

THE TREAD LIGHTLY!
GUIDE TO RESPONSIBLE
FOUR WHEELING

INTRODUCTION

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

Four-wheeling is another growing form of outdoor recreation. Enthusiasts enjoy the opportunity to get deeper into the backcountry to enjoy nature, hone their technical driving skills, 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 Four Wheeling*, we will help you prepare to responsibly enjoy your off-highway outdoors experiences, and to be a positive influence on nature and those around you.

Now, off to the wonderful world of responsible four wheeling, 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! Principles:

Travel Responsible
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 four-wheel drive vehicle. By practicing these principles and suggestions provided in the guide, you will help protect natural resources and preserve access to public and private 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. Four-wheel drive vehicles require specialized techniques for negotiating terrain. By learning and applying these techniques, your impact on natural resources will be greatly reduced.

Negotiating Terrain

Four-wheeling is a wonderful way to experience the outdoors and if done properly, is an environmentally sound way to enjoy the backcountry. Here are a few tips to help you negotiate terrain and enjoy your four-wheeling experience while protecting the environment.

- Put your vehicle in four-wheel drive before reaching hills, obstacles, large rocks, soft spots, ravines, ruts, and crossing streams. Generally low-range transfer gear is best for most off-highway use.

Hills

- Driving safely up, down, or over hills requires excellent judgment and an understanding of what your vehicle can and cannot do. If you have any doubt about you or your vehicle's ability, don't drive up or down a hill; turn around and find another route. Re-tracking is a normal part of safe four-wheeling.
- It's especially important to avoid sudden acceleration, sudden turns, or sudden braking. Any of these actions could cause the vehicle's center of gravity to shift, destabilizing the vehicle, leading to a collision or rollover.
- Travel straight up or down a hill or grade. Don't climb at an angle or cross the face of a hill below the top—you may slide sideways or roll your vehicle.
- Use a low gear in the transmission and transfer case.

Soft Spots (mud, soft or loose soils, sand)

- Soft spots may be tempting challenges but should be avoided.
- Driving on wet trails increases rutting and erosion.
- Avoid mud if possible while remaining on the road or trail. If you can't avoid mud, use low gears and just enough throttle to maintain forward movement.
- Engage in locking differential or hubs. If necessary, winch yourself through.
- To help generate additional traction, turn the steering wheel rapidly from side-to-side if you sense a loss of traction.
- Don't gun the engine. This will spin the tires and dig you DOWN, not forward, and could bury you to the frame. Smooth, easy power is better than too much power.

Obstacles

- Cross obstacles at an angle, one wheel at a time. This increases the clearance of the vehicle.
- Don't cross the obstacle straight on or you may damage the undercarriage and you also run the risk of high centering your vehicle.

Large Rocks

- Carefully put a tire on the rock. Proceed very slowly in low/low, with just enough throttle to maintain headway. This raises the vehicle, adding clearance to the undercarriage.
- Don't straddle the rock. This may leave you high centered on the frame or differential, possibly damaging the frame and/or driveline.
- Know where the low points on your vehicle are (the rock grabbers): the differentials, transmission, transfer case, etc.

- Know the size of obstacles your vehicle can clear.
- Use a “spotter” in front of you to let you know what is going on underneath your vehicle.

Crossing Ravines

- Turn into ravines, large depressions or “whoop-t-dos” at about a 45-degree angle, left or right (turning into, not away from, the depression) and let the vehicle enter and leave one tire at a time.
- Go slowly, allowing the vehicle to stabilize itself.
- Don’t enter straight into a depression. You may wedge yourself in front first or hang up the front and rear as you attempt to exit.
- Know your approach and departure angles.

Dealing with Ruts, Gullies, and Trail Washouts

- Straddle ruts, even if they are wider than your vehicle. This may mean running your tires on their sidewalls along the inside of the rut. This will keep your vehicle level.
- It is important to keep your vehicle level while maintaining control. Be patient and drive slowly in order to keep your vehicle balanced, front to back and side to side.
- Don’t try to go forward with your vehicle tilted to one side, because if the rut suddenly gets deeper, your vehicle may roll or slide on its side.
- If you feel the vehicle tilt, turn into the direction of the tilt. Gently apply more power and as it levels out return your steering back to the direction you want to go.
- Don’t spin your wheels: you may dig in, get hung up, slide or roll your vehicle.

Crossing Streams

- Cross slowly, at a 90-degree angle to the stream, or at a slight angle to minimize streambed damage. Crossing slowly also helps keep water out of the engine’s air intake. Create a steady “bow wake” that will form an “air pocket” in and around the engine bay and away from tires if water is bumper height.
- Don’t charge across the stream, creating spray and rooster tails.
- Don’t drive up and down the streambed; it disturbs fish and other aquatic habitat.
- Cross streams only at trail fording points. Check the water depth. If it is higher than your engine’s air intake, don’t cross. Water in the engine will stall it and can introduce pollutants to the water resource.
- Check your brakes after water crossings.

HINT: Here’s a quick depth guideline for stream fording—hub depth or less: you should generally have no problems; hub to bumper: check air intake height and proceed slowly; bumper to bottom of headlights: use extreme caution, sudden dips in the streambed could mean water in the air intake, at headlights or above: do not attempt, vehicle height is at or above the air intake. Regardless, the best advice is to follow the guidelines in your owner’s manual since all vehicles are different.

Turning Around

- Don't try to turn around on a narrow road or trail, unstable ground, or steep hillside. You may slide off the road or trail or roll the vehicle. Back up until there is adequate space to turn around.
- Back straight down a hill or steep incline, using reverse and transfer case "low" range.
- Stay in gear, keeping your foot off the clutch and throttle. Apply the brake gently ("feathering the brake") to keep from locking up the wheels, which may cause skidding.
- Keep your foot off the throttle. This allows engine compression to assist in braking.

Guiding

- Use a guide for safety whenever possible. They can see things you can't, especially when backing up. Only assign one person to guide. Guide from the uphill side of a vehicle or stay well downhill.
Hint: When guiding, locate the lowest point on the vehicle and give instructions to avoid collisions. Give clear and concise directions verbally and by using hand signals.

If You Stall

- **Automatic Transmission:** Apply the foot and emergency brakes, and then put the transmission in PARK. Start the engine. Keep your foot firmly on the brake, and put the transmission in low or reverse. Release the emergency brake, and then slowly release the foot brake until the vehicle begins to move. Gently apply throttle.
- **Manual Transmission:** Don't depress the clutch. Keep vehicle in gear and engage the starter. The combination of low range and first gear or reverse will allow the engine to fire and move at the same time. If you stall again, repeat. This procedure allows you to maintain full control. You won't damage the starter and this process preserves your clutch.
- If you have a late-model vehicle with an ignition lockout, do the following: Set the emergency brake. With your left foot, depress the clutch and with your right foot, depress the brake. Shift into first or reverse (the transfer case in low), and start the engine. Keep your foot on the brake, and gradually release the clutch until you feel it engage. Release the emergency brake and the foot brake until the vehicle begins to move. Gently apply throttle to maintain forward momentum.

Keep Your Distance

- Keep a safe distance between vehicles. Enter tough spots one vehicle at a time. A vehicle on the other side of the problem area may be able to help you by serving as a winch point or assist you in towing.
- Wait for the vehicle in front of you to make it successfully to the top of a hill before proceeding. The vehicle may be unable to make it and will need to back down.
- Keep the vehicle behind you in view to make sure it doesn't encounter any problems.
- Don't tailgate. The vehicle in front of you may stop suddenly, back up, or even begin to slide backwards.
- Reconnoiter ahead on foot. When in doubt, get out!
- Know what's ahead of you. Even if you know the trail, stop frequently. Get out, walk ahead, and observe.

- Know what difficulties lie ahead before you encounter them. Evaluate the alternatives and find the easiest, least dangerous, and least damaging choice.

Winching

A properly selected and mounted winch can be an invaluable tool and can help reduce the potential for environmental damage on any four-wheeling adventure. The winch can be used to remove fallen trees and rocks on the road or trail, help pull vehicles out, or right an overturned vehicle.

Choosing the Right Winch

- As a general rule, choose a winch that is 1 ½ times Gross Vehicle Weight Rating (GVWR) not empty.
- For small vehicles, a 6,000 lb-rated winch is generally adequate.
- For larger vehicles, an 8,000 or 9,000 lb-rated winch is recommended.
- For heavy duty four-wheeling with heavily loaded vehicles or full-size pickups, a 10,000 - 12,000 lb-rated winch is recommended.
- Obtain or assemble a winch accessory kit with heavy-duty leather gloves, wide tree strap, clevis, and pulley. These are available from most winch manufacturers. (A pulley block effectively doubles the winch capacity).

Winch Hints:

- **Direct Pull:** After properly attaching the cable to the object or vehicle, engage the winch. Put the vehicle in low range/first gear and slowly apply power. Follow the directions of the spotter. Never overdrive the winch. Let the winch pull you out.
- **Recovering a Stuck Vehicle:** Attach the winch hook to the tow hook or the frame (NEVER to the bumper). Never attach the winch hook back to the cable because it may damage the cable. Assist the winch by driving gently. Drive just enough to get the stuck vehicles wheels to spin slightly. This will assist the winch in the recovery. Always drape a blanket over the middle of the winch cable to keep it from flying back at you if it comes loose or breaks.
- **Self Recovery or Removing Obstacles Stuck Vehicles:** Attach the tree protector strap to a large tree or solid anchor point. If using a rock as an anchor use a chain to wrap around the rock as the nylon tree strap may chaff or cut. Attach the strap or chain as low as possible. If a large tree or rock is not available, use an in-ground anchor or bury your spare tire as an anchor. Use a pulley block if necessary to multiply the pulling power.

Driving Tips

- Be a “feather foot.” Go easy on the throttle and brakes to maintain control.
- Keep your thumbs on top of the steering wheel, hands positioned at 10 and 2 o’clock. If you hit an obstacle, the tire may be deflected and jerk the steering wheel suddenly. If the thumbs are hooked over the steering wheel spokes, you may suffer a severely sprained or broken thumb. This happens more often with manual steering, but it can also happen with power steering.
- Lower the tire pressure to where you see a bulge in your tire, generally not lower than 20 pounds. This will give you better traction and provide a smoother ride by increasing the

footprint of the tire. However, increasing the sidewall bulge makes it vulnerable to snags, rocks, or sharp roots. Do not exceed 10-15 miles per hour with the lowered air pressure. Back up before you resume driving at higher speeds. (Keep tire pressure high on ice or thin mud.) Tire pressure that's too low may also break the seal of the tire to the wheel rim.

- Know where the differential is: this is the lowest point on your vehicle. It could be on the right, left, or in the middle. Knowing this will help you know where to place your tires to avoid hitting the differential.
- Use the left foot braking technique. Modulating the brake and throttle with both feet helps maintain control, even on a vehicle with a manual transmission. Light pressure on the brakes helps reduce tire slippage before wheel spin occurs. At the same time, an even throttle feed keeps a uniform application of power to the wheels. Going back and forth from the throttle to the brake interrupts the flow of power and can upset the vehicle's balance, causing loss of momentum.
- Beware of the passenger side; know the parameters of tire placement.
- Look ahead of your vehicle about 30 yards to pick your trail and align your vehicle for the best route.
- Don't ride the brakes or the clutch. Riding the brakes can overheat the brake fluid, leading to fade or failure when you need to brake. Tap the brakes to maintain steering control and avoid lock-up, skidding, or sliding. Riding the clutch may cause the throw out bearing and spring to wear and the friction surface to overheat. Keeping the power going to the wheels helps maintain control. Disengage the clutch only at the last instant when coming to a full stop.

Hint: Borrow a page from the racing world. With your front wheel pointed straight ahead, install a piece of white tape around the steering wheel at the 12 o'clock position. This will tell you when your wheels are pointed straight, and how much steering input you are giving the front wheels—eliminating the guesswork.

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 drivers on the uphill grade or those who may overtake you.
- Non-motorized travelers maintain the right of way. Yield to bicycles, 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.

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 vehicle is compatible with road or trail conditions.
- Make sure your vehicle 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. They also have specific information on road and trail conditions, temporary or seasonal closures, special permits, or low-impact driving practices that apply to off-highway vehicle use

- 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.
- Check to see if the state requires special licensing or safety certification for the driver(s). Is any special equipment required?
- If needed, get your vehicle serviced or repaired before the trip.
- Do a 'dry run' before you go to be sure everything fits and that you haven't forgotten anything. Note what you have missed and what you may need as you are en route (food, fuel, water, emergency tools, or supplies).
- Balance your load. Place heavy items that won't be needed in an emergency from the rear axle forward for better traction.

Safety

- Be certain each member/vehicle 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.
- Buckle up! Seat belts are mandatory! They help keep you in place on rough terrain. Accidents can happen, even to the best four-wheel drivers.

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 (e.g. sand dunes).
- 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.
- Driving 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. OHVs, 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 alternative to building a fire. 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 campfires, 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.
- Let your fire burn down to a fine ash. Ensure your fire is completely extinguished.
- 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.

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.
- Don't litter in the sand dunes! Blowing sand easily covers trash that will reappear at a later date. Broken bottles and sharp objects hidden beneath the sand can damage tires and ruin trips for you and others. Glass bottles are prohibited in some areas.

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 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.

- Check with a land manager to determine if sound restrictions exist for your form of recreation.
- Make sure your engine and exhaust system are well tuned. Your vehicle will run smoother and quieter.
- Avoid revving your engine or running at full throttle, both of which create unnecessary noise.
- If you are traveling on or around water, remember sound travels faster on water.
- 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.
- Don't overstay your welcome. When traveling by OHV move around and stay away from camping and picnicking areas.
- 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 with our four-wheel drive vehicle 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.