

Use of the Gaited Trail Horse¹

Gene Wood, Ph.D., Professor and Extension Trails Specialist, Dept. of Forestry and Natural Resources, Clemson University, Clemson, SC.

Contact: gwwindwalker@gmail.com

Sis Osborne has been twisting my ear to get started on a series of articles addressing Leave No Trace (LNT)² principles with some focus on gaited trail horses. As an owner of three Tennessee walking horses, a lover of the trail-horse experience, and as a professional conservationist, I was actually glad for the opportunity. My problem has been that there have been a large number of other opportunities of a similar nature. But now I am ready to get a leg up on this thing.

First, let's take a look at what LNT is about. The LNT program is conducted by the National Outdoor Leadership School (NOLS) located in Lander, Wyoming. [See footnote for changes since this article was written.]³ They are funded by a number of federal agencies that have back country management responsibilities. The USDA-Forest Service and the Bureau of Land Management are among the most prominent of these supporters. The NOLS booklet titled "'Leave No Trace' Outdoor Skills and Ethics: Backcountry Horse Use" should be obtained and studied by all trail horsemen.

Second, it is very important to note that Back Country Horsemen of America (BCHA), an organization dedicated to the preservation of opportunities to use recreational saddle and pack stock on wildlands, is a staunch supporter of LNT. They strongly encourage their members to attend LNT schools to become certified Masters of LNT with saddle and pack stock.

And third, LNT is about the trail horseman conducting himself/herself in a manner that minimizes the impacts of recreational horse use on trails on wildlands. LNT states the principle in two ways: a) minimize horse impact, and b) travel and camp on durable surfaces. Complementing this principle is the BCHA "Seventh Commandment": "The horseman shall recognize the fragility of the back country environment and practice minimum impact techniques at all times."

It has been my experience that most trail riders consider themselves to be conservationists. They do not want to degrade the lands on which they ride, but it is common for them to unintentionally do so. What is going to be required is personal commitment on the part of each rider to become more aware of his/her impacts, and

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² Leave No Trace educational materials may be obtained from the National Outdoor Leadership School, 288 Main St., Lander, WY 82520, phone 307-332-8800, e-mail lnt@nols.edu, <http://www.nols.edu>.

³ NOLS no longer conducts LNT training for saddle and pack stock use. That training is conducted by the USDA-Forest Service at Nine Mile Ranger District, Lolo National Forest, Montana.

to the minimization of those impacts. This is going to call for some sacrifices, and the decisions to make those sacrifices will not be easy.

We will begin with the rate of travel on moist and wet trails. First, let's take the positive side. We are riding horses that are very smooth movers. Those that have good confirmation have nice, big feet. Three of those feet are on the ground at all times. When ridden on a dry or slightly moist soil at a flat-footed walk or dog walk, their impact on the trail tread is minimal. On inclines, these horses tend to climb instead of lunging forward. The capacity to move like this minimizes their impacts relative to many other breeds.

However, when the rate picks up to a running walk or a rack, the real trouble begins. As the soil moisture content goes up, the tread damage at any rate of movement goes up. As the rate goes up the probability of damaging the tread at any moisture level goes up. When both soil moisture content and rate of movement go up, major trail degradation is inevitable. Increases in the trail grade add to all aspects of the problem. Trail horsemen that are true conservationists will restrain themselves in such situations, first to a slower rate of travel, and second, if need be, to finding a less wet trail, or even canceling the ride. Land managers, as well as other trail users, will take note of and appreciate the implementation of this self-imposed LNT minimal impact practice.

One of the reasons that many of us ride walking horses is the pleasure of the running walk or rack gaits. As pleasurable as these gaits may be, we need to be careful of how we use them on trails. Dry soils with high levels of clay will tolerate these gaits and show minimum impact. As the percent sand in the soil increases, the impacts of these gaits will increase. And as stated above, as soil moisture goes up, the level of impact is going to go up.

Think about the following points. First, the pressure of the horse's weight at a single point on the tread decreases with the number of feet that he has flat on the ground at a given point in time. For the average flat-shod horse about 1000 lbs. in weight standing flat-footed, that pressure is going to be around 20-25 pounds per square inch. When the horse picks one foot up, pressure increases by 25%. When he starts to move, the physical impact becomes a function of momentum, that is, weight times speed of movement (velocity). One of our dilemmas is that our gaited horses need not be moving forward fast to move their feet with a great deal of momentum. The more animated that movement becomes, the more the hoof digs with increased point pressure on the trail tread. Some soils and soil conditions will accommodate these gaits while others will not. The rider needs to look back to where he/she has just ridden to know the difference.

Okay, so what if the soil is churned up? Soil is moved by wind and water forces. As its structure improves from single-grained (sand) to blocky structure (large clods indicating a high clay content), the soil body resists displacement. The soil of the trail tread must hold itself together as one body. When that body is broken up, or if

it is naturally loose due to its natural texture, it is highly prone to erosion. When soil is displaced, it goes somewhere. Often it ends up in streams. When such displacement is the result of trail tread destruction by horses, we are responsible for increased stream siltation and the ecological consequences that go with it.

Another hoof-trail situation that we need to pay attention to is the horse crossing streams. One of my horses usually wants to spend more time playing in the water than he does drinking. He paws and splashes himself, and takes delight in my irritation. If he is standing on bedrock and he is not bothering anyone else, I will let him splash a little (but not lie down) before we move on. However, as the stream bottom goes from bedrock, to rock, to finer stream bottom materials my tolerance ends up at zero. That is, “Drink now or get out of here. We are not going to mess around here and tear up this stream bottom.”

I am not a farrier and have no expertise in the pros and cons of the variously shod horses. When I lived in the Lower Coastal Plain of South Carolina, I never had my horses shod because they were always ridden on sand roads and trails. Now that I ride entirely in the mountains and foothills, my horses are always shod.

The shod horse is more likely to damage a trail than is the unshod horse. However, I am not going to put my horses through the risk of hoof injuries on rocky trails therefore they are shod. I use toeweight shoes on the front feet per the suggestion of my farrier. I have no data, but my reasoning concerning the impact of these shoes on the trail is as follows. First, the toeweight shoe may somewhat animate the movement of the front feet. This could be bad for the trail. However, in that the toeweight shoe has substantially more surface area, thus decreasing point pressure for the same movement, this is good. Until I can get the data, I have reconciled myself to believing that using toeweight shoes does not cause a net increase in trail tread degradation, and may possibly decrease impact. (It is very important to remember that this is my line of logic, and lacks scientific proof. However, at least one highly regarded, local farrier, other than my own, agrees with me.)

The full-plantation shoe differs from the toeweight in that there is little taper from the toe to the heel in the former. While, I have never used this shoe, my logic is this. First, the additional surface area will decrease point pressure; that’s good. However, it seems possible that more mud, and possibly gravel, can get between the shoe and the hoof; if this is true, that can be bad. My suggestion is to talk to your farrier and have him keep in mind that you want to minimize trail tread damage.

I do not consider shoes with caulked heels to contribute to trail tread degradation. In fact, they may be helpful to decreasing degradation on down-slopes. The horse shod without caulked heels is going to slide more than the one with such shoes. When the horse slides, it displaces soil. In addition, the slide scar on the soil is hard and accelerates water run-off down the trail. This leads to accelerated erosion.

On the other hand, toe-cleated (also called toe-grabber) shoes are bad for trails in anyway that you cut it. These are shoes with a borium bar, 1/2-1 inch long, welded to the toe. They can destroy asphalt and should never be used on mineral soil trail treads. These shoes are going to dig abnormally deep into the trail tread, and are guaranteed to greatly increase trail degradation. I support any regulation that prohibits their use on trails on wildlands.

On the other hand, and in my opinion, shoes with borium points or studs are unlikely to significantly increase mineral soil tread impact while being helpful to the trail horse that has to cross significant amounts of bedrock. These shoes have a raised borium stud at the four corners of the shoe – one in front of each front nail and one in front of each heel. I have never used these shoes, but I can not see how they could cause a measurable increase in adverse impact.

Finally, I want to mention the tied horse's impact on soils. We are most likely to tie our trail horses in two situations: a) for a rest break (including the human internal call of nature), and b) in camp. Some horses will stand quietly in both of these situations. Some will stand quietly for a break, but not overnight. Some will stand quietly when with a friend that is standing quietly. Some never stand quietly. The reasons are numerous. Not only am I not qualified to write about them, they are not the objectives of this article.

The point is that such behavior results in degraded sites along the trail and in camp areas. These types of disturbances destroy natural soil profiles, create mudholes, and destroy native vegetation. In addition, they give the horse and horseman a bad image even when they do not cause measurable environmental damage at the landscape level. I also know from personal experience that it is irritating and embarrassing when my horse and I are the guilty parties.

In these situations the horse needs to be hobbled. Carrying hobbles is often inconvenient. Putting on hobbles can be inconvenient. When there is that deep, internal call of nature, it is really inconvenient. Overcoming inconvenience is called self-discipline. So to the extent that nature will allow, hobble that "quick-footed" horse and help preserve a cultural heritage in a natural heritage setting.