

THE TREAD LIGHTLY!
GUIDE TO RESPONSIBLE
MOUNTAIN BIKING

INTRODUCTION

*We did not inherit the Earth from our parents,
We are borrowing it from our children.
-Native American Proverb*

For many of us, enjoyment of the outdoors is an important part of our life. It is how we relax, find adventure, and get away from the hustle of everyday life. Hunting, fishing, camping, photography, canoeing, hiking, biking—you name it—have become very popular.

Mountain bike riding is one of the fastest growing forms of outdoor recreation. Enthusiasts enjoy the opportunity to get deeper into the backcountry to enjoy nature, hone their technical riding skills, build endurance, and experience the comradery of the shared experience with other enthusiasts.

Each of us has a different reason for pursuing outdoor recreation but we all share the responsibility for protecting natural resources, respecting other recreational trail users, and maintaining access to our favorite recreational opportunities. The best tool to achieve these responsibilities is to maintain a positive outdoor ethic, which minimizes impacts on our lands, waters, and other recreationists. The Tread Lightly!® principles do just that.

Throughout the *Tread Lightly! Guide to Responsible Mountain Biking*, we will help you prepare to responsibly enjoy your mountain biking experiences, and to be a positive influence on nature and those around you.

Now, off to the wonderful world of responsible mountain bike riding, the Tread Lightly! way.

WHAT IS TREAD LIGHTLY!?

Tread Lightly! is a national nonprofit organization with a mission to proactively protect recreation access and opportunities in the outdoors through education and stewardship. Tread Lightly!'s educational message, along with its training and restoration initiatives are strategically designed to instill an ethic of responsibility in a wide variety of outdoor enthusiasts and the industries that serve them. The program's goal is to balance the needs of the people who enjoy outdoor recreation with our need to maintain a healthy environment.

In 1985, the U.S. Forest Service launched the Tread Lightly! program as a means of addressing concerns about the impacts from increasing numbers of visitors to the great outdoors for

recreational purposes. In 1990, to maximize the program's effectiveness, management responsibilities were transferred to the private sector, making Tread Lightly! an apolitical, nonprofit organization. Tread Lightly! is now the nation's signature ethics message for recreationists that use motorized and mechanized vehicles in their outdoor pursuits.

Tread Lightly! has become an ethical and educational force in bringing together and unifying a broad spectrum of stakeholders including agencies, industry, media, conservation and enthusiast groups, and concerned individuals who share a common goal—to find a balance between humans and nature.

Our federal partners in spreading the message of responsible and ethical use of the outdoors include the National Park Service, Forest Service, Bureau of Land Management, Bureau of Reclamation, and the Army Corps of Engineers.

The message is simple: conserve our environment! Make the commitment to follow Tread Lightly! principles as summarized in the Tread Lightly! Pledge:

Travel Responsibly
Respect the Rights of Others
Educate Yourself
Avoid Sensitive Areas
Do Your Part

These are the basic tools for responsible recreation. In the following pages you will find in-depth information on how to Tread Lightly! by minimizing your impacts on land with your mountain bike. By practicing these principles and suggestions provided in the guide, you will help protect natural resources and preserve access to public lands.

Treading Lightly On Land

TRAVEL RESPONSIBLY on roads and trails or in permitted areas.

The Fundamentals...

- Travel only in areas that are open to your type of recreation.
- Stay on routes and trails designated for your type of travel.
- Don't create new routes or expand existing trails.
- Cross streams only at fords where the road or trail intersects the stream.
- Understand and practice proper techniques related to negotiating terrain.
- Always travel with a partner. Traveling solo can leave you vulnerable if you have an accident or breakdown.

These are the fundamentals of reducing impacts on the land. Mountain biking requires specialized techniques for negotiating terrain. By learning and applying these techniques, your impact on natural resources will be greatly reduced.

Negotiating Terrain

Mountain biking is a fantastic way to experience the outdoors, and if done properly, is an environmentally appropriate way to enjoy the backcountry.

Terrain Features

- Avoid trails when they are obviously wet and muddy. Riding wet and muddy trails causes ruts to appear. Ruts can lead to more damage as users try to avoid them by moving to the side, which widens the trail or causes multiple trail ruts. If you are riding on an otherwise dry trail and come across a wet section, carefully go directly through the center of the mud or puddle, or consider turning around and going back the way you came.
- Cross streams only at designated fording points.
- Cross streams less than 1 foot deep to avoid damaging your bike. Approach streams in low gear at a 90-degree angle in standing position. Keep your momentum. Remember stream bottoms are often slippery. Walking across moving water minimizes the risk of dumping your bike and possibly injuring yourself.
- In sand it is best to keep your weight on the back of your bike and let your front wheel float, trying not to let it wonder off course. Steer gradually and keep your momentum. Very soft or loose sand may require you to walk your bike to a more stable surface.
- Gravel requires good balance and attention. Avoid sudden movements, steer gradually, and keep your weight on the back of the bike.
- Select a good line through rocks. Keep your momentum and ride in a slightly higher gear. Pull up on the handlebars for large rocks you traverse. Remember to consider your rear wheel when choosing your line.
- Hopping logs can be great fun. Treat logs similarly to rocks and approach them at a 90-degree angle.
- Leaves and pine duff can hide potential hazards. Use caution and expect the unexpected when riding through fallen leaves.

Climbing

- When climbing, shift to a gear that provides comfortable forward momentum and maintains traction. Ride the tip of the saddle with your nose over the axle.
- If you lose traction, lean back slightly, and pull up on the bars.
- Avoid going around water bars or other erosion control devices to prevent forming a runoff channel. These devices are placed across trails to direct water off the trail and prevent erosion.

Downhill

- Ride back in the saddle keeping your weight over the back wheel.
- When descending, apply enough brake to maintain control. Use the front brake sparingly relying mainly on the rear brake. Quick, light pumping of the rear break reduces the chances of locking your wheels and skidding.
- Ride switchbacks and corners as slowly as possible. Maintain your balance; stand out of the saddle.
- Keep control of your bike at all times and choose the safest line.

- Keep your pedals parallel to the ground while maintaining good pedal contact.

Other Riding Tips

- Dismount and walk the bike if you are uncomfortable with the terrain or grade.
- Never make shortcuts on switchbacks. These are sharp, zigzag turns on trails in steep terrain. Shortcuts will lead to unnecessary erosion.
- Always be in control of your bicycle. If you find that your bike is running off the trail often, ride slower or choose a wider, less technical trail in the future.
- Stay on designated trails, paths, routes, and roadways when riding off-pavement.
- Make your presence well known when approaching others or blind corners.

RESPECT THE RIGHTS OF OTHERS including private property owners and all recreational trail users, campers and others to allow them to enjoy their recreational activities undisturbed.

The Fundamentals...

- Respect and be considerate of other users so that all may enjoy a quality outdoor experience. Keep a cheerful, pleasant attitude. A gracious “Hello” goes a long way to building a friendly relationship with other trail users.
- Yield the right of way to those passing you or traveling uphill and always yield to horses. When driving also yield to hikers, and bikers. Leave gates as you find them unless otherwise posted.
- If crossing private property, be sure to ask permission from the landowner(s).
- Keep the noise and dust down.
- Don’t be a trail hog. Share with all those who recreate, regardless of their means of travel.

Respect and common courtesy go a long way. By valuing the environment and those who enjoy it, you keep recreational opportunities available for you and others to enjoy. Remember these basic rules and you will find your outdoor experience to be more rewarding.

- Yield right of way to riders on the uphill grade or those who may overtake you.
- Non-mechanized travelers maintain the right of way. Yield to horses and hikers.
- When encountering pack animals use extra caution. Slow down, move to side of the trail, stop and ask the handlers how to proceed. If you are wearing a helmet, remove it to look human to the animals and don’t make sudden movements.
- Ranchers use public lands to graze livestock. It is important to leave gates as posted or if there are no signs leave gates as you find them—open if open, closed if closed.
- Do not idly ride around in camping, picnicking, trailhead, and residential areas.
- Keep speeds low around crowds and in camping areas.
- Faster bikers should take care not to throw sand and mud from their wheels while riding past other trail users.
- When encountering other hikers, bikers, or stock users on the trail, yield to the passing group or those traveling uphill. Dismount and stand to the side if the trail is narrow. If you are passing others, politely announce your presence and proceed with caution.

- Slow down when approaching blind corners or hillsides.

EDUCATE YOURSELF by obtaining travel maps and regulations from public agencies, planning for your trip, taking recreation skills classes, and knowing how to use and operate your equipment safely.

The Fundamentals...

- Know local laws and regulations.
- Know which areas and routes are open to your type of recreation.
- Make your trip safe. Have the right information, maps, and equipment and know how to use them.
- Make sure the bike is compatible with road or trail conditions.
- Make sure your bike is mechanically up to task. Be prepared with tools, supplies, spares and a spill kit for trailside repairs.

With a little preparation and education, you can make your next backcountry experience fun and safe while protecting the environment. Always plan for the expected as well as the unexpected. If the opportunity presents itself, take a course or workshop related to your favorite outdoor activity. Universities, community education programs, and outdoor retailers and outfitters often offer classes related to recreational activities. Education and preparation will make your trip easier and more enjoyable.

Preparation

- Obtain a travel map of the area you wish to explore. After selecting a destination, determine which areas are open for your type of use. Select the safest route for your ability, and determine what special rules and regulations may be in effect.
- Contact the land manager to see if there are certain times or specific areas to avoid: times when wildlife are particularly sensitive to disturbance (e.g. nesting or birthing seasons) or when soils are wet and prone to rutting; areas that are particularly sensitive to disturbance because of rare or endangered plants and animals, critical wildlife habitat, or fragile soil or vegetation types; and problem areas that are extremely crowded or where environmental impacts are severe.
- Check the long-term weather forecast for the location you will be visiting. Dress and pack gear accordingly. A storm that you aren't prepared for can be a miserable experience at best and an outright disaster at worst.
- Make a realistic plan and stick to it. Let someone know where you will be and when you will return, even on a day trip. Have an itinerary of your overall trip and leave a copy with family or friends in the event of an emergency.
- Carry local trail maps and area highway maps to get the best idea of your location and proximity to towns, roads, and trails. Better yet, invest in a global positioning system transceiver (GPS) to accompany your maps.
- Be familiar with the different signs that you will see on the trail and proceed accordingly.
- If you are towing a trailer of any sort make sure it is properly maintained and the tail lights work.

- First time to an area? It may be best to try a lower rated trail to determine your personal level of ability.
- Mountain bikers are exposed to the elements and a great ride can turn into misery if you are caught unprepared. It is always better to have more clothing than you need rather than less.
- Be sure your mountain bike is properly tuned. Always carry tools and parts for trailside repairs.

Safety

- Be certain each member in your party has a map and knows where the group is headed. Select predetermined rest stops and designate meeting places in case of separation. If you do become separated, stay on the correct trail and let the group find you. Taking different trails could facilitate you becoming lost.
- Don't overextend daylight hours. Plan your schedule to allow being back at the base, campsite, or designated meeting place at a predetermined hour.
- Always travel with a basic first aid kit and survival supplies.
- Be prepared in case of an emergency that requires you to spend the night in the backcountry.
- A cellular phone is a smart, potentially lifesaving link to help in case of an emergency. Before your day's trip, write down local emergency telephone numbers and bring them with you. Keep in mind, however, that you may not have service in the area. In some locations only satellite phones provide service.
- Travel with a partner. Not only is there fun in numbers, but traveling with at least one companion is also essential to your safety. Remember that you're traveling in the backcountry, sometimes into remote areas at great distance from roads and towns. The buddy system is vital to avoiding tragedy in case of emergencies such as a mechanical breakdown or an accident.
- Do not reach the point of mental or physical exhaustion. Have fun, and end the day's trip before you are too tired to travel safely.
- Wear a helmet, eye protection, gloves, and other personal safety gear.
- Wear appropriate clothing. Select clothing that offers lightweight protection, "breathes," dries quickly, and keeps you warm.
- Mountain biking requires a high level of skill and judgment. Do not use drugs or alcohol. They can impair your skills, leading to accidents and/or serious injuries. If you are on prescription or "over-the-counter" drugs which carry a vehicle operation warning, don't ride.
- Pace yourself. Mountain biking is physically demanding. If you are riding at higher altitudes, remember the air is thinner, and you'll tire more quickly than at lower altitudes. Make realistic goals and stop frequently, at least until you have adapted to the environment.
- Use common sense and know your limitations. If you have doubts about your ability to ride a section of trail, look at the map and see if you can find a route that better matches your personal abilities.
- Maintain a reasonable distance between you and your fellow riders. Tailgating can lead to disastrous results if the lead rider takes a tumble.

- A multi-use trail is not a racecourse. Races have strict rules. Aside from the potential for creating environmental damage, reckless riding endangers you and others sharing the trail.

AVOID SENSITIVE AREAS such as meadows, lakeshores, wetlands and streams, unless on designated routes. This protects wildlife habitat and sensitive soils from damage.

The Fundamentals...

- Other sensitive habitats to avoid unless on designated routes include cryptobiotic soils of the desert, tundra, and, seasonal nesting or breeding areas.
- Avoid disturbing historical, archeological, and paleontological sites.
- Avoid “spooking” livestock and wildlife you encounter and keep your distance.
- Motorized and mechanized vehicles are not allowed in areas designated Wilderness.

With the number of recreationists rapidly growing every year, the repeated and often unintentional misuse of land creates environmental damage especially in sensitive areas. By using common sense and taking a few precautions, recreationists will ensure that the natural places they frequent will remain available and in good conditions for future use.

- Always stay on designated roads and trails or other areas open for use.
- Leave what you find. Avoid picking wild flowers or taking plants and cultural artifacts. These things are best left in their natural environment.
- Avoid “spooking” livestock (horses, mules, cattle, sheep, llamas) or wildlife you encounter on the trail. Move slowly and keep your voices low. These animals should be treated with prudence. Proceed with caution.
- Riding across a meadow or crashing through undergrowth can destroy nesting sites and other sensitive habitat.
- Remember, designated Wilderness areas are reserved for the most primitive outdoor adventure. These areas were set aside by Congress to protect the natural landscape and the wilderness experience. These designated areas are solely for non-mechanized travel—by foot or horseback. Off highway vehicles, snowmobiles, personal watercraft, or mountain bikes are not allowed. Please respect the legacy of these areas and leave it to those traveling by foot or with pack animals.

DO YOUR PART by leaving the area better than you found it, properly disposing of waste, minimizing the use of fire, avoiding the spread of invasive species, restoring degraded areas, and joining a local enthusiast organization.

The Fundamentals

- Leave it better than you found it. Carry a garbage bag and pick up litter left by others.
- If you encounter repairable damage on the road or trail, don’t pass it by. Stop and pick up litter, and repair damage as best you can.
- Properly dispose of garbage, sanitary waste, and gray water.
- Follow practices to avoid spreading invasive species.
- Protect the soundscape by preventing unnecessary noise.

- Join a local enthusiast group. They provide great opportunities to learn more about your sport and local recreation areas, volunteer events, and a community to share your experiences with.

Taking those extra steps to minimize your impacts is an important part of outdoor ethics. Taking a little extra time and effort to minimize your impacts and mitigate the impacts of those who came before you will keep your favorite recreation spot open and beautiful today and in the future.

Minimize Use of Fire

- Observe all fire restrictions. If you must build a fire use existing fire rings, build a mound fire, or use a fire pan. Keep fires small and allow it to burn only while in use.
 - ◆ The best place to build a campfire is an existing well-maintained fire ring in a suitable campsite.
 - ◆ Using a fire pan is a good way to minimize impacts. A fire pan should have three-inch high sides and be placed on rocks or lined with mineral soil so the heat won't scorch the ground.
 - ◆ Mound fires are a great alternative in situations when there is no fire ring or you can't carry a fire pan. To build a mound fire collect soil, sand, or gravel from an already disturbed site. Lay a ground cloth on the fire site and then spread soil in a circular, flat-topped mound at least six inches thick. Thickness of the mound is important to insulate the ground from the heat of the fire. Make sure the circumference of the mound is larger than that of the fire. The ground cloth under the mound allows for quick clean-up of the fire remnants. Replace the soil where you found it.
- For firewood, use only fallen timber. Gather firewood well away from your camp. Do not cut standing trees. There should be enough wood that its removal for a fire is unnoticeable.
- For cooking, use a camp stove. They are always preferable to a campfire in terms of impact on the land.
- Never burn trash in a campfire.
- Let your fire burn down to a fine ash. Ensure your fire is completely extinguished.

Waste Disposal

- Wash 200 feet away from streams and lakes. Use biodegradable soap and scatter strained wash water so it filters through the soil.
- Do not wash in streams and lakes. Detergents, toothpaste and soap harm fish and other aquatic life.
- In areas without toilets, use a portable latrine if possible and pack out your waste.
- In areas where use of a cat hole is necessary, human waste should be disposed of in a shallow hole (6"- 8" deep) at least 200 feet from water sources, campsites, or trails. Cover and disguise the hole with natural materials. Choose sites in un-traveled areas with good organic soils and, if possible, in direct sunlight to aid in decomposition.
- Cat holes in desert environments require holes to be only 4"- 6" deep and the site should be in direct sun to aid in decomposition. Avoid sandy washes where water flows during storms.

- In sand dunes you must pack solid waste out. Sand has no viable microorganisms to break down human solid waste.
- It is recommended to pack out your toilet paper and hygiene products.
- High use areas including river canyons may have other restrictions so check with a land manager.
- Repackage snacks and food in baggies. This reduces weight and amount of trash to carry out.
- Pack out what you pack in.

Invasive Species

Invasive species are non-native plants and animals that out compete native species for valuable resources within a particular habitat. Sometimes referred to as noxious weeds or aquatic nuisance species, these organisms damage the environment, are costly to remove, and once established are almost impossible to eradicate.

- Following a trip, always wash your bike, gear, and support vehicle to reduce the spread of invasive species.
- Learn how to identify invasive species in your area and contact land managers if you discover an outbreak.
- Invasive species are one more reason to always travel on trails. Traveling off trails increases your chances of encountering and spreading these species.

Protecting the Soundscape

Natural sounds are essential to the health of the environment. Man-made noise can reduce the quality of the natural experience and can be detrimental to the wildlife in an ecosystem.

- Respect others' desire for quiet solitude and the sounds of nature. Early morning and late afternoon is often the time when people enjoy peace and tranquility.
- When camping, remember that others want to enjoy the sounds of nature. Please refrain from playing radios and music loudly.
- Be aware that continued exposure to unnatural noise could cause chronic stress to wildlife. Take appropriate measures to reduce travel in areas inhabited by wildlife.

Minimum Impact Camping

Often our travels mountain biking are coupled with backcountry camping. An overnigher or extended camping trip requires proper preparation. Here are some helpful tips to assist you in camping with minimum impact.

Respect others who camp

- Choose camping supplies in neutral colors that blend with the natural surroundings and are less intrusive to other campers' experiences.
- Be respectful of those camping in the same general area. Keep noise to a minimum, especially in the early morning and evening hours.
- Be considerate of other campers' privacy; keep your distance and avoid traveling through their campsites.

Plan Your Camping Trip

- Plan for small groups, especially in remote backcountry areas. Smaller campsites are easier to find.
- Plan meals ahead of time. Repackage food in reusable containers. This reduces weight and the amount of trash to carry out.
- Prepare a list of all the required camping gear for your trip and use it to pack.
- Talk to land managers about the location of established campsites in backcountry areas to help plan your travel itinerary.

Campsite Selection

- Whenever possible, use existing campsites. Camp on durable surfaces and set up tents and cooking areas on a non-vegetated area. Take the time to search for a suitable campsite in areas without designated sites.
- Select a campsite approximately 200 feet off trail and at least 200 feet from any water resource. Camp near boulders or vegetation to screen you from other campers.
- Avoid camping near historical, archeological, or paleontological sites or in areas of sensitive or critical habitat.