
2. Mound fires.
3. Gravel bars and beaches.

E. Campfire management.

1. Never leave a fire unattended.
2. Do not put non-burnable trash in the fire.
3. Burn the wood completely to ash.
4. Saturate the ash with water.
5. Scatter all the ashes widely with a small shovel or pot lid.
6. Restore the appearance of the fire site.

Conclusion

Fires are pleasing in many respects, but they carry a heavy burden of proper use and management.

Evaluation

Participants will have participated in all class activities. Students will have demonstrated an understanding of and will have applied the principle of minimizing campfire impacts (if possible). Optional: Students will properly build and manage a campfire.

NOTES

HOW TO RUN A *Leave No Trace* TRAINER COURSE

SUGGESTED LESSON PLAN: PRINCIPLE 6: Respect Wildlife**Material needed**

- Information on local wildlife, their habits and habitat
- Garbage bag
- Cord or rope
- Binoculars

Goal

Trainer Course participants will understand the principle of Respect Wildlife and the importance of teaching the principle to others.

Objectives

Participants will be able to:

1. State what it means to “respect wildlife.”
2. Discuss the importance of respect for wildlife.
3. Demonstrate, if in the field, the ability to respect wildlife including but not limited to a) observing wildlife from a distance, b) never feeding wildlife, intentionally or unintentionally, and c) avoiding wildlife during sensitive times such as mating and nesting.
4. Develop a lesson plan for teaching others to Respect Wildlife.

**Motivator**

If hiking, watch for teachable moments involving wildlife. Encounters with wildlife often provide the high points of a wilderness experience, but wild animals in many areas are threatened by humans use and abuse of wildland.

Presentation

- I. Observe from a distance. (Lecture and/or discussion.)
 - A. Avoid startling wild animals.
 - B. Avoid actions that could be interpreted as aggressive.
 - C. Avoid causing animals to detour around you.
- II. Avoid sensitive areas and/or sensitive times. (Lecture.)
- III. Never feed wildlife. (Lecture and/or discussion.)
 - A. Store food and trash properly. (Demonstration.)
 - B. Keep camp clean—food scraps endanger wildlife.
 - C. Special considerations for bear country.
 1. Black bears vs. grizzly bears.
 2. Campsite layout.
 3. Cooking and wastewater.
 4. Food storage.
- IV. Pets. (Lecture or debate.)
 - A. Control pets at all times.
 - B. Dangers of pets to wildlife.
 - C. Consider leaving pets at home.

Conclusion

The way we treat wildlife greatly affects their health and well being.

Evaluation

Participants will have participated in all class activities. Participants will have demonstrated an understanding of and will have applied the principle of respecting wildlife if in the field.

NOTES

HOW TO RUN A *Leave No Trace* TRAINER COURSE

SUGGESTED LESSON PLAN: PRINCIPLE 7: Be Considerate of Other Visitors**Material Needed**

- Whistle

Goal

Trainer Course participants will understand the principle of Be Considerate of Other Visitors and the importance of teaching the principle to others.

Objectives

Participants will be able to:

1. State what it means to “be considerate of other visitors.”
2. Discuss the importance of consideration for other visitors.
3. Demonstrate, if possible, the ability to be considerate of other visitors.
4. Develop a lesson plan for teaching others to Be Considerate of Other Visitors.

Motivator

Blow the whistle to announce the start of the class. Be ready to discuss the negative impact of the whistle’s use. There is no such thing as exclusive rights to use the outdoors. How we treat other visitors will not only affect their wilderness experience but may also add to or detract from their willingness to participate in the preservation of wilderness.

Presentation

I. The experience of other visitors: How much is our responsibility? (Discussion.)

II. Respecting other visitors. (Lecture and/or inquiry.)

- A. Where to camp.
- B. How much sound to make. How to keep the sound down.
- C. Choice of colors for gear and clothing.
- D. A cooperative spirit.

III. Yielding to other visitors. (Lecture and/or inquiry.)

- A. Simple courtesies.
- B. Native people.
- C. Right-of-way.
- D. Rest breaks.

Conclusion

The consideration we show other visitors may do more than anything else to encourage them to preserve the wildlands.

Evaluation

Participants will have participated in all class activities. Participants will have demonstrated an understanding of and will have applied the principle of being considerate of other visitors if in the field.



NOTES

HOW TO RUN A *Leave No Trace* TRAINER COURSE

SUGGESTED LESSON PLAN: WILDLAND ETHICS**Material Needed**

- Action Plan worksheets
- “What Impacts Can You Live With” Game

Goal

Trainer Course participants will understand the need to develop a personal wildland ethic and to encourage others to do likewise. Participants will be motivated to begin meeting the objectives of a Trainer.

Objectives

Participants will be able to:

1. Define “ethics” in general and “wilderness ethics” in particular.
2. Discuss the importance of wilderness ethics. Why is Leave No Trace important?
3. Relate verbally and/or in writing a personal perspective on wilderness ethics.
4. Develop an Action Plan to begin meeting the objectives of being a Trainer.

Motivator

If people are to be encouraged to behave responsibly on the land, they must also be encouraged to explore their own personal relationship with the land. Use the “What Impacts Can You Live With” game to initiate thought and demonstrate the variability of personal ethics.

Presentation

The following outline is meant to be used as stimulation for thought and discussion. The instructor may choose to introduce this topic via the Ethics Game: Rate the Impact.

- I. Defining a wildland ethic.
 - A. Ethics.
 1. What is an ethic?
 2. Is an ethic merely an intellectual abstraction or does it imply action?
 - B. Wildland.
 1. What does “wild” mean to you?
 2. What does “wilderness” mean to you?
 3. What is essential for a wilderness experience?
- II. The relationship of humans to wildland.
 - A. People and wildland.

1. What is the appropriate human relationship to land, to wildland?
2. How are humans connected to or isolated from wildland?
3. What are the utilitarian values of wilderness to humans?
4. What is the symbolic value of wilderness?
5. Are humans essentially civilized—or does some part of our psyche or soul identify on a basic level with wilderness?
6. Does wilderness have a place in the “modern world?”

B. Stewardship vs. citizenship.

1. Are we stewards of the natural environment with dominion over it or are we citizens of the natural world of equal value with the other citizens?
2. What are the practical implications of these differing philosophies?

III. Personal responsibility.

- A. What can individuals do to mitigate their impacts on wildland?
- B. How can we “walk softly” after leaving wildland?
- C. Are there ways for wildland travelers to actually enhance and improve wildland?
- D. What are avenues for public participation in decisions regarding wildland management.
- E. Does the existence of a wildland ethic demand that level of participation?

IV. Action Plan.

- A. Developing an Action Plan.
- B. Sharing personal Action Plans with the group.

Conclusion

At its heart Leave No Trace is not about a uniformity of behavior or even of thought. It is about a convergence of values.

Evaluation

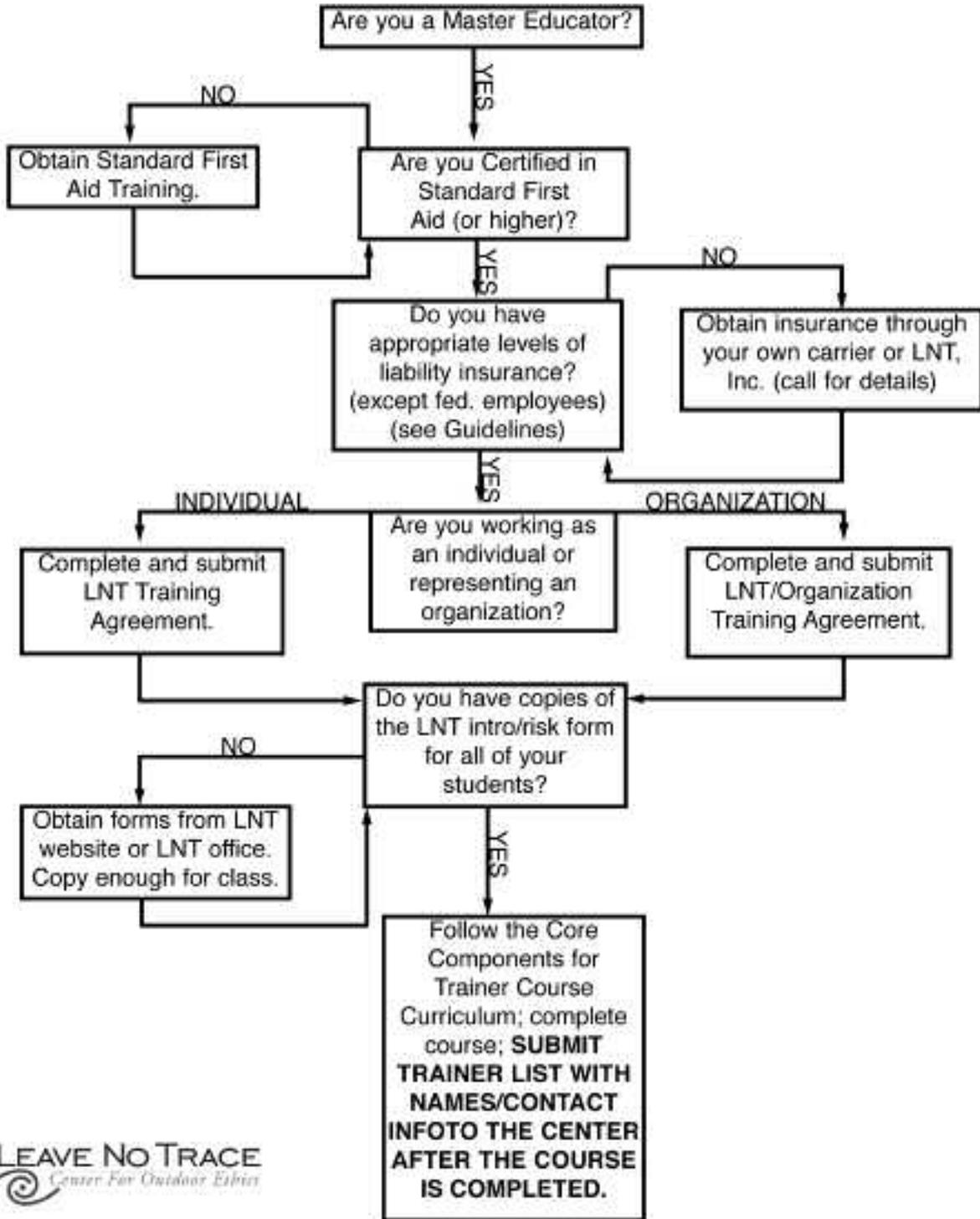
Participants will have participated in all class activities. Participants will have developed an Action Plan and shared it with the group.

NOTES

HOW TO RUN A *Leave No Trace* TRAINER COURSE

The following flow chart is offered to help you navigate the Leave No Trace Training Guidelines. It also outlines what is needed to offer a Leave No Trace Trainer Course.

Trainer Course Flow Chart



QUESTIONS? Please call Leave No Trace at 800-332-4100, or refer to the Training Guidelines for specifics. **THANK YOU FOR YOUR EFFORTS!**

NOTES

TRAINER COURSE FLOW CHART

TRAINER COST LOGISTICS WORKSHEET

APPENDICES

Instructor/s and/or Organization sponsoring course:

Start Date: _____ *End Date:* _____

Max. # Group Size _____

Permit needed? _____ *From whom?* _____

Location(s) of Course:

Nearest Airport

Serviced by which airline companies

Transportation from airport to course meeting place

Course Meeting Time/Place:

Meeting/Conference room location:

Cost: _____

Phone: _____

Address: _____

Contact: _____

Directions: _____

Dates and times needed: _____

Do they have: VCR? _____ Projector? _____

Screen? _____ Chalk board? _____

White board? _____ Markers? _____

Notes (key arrangements, coffee-making supplies, etc):

Where can participants and instructors store:

Luggage: _____

Valuables: _____

Vehicles: _____

Other Stuff: _____

Special arrangements details

(showers, towels, launching sites):

Cost: _____

Lodging:

Instructors:

Briefing day (usually Sat.): _____

Costs: _____

Nights: _____

Costs: _____

Address: _____

Phone: _____

Contacts: _____

Per room: _____

Type and # of room(s) _____

Kitchen? _____

Participants:

Nights: _____

Address: _____

Phone: _____

Cost per person: _____

Contact: _____

Rooms reserved: _____ # People /Room: _____

Reservations

details

(types of rooms, cancellation deadline, etc.):

continued ➡

NOTES

TRAINER COST LOGISTICS WORKSHEET

Shipping address (UPS, ground)

Name of a receiver _____
Phone number _____

Transportation: _____
Vehicles needed: _____ Date Needed : _____
Return Date: _____
Type of Vehicles needed
(Specifics i.e. Bus, 4 x 4, Van):

Available from (circle):
Rental company *Agency (FS, BLM, etc.)*

Details rental car (costs, pick up times)

Confirmation arrangements:

Who drives? (circle one)
Instructor(s) *Agency Driver* *Other*

Other Details:

Route:
Maps: name of quads:

Purchased?: _____
Where available if not purchased?: _____

Route Description: _____

Route scouted?: _____
Miles: _____
Directions to R.H.: _____

Info re: trails, closures, bears, water, fishing, popularity,
hunting season:

Expected weather/temps:

Other info:

Emergency Procedures:

Nearest medical facility _____

Emergency communication space (cell phone, gov't.
radio etc) _____

Evacuation support (county search and rescue, agency
search and rescue) _____

Marketing Ideas: Groups/Individuals to target and contact
information: _____

LEAVE NO TRACE TRAINING AGREEMENT: TRAINER COURSES

THIS AGREEMENT (“Agreement”) is made and entered into this _____ day of _____, 20____ by and between the Leave No Trace Center for Outdoor Ethics, its owners, officers, directors, employees, agents and representatives (referred to in this Agreement as “the Center”) and

_____, its owners, officers, directors, employees, agents and representatives (referred to in this Agreement as “Independent Contractor”). The Center and Independent Contractor are referred to together as “the Parties.”

Master Educators will use the approved national Leave No Trace curriculum to train individuals as Leave No Trace Trainers. The Center and Independent Contractor are entering into this Agreement to outline their intent to have Independent Contractor perform these services for the Center (“services”).

In consideration of the promises and covenants contained in this Agreement, and for other good and valuable consideration, the Parties agree as follows:

- 1. Independent Contractor - services provided:** Independent Contractor will provide the following services for the Center:

Conduct Trainer courses in accordance with the National Leave No Trace Training Program Guidelines “Training Guidelines”, incorporated by this reference.

- 2. Independent Contractor status:** The Parties acknowledge that Independent Contractor will have sole responsibility for the conduct of the services, and that the Center is not supervising or controlling the conduct of the services. The parties further agree that Independent Contractor and its agents and employees are, in fact, independent contractors, and are not employees or agents of the Center.
- 3. No agency relationship:** The Center is in no way directing the conduct of the services and neither the Center nor Independent Contractor are acting as agents for each other. Neither the Center nor the Independent Contractor has the authority to bind or act for the other, or to assume each others’ obligations or liabilities, other than as stated in this Agreement.
- 4. Independent Contractor responsibilities:** Independent Contractor will have sole responsibility for the conduct of the services, including but not limited to: course leader and course co-instructor selection, safety, evacuation or emergency procedures, provision of equipment and supplies, instructions to participants, screening, selection and supervision of participants, and location and suitability of course activities. Independent Contractor agrees to include the “Core Components for Trainer Course Curriculum,” in its courses, and to follow the additional guidelines laid out in the attached Training Guidelines.
- 5. The Center’s responsibilities:** The Center will make available, to the Independent Contractor, examples of course curriculum and related materials for the Leave No Trace Trainer courses.
- 6. Permits, licenses and representations:** Independent Contractor warrants and represents that it has obtained all federal, state or local permits or consents necessary to conduct the activity(s) or services, that its instructors and representatives

meet all minimum applicable licensing requirements and that it has the experience and capability to conduct the services.

Independent Contractor accepts full responsibility for providing any necessary equipment related to the services.

- 7. Insurance:** Independent Contractor agrees to secure an occurrence based comprehensive general liability policy in amount of \$1,000,000 per occurrence, \$2,000,000 aggregate, for bodily injuries and property damage. Independent Contractor agrees that this liability insurance policy will include 1) an endorsement naming the Center as an additional insured, and 2) a waiver of subrogation in favor of the Center (the insurance company waives any right to seek reimbursement from the Center). The Center’s position as an additional insured will include full coverage for the Center, whether or not the events activating a claim emanate from the Center’s, Independent Contractor’s or a third party(s)’ alleged acts, omissions or negligence. This insurance shall remain in effect for the duration of Independent Contractor’s provision of services, and continue to remain in effect regarding any occurrences related to the provision of services. Independent Contractor agrees to present the Center with proof of this insurance coverage, together with the endorsement naming the Center as an additional insured and the waiver of subrogation, 10 days prior to the provision of services. Independent Contractor shall give the Center 30 days’ written notice of any cancellation of this insurance.
- 8. Workers’ compensation coverage:** Independent Contractor warrants and represents that each of its employees and representatives have workers’ compensation coverage in place to the extent required by law.
- 9. Agreement to indemnify, defend and hold harmless:** Independent Contractor agrees to indemnify (indemnify meaning reimburse by payment or otherwise), defend and hold harmless the Center with respect to any and all claims, liabilities, losses, suits or expenses (including costs and reasonable attorneys fees), made or brought by anyone, arising out of or related to: 1) Independent Contractor’s duties or obligations under this Agreement and/or 2) any injury, damage, death or other loss to Leave No Trace course participants or others in any way connected with Leave No Trace Trainer courses conducted by Independent Contractor. **Independent Contractor’s agreement to indemnify, defend and hold harmless the Center includes any losses claimed to be caused, in whole or in part, by the acts, omissions or negligence of the Center, Independent Contractor, Leave No Trace course leaders or co-instructors, or other third party(s).**
- 10. Termination or cancellation:** This Agreement shall terminate following a material breach of this Agreement by either party, by the Parties’ mutual, written agreement, or following 60 days written notice by either party.
- 11. Trademark:** Independent Contractor may use the name “Leave No Trace,” in its promotional or informational materials describing the provision of Trainer courses.
- 12. Applicable law:** This Agreement shall be governed by Colorado Law, except its ‘conflict of law’ rules, which may mandate appli-

continued ➡

cation of the laws of another jurisdiction. Any mediation, suit or other proceeding arising out of or relating to this Agreement must be filed or entered into only in the State of **Colorado**, and **Colorado state law** shall apply.

13. Complete agreement and severability: This Agreement reflects the entire agreement between the Parties, and shall not be modified, assigned or altered in any way, except by written agreement signed by the Parties. If any provision of this Agreement is deemed unenforceable, the remaining provisions shall continue in full force and effect.

14. Mediation and costs: The Parties agree to attempt to settle any dispute (that cannot be settled by discussion) through mediation before a mutually acceptable Colorado mediator. If the Parties dispute any portion of this Agreement, the prevailing party shall be entitled to all costs, including reasonable attorneys' fees.

15. Acknowledgment and Assumption of Risks & Release and Indemnity Agreement: Independent Contractor shall distribute a copy of the Center's Acknowledgment and Assumption of Risks & Release and Indemnity Agreement for all participants' signatures, before the start of any Leave No Trace Trainer course.

A representative of each of the Parties has read and understands this Agreement, and acknowledges that it shall be effective and binding upon the Parties and their respective heirs, successors and assigns.

Leave No Trace Center for Outdoor Ethics

By: _____

title: _____

Independent Contractor:

By: _____

title: _____

/organization: _____

LEAVE NO TRACE/ORGANIZATION TRAINING AGREEMENT: TRAINER COURSES

THIS AGREEMENT (“Agreement”) is made and entered into this _____ day of _____, 20____ by and between the Leave No Trace Center for Outdoor Ethics (“the Center”) and organization

_____ (“Independent Contractor”) and their respective owners, officers, employees, representatives, and all other persons or entities associated with them.

The Center and Independent Contractor are referred to together as “the Parties.”

Organizations will use the approved national Leave No Trace curriculum to train individuals as Leave No Trace Trainers. The Center and Independent Contractor are entering into this Agreement to outline their intent to have Independent Contractor perform these services for the Center (“services”).

In consideration of the promises and covenants contained in this Agreement, and for other good and valuable consideration, the Center and Independent Contractor agree as follows:

16. Independent Contractor - services provided: Independent Contractor will provide the following services for the Center:

Conduct Trainer courses in accordance with the National Leave No Trace Program Training Guidelines “Training Guidelines”, attached and incorporated by this reference.

17. Independent Contractor status: The Parties acknowledge that Independent Contractor will have sole responsibility for the conduct of the services, and that the Center is not supervising or controlling the conduct of the services. The parties further agree that Independent Contractor and its agents and employees are, in fact, independent contractors, and are not employees or agents of the Center.

18. No agency relationship: The Center is in no way directing the conduct of the services and neither the Center nor Independent Contractor are acting as agents for each other. Neither the Center nor the Independent Contractor has the authority to bind or act for the other, or to assume each others’ obligations or liabilities, other than as stated in this Agreement.

19. Independent Contractor responsibilities: Independent Contractor will have sole responsibility for the conduct of the services, including but not limited to: course leader and course co-instructor selection, safety, evacuation or emergency procedures, provision of equipment and supplies, instructions to participants, screening, selection and supervision of participants, and location and suitability of course activities. Independent Contractor agrees to include the “Core Components for Master Educator or Trainer Course Curriculum,” in its courses, and to follow the additional guidelines laid out in the attached Training Guidelines.

20. The Center’s responsibilities: The Center will make available to the Independent Contractor examples of course curriculum and related materials for the Leave No Trace Trainer courses.

21. Permits, licenses and representations: Independent Contractor warrants and represents that it has obtained all feder-

al, state or local permits or consents necessary to conduct the activity(s) or services, that its instructors and representatives meet all minimum applicable licensing requirements and that it has the experience and capability to conduct the services.

Independent Contractor accepts full responsibility for providing any necessary equipment related to the services.

22. Insurance: Independent Contractor agrees to secure an occurrence based comprehensive general liability policy in amount of \$1,000,000 per occurrence, \$2,000,000 aggregate, and \$2,000,000 additional umbrella coverage, for bodily injuries and property damage. Independent Contractor agrees that this liability insurance policy will include 1) an endorsement naming the Center as an additional insured, and 2) a waiver of subrogation in favor of the Center (the insurance company waives any right to seek reimbursement from the Center). The Center’s position as an additional insured will include full coverage for the Center, whether or not the events activating a claim emanate from the Center’s, Independent Contractor’s or a third party(s)’ alleged acts, omissions or negligence. This insurance shall remain in effect for the duration of Independent Contractor’s provision of services, and continue to remain in effect regarding any occurrences related to the provision of services. Independent Contractor agrees to present the Center with a letter from Independent Contractor’s insurance company, outlining proof of this insurance coverage, together with the endorsement naming the Center as an additional insured, and waiver of subrogation, 10 days prior to the provision of services. Independent Contractor shall give the Center 30 days written notice of any cancellation of this insurance.

23. Workers’ compensation coverage: Independent Contractor warrants and represents that each of its employees and representatives have workers’ compensation coverage in place to the extent required by law.

24. Agreement to indemnify and defend: Independent Contractor agrees to indemnify (indemnify meaning reimburse by payment or otherwise) and defend the Center with respect to any and all claims, liabilities, suits or expenses (including costs and reasonable attorneys fees), made or brought by anyone, arising out of or related to: 1) Independent Contractor’s performance under this Agreement, and/or 2) any injury, damage, death or other loss which may arise in connection with the conduct of the Leave No Trace Master or Trainer courses, including individuals’ participation in Leave No Trace Master or Trainer courses, or use of Independent Contractor’s equipment or facilities.

Independent Contractor’s agreement to indemnify and defend the Center includes any losses claimed to be caused, in whole or in part, by the acts, omissions or negligence of the Center, Independent Contractor, Leave No Trace course leaders or co-instructors, or other third party(s).

25. Termination or cancellation: This Agreement shall terminate following a material breach of this Agreement by either party, or, by the Parties’ mutual, written agreement, or, following 60 days written notice by either party.

26. Trademark: Independent Contractor, if a partner in good

continued ➡

standing, may use the name “Leave No Trace,” and accompanying logos, in its promotional or informational materials describing the provision of Master or Trainer courses. Independent Contractor should take care to clarify that the Center is not supervising or controlling the course(s), but simply providing course curriculum and educational materials.

27. Applicable law: This Agreement shall be governed by Colorado Law, except its ‘conflict of law’ rules, which may mandate application of the laws of another jurisdiction. Any mediation, suit or other proceeding arising out of or relating to this Agreement must be filed or entered into only in the State of **Colorado**, and **Colorado state law** shall apply.

28. Complete agreement and severability: This Agreement reflects the entire agreement between the Parties, and shall not be modified, assigned or altered in any way, except by written agreement signed by the Parties. If any provision of this Agreement is deemed unenforceable, the remaining provisions shall continue in full force and effect.

29. Mediation and costs: The Parties agree to attempt to settle any dispute (that cannot be settled by discussion) through mediation before a mutually acceptable Colorado mediator. If the Parties dispute any portion of this Agreement, the prevailing party shall be entitled to all costs, including reasonable attorneys’ fees.

30. Release/Assumption of Risk document: Independent Contractor shall distribute a copy of the Center’s Acknowledgment and Assumption of Risks & Release and Indemnity Agreement for all participants’ signatures, prior to the start of any Leave No Trace Master or Trainer course.

A representative of each of the Parties has read and understands this Agreement, and acknowledges that it shall be effective and binding upon the Parties and their respective heirs, successors and assigns.

Leave No Trace Center for Outdoor Ethics

By: _____

title: _____

Independent Contractor:

By: _____

title: _____

/organization: _____

THE LEAVE NO TRACE CENTER FOR OUTDOOR ETHICS DISCLAIMER OF LIABILITY & COURSE PARTICIPANT ACKNOWLEDGMENT AND ASSUMPTION OF RISKS

INTRODUCTION

For all Leave No Trace course participants: Please read this document carefully. This document describes the role of the Leave No Trace Center for Outdoor Ethics (the Center) as it pertains to Leave No Trace courses and includes the Center's disclaimer of liability and your acknowledgment and assumption of risks. Please take the time to read this information and contact your instructor with any questions or concerns.

THE CENTER – Role of Organization & Disclaimer of Liability

The Center is a non-profit education organization whose mission is to promote and inspire responsible outdoor recreation through education, research and partnerships. The Center focuses its education efforts on ways for human powered recreational visitors to reduce their impacts on the natural area and the experience of other visitors. The Center's goal is to help visitors prevent avoidable impacts and minimize unavoidable impacts in our natural world.

As an education organization the Center develops and distributes educational curriculum and materials in cooperation with its partners.

Leave No Trace Master Educator & Trainer courses are an integral element of the program. However, the Center does not teach, oversee or conduct specific courses, but rather, provides organizations and individuals trained as Master Educators with teaching materials to teach these Leave No Trace courses. The instructors for Master and Trainer courses are not representatives of the Center. **All organizations and individuals conducting Leave No Trace courses act as independent contractors and are solely responsible for the conduct of the courses. The Center (and its agents, owners, officers, employees, representatives and all other individuals or entities associated with it, collectively the Center) does not warrant or guarantee the quality or expertise of any individual or organization teaching a Leave No Trace course. Further, the Center does not supervise or control these independent contractors and is not legally liable or responsible for their conduct. The Center disclaims all liability to you or others, for any injury, damage, death or other loss you may suffer, in any way connected with your participation in a Leave No Trace course. Participants are advised to independently review and examine the qualifications of individuals or organizations providing Leave No Trace courses.**

COURSE PARTICIPANTS – ACKNOWLEDGMENT & ASSUMPTION OF RISKS

Leave No Trace courses provide participants with information and techniques so that they can engage in minimum impact wilderness ethics and principles. Those who successfully complete a Leave No Trace course can then teach others about these outdoor wilderness ethics.

Leave No Trace courses focus on wilderness ethics but Leave No Trace courses **do not teach** traditional outdoor skills such as mountain climbing, river crossings, camping, etc. However, some Leave No Trace courses must be taught in an outdoor or wilderness setting. Activities vary, but can include hiking, camping, rafting and horseback riding and students should have basic outdoor skills before attending a course. These activities necessarily include **inherent risks, hazards and dangers that can cause or lead to injury, property damage, illness, mental or emotional trauma, disability or death. The following describes some, but not all of those risks, hazards and dangers:**

1. **Risks present in an outdoor environment.** These risks include travel in mountainous or wilderness terrain, both on and off trails. While traveling in these areas, hazards may not be marked, weather is unpredictable year around, and lightning, rapidly moving rivers/whitewater, falling rocks, snow and ice, avalanche dangers, fallen timber, stinging insects, wild animals and other hazards can exist.
2. **Risks involved in horseback riding.** Horses (including donkeys or mules) are unpredictable in all circumstances. Horses can react to the environment, and the conduct of riders and other persons. Horseback riding can involve equipment that may break, saddles that may slip and other riders who may not control their animals
3. **Risks connected with cooking and camping chores.** While camping, participants may cook over a gas stove or an open fire and are subject to the risk of gas explosion or burn. Participants may need to disinfect water before use.
4. **Risks in staff judgment.** Risks involved in decision making and conduct, including the risk that a course leader, co-leader or other assistant may misjudge a participants capabilities, or misjudge weather, terrain, water level, or route location.
5. **Risks associated with travel.** Travel can be on foot, or by vehicle, boat or other means, and can be over difficult terrain or via lakes and rivers, in adverse weather conditions.
6. **Risks connected with geographic location.** Remote locations can create difficulties in communication and transportation and delays in evacuation and medical care.
7. **The risk that equipment used** in an activity may break, fail or malfunction
8. **Risks regarding conduct.** The potential that you, other participants or third parties (e.g. driver, rescue squad, hospital) may act carelessly or recklessly.

Other risks, hazards and dangers that are generally associated with educational and/or outdoor activities.

These and other risks, hazards and dangers may result in participants: 1) falling, 2) being struck, 3) colliding with objects or people, 4) experiencing vehicle capsize or collision, 5) reacting to high altitudes and weather conditions or experiencing other problems. These and other circumstances may cause hypothermia, dehydration, frostbite, drowning, high altitude sickness, heart or lung problems, broken bones, burns, or other injury, damage, death, or loss.

By voluntarily agreeing to participate, you assume and accept full responsibility for yourself, for the inherent risks of these activities (both known and unknown), and for any injury, damage, death, or other loss you may suffer, resulting from those risks, and resulting from your own negligence or other misconduct.

CONCLUSION

As the Center continues to expand and develop as a program, the need to offer responsible, informative training grows. The Center welcomes your interest in and devotion to the Leave No Trace program. The role of the Center is to provide educational curriculum to Master Educators and Trainers. Likewise, the Center is available as a resource for you as you go forth and spread the Leave No Trace word. If you have questions or concerns about the Center, vis-à-vis your course, please feel free to contact us at the number below. Thanks again for your interest in promoting Leave No Trace. 800.332.4100; www.LNT.org.

NOTES

ACKNOWLEDGEMENT AND ASSUMPTION OF RISK

SUGGESTED LESSON PLAN: T O P I C

Material Needed

Motivator

Presentation

Goal

Objectives

Participants will be able to:

1.

2.

3.

4.

Conclusion

Evaluation

NOTES

LESSON PLAN FORM

1. Are Leave No Trace Trainers “certified” or do they receive “certification” in Leave No Trace?

No. There are many in the general public who are under the impression that once they attend a Master Educator or Trainer course or an Awareness Workshop that they are "certified" in Leave No Trace. This is not the case. The word "certification" carries with it many legal implications that the Center has chosen to avoid altogether. Therefore, individuals who attend either a Master Educator or Trainer course or an Awareness Workshop, are "trained" but not "certified." There is no certification available through the Leave No Trace Center for Outdoor Ethics or through any of their educational course providers. So, to say that you (or someone else) are a "Certified Leave No Trace Trainer/Master" is incorrect. Instead, the Center uses phrases such as "successfully completed," or "trained in Leave No Trace," or "a trained instructor of Leave No Trace," and "upon successful completion of a course, you will receive a certificate stating that you are trained in Leave No Trace."

2. How can I advertise my upcoming Leave No Trace Trainer Course?

If you're interested in getting the word out about upcoming courses you are running, feel free to email a course description to the Center that will be posted on the Leave No Trace website. Here is a sample course description:

TRAINER COURSE

When: Sat-Sun, Dec 7-8, 20__

Where: Coloma, California (30 miles E of Sacramento).

Tuition: \$50.

Course Description: This course is designed for educators, agency employees, youth leaders, and others who value the land and want to teach others how to protect and preserve it. Graduates will receive a Leave No Trace Trainer certificate and will be qualified to teach Leave No Trace skills and ethics to a variety of groups.

Topics include how to teach low-impact outdoor recreation including:

1. The history of land conservation and public wilderness protection in the U.S.
2. The underlying land ethic.
3. Individual learning styles.
4. Outdoor teaching techniques.
5. The authority of the resource.
6. The Seven Principles of Leave No Trace.

The course is a combination of indoor and outdoor lecture/discussion, practical application, and reflection. Participants need basic camping equipment and should be in reasonably good physical condition. Fee covers cost of campsite, meals, course materials, certificate, patch, and pin.

Contact Woodsy Owl at woods/owl@aol.com or 555.555.5555.

3. What can new Leave No Trace Trainers do to spread the word?

Those that successfully complete a Leave No Trace Trainer Course are prepared to:

- Understand, demonstrate, and teach state of the art minimum impact techniques for friends, family, or community groups.
- Lead a discussion on outdoor ethics and help others explore their own personal outdoor ethic.
- Offer Leave No Trace Awareness Workshops.

4. What is an Awareness Workshop?

An Awareness Workshop is any formal Leave No Trace presentation that is one day or less in length. These presentations can include a wide variety of programs ranging from a 30-minute presentation to day-long workshops. Awareness Workshops can be facilitated by Master Educators, Leave No Trace Trainers, or others familiar with Leave No Trace. For more information on Awareness Workshops or to obtain the Awareness Workshop Guidelines and report forms please visit www.LNT.org.

5. Where can I find teaching resources?

A wide variety of excellent teaching resources can be found on the Leave No Trace website. Many of these resources are free. Visit www.LNT.org and link to the "Teaching Resources" section of the website to find the following:

- Sample Trainer Course agendas and outlines.
- The Teaching Leave No Trace Activity Guide.
- The Leave No Trace Training Guidelines.
- Acknowledgment and Assumption of Risks forms.
- Leave No Trace information in several different languages.
- Guidelines for the use, development, and alteration of Leave No Trace information.
- Links to pertinent research.

6. Can I download and use Leave No Trace materials from the website?

You are permitted to download the text from Leave No Trace's written materials as long as you do not sell them (or print them professionally). The Center also asks that you cite the existing copyrights (The Leave No Trace Center for Outdoor Ethics and the National Outdoor Leadership School) and list both the Leave No Trace website address (www.LNT.org) and the toll free number (800-332-4100).

7. How do I order Leave No Trace materials?

To order Leave No Trace materials simply contact The Center for Outdoor Ethics via phone or email to place your order. To view the complete list of Leave No Trace educational materials, please visit www.LNT.org and select "Store." If you are an individual member of the Center, you'll receive a 10 percent discount on all purchases.

8. Can I receive Leave No Trace materials for free?

Every year the Center receives thousands of requests for free materials. Due to a limited budget, the Center is unable to meet the demand. However, there is a program called the Tools For Teaching Fund (TFTF) that can offer assistance. The TFTF is a grant-giving program through which individuals or organizations can apply for a grant for Leave No Trace educational materials. For information on the fund, please visit www.LNT.org.