

Environmental Awareness Course





Purpose

To educate 4WD users on trail etiquette and provide environmental awareness for responsible 4WD recreation.



Tread Lightly

Tread Lightly! is a nonprofit organization with a mission to promote responsible outdoor recreation through ethics education and stewardship.

- Responsible ATV Riding, Camping, Dirt Biking, Fishing, 4 Wheeling, Geocaching, Hiking, Horseback Riding, Hunting, Motorized Boating, Mountain Biking, ROV Use, Personal Watercraft Use, Sand Duning, Shooting Sports, Snow Mobiling, Snow Sports, Trail Sharing, Drone Flying

See http://www.treadlightly.org/files/page_text/4x4_tips_sm.pdf



Tread Lightly cont.

TREAD is an acronym for:

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



Travel Responsibly...

...on designated roads, trails or areas

- Travel only in areas open to 4WD vehicles
- Travel straight up and down hills
- Drive over, not around obstacles to avoid widening the trail
- Straddle ruts, gullies, and washouts even if they are wider than your vehicle
- Cross streams only at designated fording points.
- When possible, avoid mud. In soft terrain go easy on the gas to avoid wheel spin which causes rutting
- Don't turn around on narrow trails, steep terrain, or unstable ground. Back up until you find a safe place to turn
- Stop frequently and scout ahead on foot
- To help with traction, balance your load and lower your pressure to where you see a bulge (not < 20 psi)
- Know where the differential or lowest point on your vehicle is. This will prevent damage resulting in oil and fluid spills on the trail
- Maintain reasonable following distance between vehicles



Travel Responsibly...

...on designated roads, trails or areas

- Comply with all signs and respect barriers
- Travel with a group of two or more vehicles. Driving solo can leave you vulnerable if you break down or have an accident.
- Designate meeting areas in case of separation
- Choose an appropriate winch for your vehicle size
- Attach towing cable, tree strap, or chain as low as possible to the object being winched. Let the winch do the work; never drive the winch
- When winching always inspect your equipment, use the right winch for the situation, find a good secure anchor, and never winch with less than 5 wraps of wire around the drum
- When using a tree anchor, use a wide tree strap to avoid damaging the trunk of the tree
- Don't mix driving with alcohol or drugs



Respect The Rights Of Others...

...including private property owners, all recreational trail users, campers and others so they can enjoy their recreational activities undisturbed

- Be considerate of others on the road or trail
- Leave gates as you find them
- If crossing private property, be sure to ask permission from the landowner(s)
- Yield the right of way to those passing you traveling uphill, mountain bikers, hikers, and horses
- When encountering horses, move to the side of the trail, stop, turn off the engine, and speak – you want the horse to know you are human. Ask the rider the best way to proceed



Respect The Rights Of Others...

...including private property owners, all recreational trail users, campers and others so they can enjoy their recreational activities undisturbed

- Proceed with caution around horses and pack animals. Sudden, unfamiliar activity may spook the animals – possibly causing injury to animals, handlers, and others on the trail
- Do not idly ride around in camping, picnicking, trailhead, or residential areas.
- Keep speeds low around crowds and in camping areas
- Keep the noise and dust down



Educate Yourself...

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

- Obtain a map – motor vehicle use map where appropriate – of your destination and determine which areas are open to off-highway vehicles
- Make a realistic plan and stick to it. Always tell someone your travel plans
- Contact the land manager for area restrictions, closures, and permit requirements
- Check the weather forecast before you go
- Prepare for the unexpected by packing necessary emergency items



Educate Yourself...

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

- Buckle-up! Seat belts are mandatory
- Know your limitations. Watch your time, your fuel, and your energy
- Take an off-highway drivers course to learn more about negotiating terrain in a 4WD vehicle
- Make sure your vehicle is mechanically up to task. Be prepared with tools, supplies, spares, and a spill kit for trail side repairs



Avoid Sensitive Areas...

...such as meadows, lakeshores, wetlands and streams. Stay on designated routes.

- Other sensitive habitats to avoid include living desert soils, tundra, and seasonal nesting or breeding areas
- Do not disturb historical, archeological, or paleontological sites
- Avoid “spooking” livestock and wildlife you encounter and keep your distance
- Motorized and mechanized vehicles are not allowed in Designated Wilderness Areas



Do Your Part...

...by modeling the appropriate behavior, leaving the area better than you found it, properly disposing of waste, minimizing the use of fire, avoiding the spread of invasive species, and restoring degraded areas

- Carry a trash bag on your vehicle and pick up litter left by others
- Pack out what you pack in
- Practice minimum impact camping by using established sites, camping 200 feet from water resources and trails
- Observe proper sanitary waste disposal or pack your waste out
- Protect the soundscape by preventing unnecessary noise created by a poorly tuned vehicle or revving your engine
- Before and after a ride, wash your vehicle to reduce the spread of invasive species
- Build a trail community. Get to know other types of recreationalists that share your favorite trail.



Environmental terms

Habitat

- The area or environment where an organism or ecological community normally lives or occurs
- The place where a person or thing is most likely to be found.
- Habitat loss represents the single largest threat to biodiversity

Ecological Community [Biodiversity on a grand scale]

- Interacting group of various species in a common location

Species Diversity

- Measure of the individual group members (species) in an ecological community

Niche

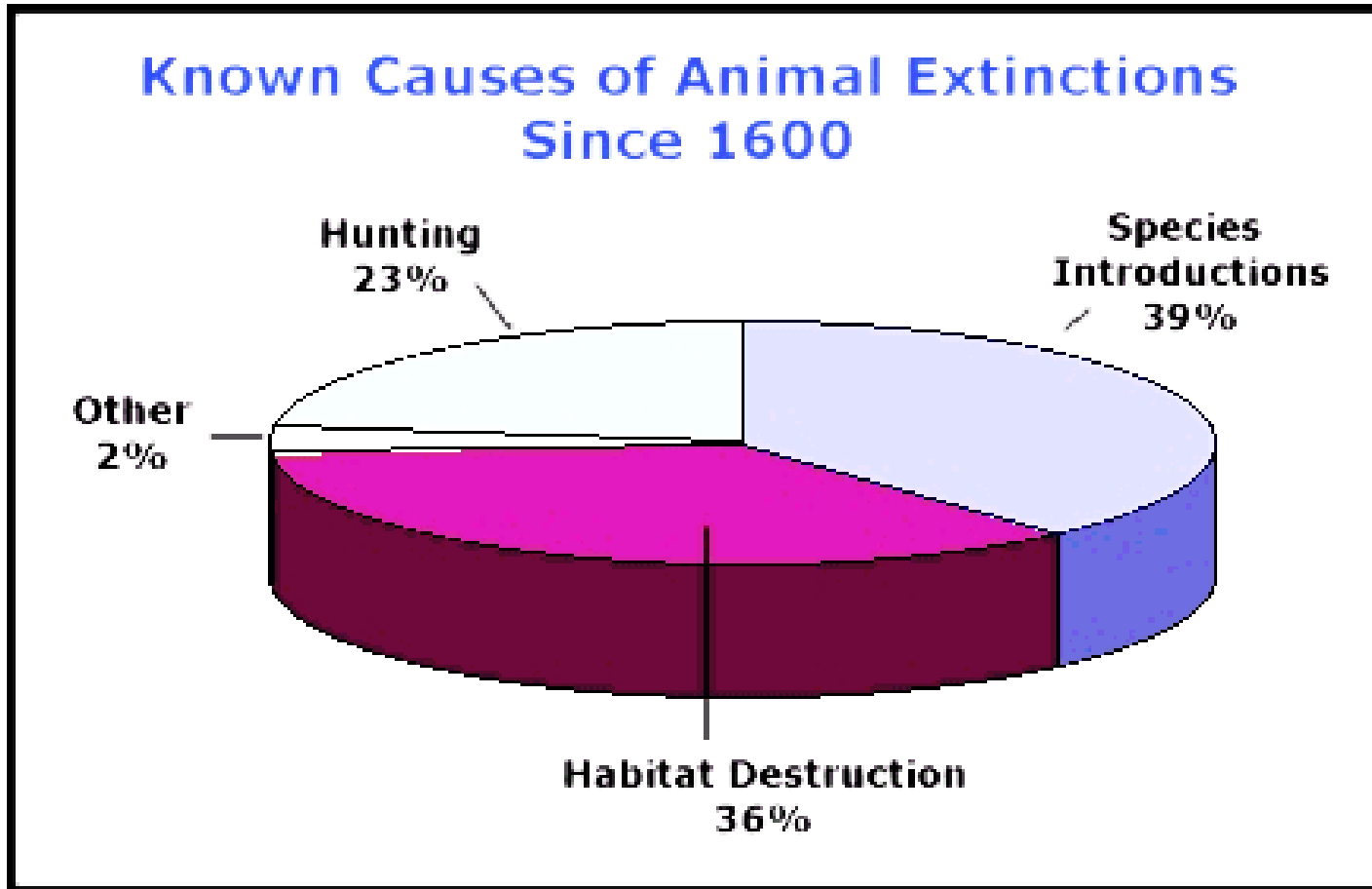
- Position and role an individual species occupies within an ecological community, within nature



Threats to Biodiversity

- Extinction is a natural event and, from a geological perspective, routine.
- The average duration of a species is 2-10 million years (based on last 200 million years).
- In the modern era, due to human actions, species and ecosystems are threatened with destruction to an extent rarely seen in earth history.

Threats to Biodiversity cont.



Source: World Conservation Monitoring Centre, "Global Biodiversity" Chapman & Hall, London, 1992).



Leave No Trace

- Leave No Trace Center for Environmental Ethics
- See <http://www.Int.org/programs/principles.php>
- Principles
 - Plan Ahead and Prepare
 - Travel and Camp on Durable Surfaces
 - Dispose of Waste Properly
 - Leave What You Find
 - Minimize Campfire Impacts
 - Respect Wildlife
 - Be Considerate of Other Visitors



Plan Ahead and Prepare

- Adequate trip planning and preparation helps backcountry travelers accomplish trip goals safely and enjoyably, while simultaneously minimizing damage to the land.
- It helps ensure the safety of groups and individuals.
- It prepares you to Leave No Trace and minimizes resource damage.
- It contributes to accomplishing trip goals safely and enjoyably.
- It increases self-confidence and opportunities for learning more about nature.



Seven Elements to Consider When Planning a Trip

- Identify and record the goals (expectations) of your trip.
- Identify the skill and ability of trip participants.
- Select destinations that match your goals, skills, and abilities.
- Gain knowledge of the area you plan to visit from land managers, maps, and literature.
- Choose equipment and clothing for comfort, safety, and Leave No Trace qualities.
- Plan trip activities to match your goals, skills, and abilities.
- Evaluate your trip upon return note changes you will make next time.
- Other elements to consider
 - Weather. Terrain, Regulations/restrictions, Private land boundaries
 - Average [hiking] speed of group and anticipated food consumption (leftovers create waste which leaves a trace!)
 - Group size (does it meet regulations, trip purpose and Leave No Trace criteria?)
- Meal Planning



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 from lakes and 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.



Durable Surfaces

- **Rock, sand and gravel:**

These surfaces are highly durable and can tolerate repeated trampling and scuffing. (However, lichens that grow on rocks are vulnerable to repeated scuffing).

- **Ice and snow:**

The effect of travel across these surfaces is temporary, making them good choices for travel assuming good safety precautions are followed and the snow layer is of sufficient depth to prevent vegetation damage.

- **Desert puddles and mud holes:**

Water is a precious scarce resource for all living things in the desert. Don't walk through desert puddles, mud holes, or disturb surface water in any way. Potholes are also home to tiny desert animals.



Durable Surfaces cont.

- **Vegetation:**

The resistance of vegetation to trampling varies. Careful decisions must be made when traveling across vegetation. Select areas of durable vegetation, or sparse vegetation that is easily avoided. Dry grasses tend to be resistant to trampling.

Wet meadows and other fragile vegetation quickly show the effects of trampling. Trampling ensures new travelers to take the same route and leads to undesirable trail derailment.

As a general rule, travelers who must venture off-trail should spread out to avoid creating paths that encourage others to follow. Avoid vegetation whenever possible, especially on steep slopes where the effects of off-trail travel are magnified.



Durable Surfaces cont.

- **Cryptobiotic crust ("Crypto"):**

Cryptobiotic crust, found in desert environments, is extremely vulnerable to foot traffic. Cryptobiotic crust consists of tiny communities of organisms that appear as a blackish and irregular raised crust upon the sand. This crust retains moisture in desert climates and provides a protective layer, preventing erosion.

One footstep can destroy "crypto". It is important to use developed trails in these areas. Travel across "crypto" should only be done when absolutely necessary. Walk on rocks or other durable surfaces if you must travel off-trail.

In broad areas of "crypto", where damage is unavoidable, it is best to follow in one another's foot steps so the smallest area of crust is affected, exactly the opposite rule from travel through vegetation. (Cryptobiotic crust is also extremely vulnerable to mountain bicycle travel.)



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 [tampons].
- 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: examine, 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 to 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



Passing Others

- Give way to vehicles going uphill
- Pull off and stop - on high side – my rule
- Indicate how many people are behind you
- Drive slowly past
- Be stationary and have them pass you – preferred
- Allow those behind to pass if it is obvious they are driving faster
- Find a convenient place to pull off and have a break
- Be friendly, courteous and helpful.