

Hoosier Hikers Council Trail Building Guidelines

This is a guide for people who are new to trail building. It describes widely-accepted methods of clearing, digging, and finishing a new hiking trail. Following these procedures will produce a trail that's enjoyable to walk on and resistant to erosion. Different people will find some of these trail building activities more appealing than others. What's easy for one person may be difficult or disagreeable for someone else. Try different tools and different activities to find out what suits you best.

SAFETY

- Pace yourself – rest often, switch tools and activities, work deliberately.
- Drink plenty of water, especially during hot weather.
- Carry tools at your side, sharp ends pointed down, and not over your shoulder.
- Place unused tools uphill from the trail with sharp ends away from the trail and pointed down.
- While working, leave at least two tool-lengths of space between yourself and others.
- Always look before you throw objects (branches, rocks, dirt, etc.).
- If it's necessary to swing a tool over your head, look behind you to make sure you won't hit anyone; try to use short pushing and pulling motions instead of large swings.

TOOLS



Fire rake – for clearing leaves and small sticks from the trail corridor

Loppers – for cutting branches and small saplings in the trail corridor

Clippers – for cutting small branches and bushes

Folding hand saws – for cutting larger branches, saplings, and bushes



Pulaski – for loosening and scraping dirt and chopping roots along the trail bed

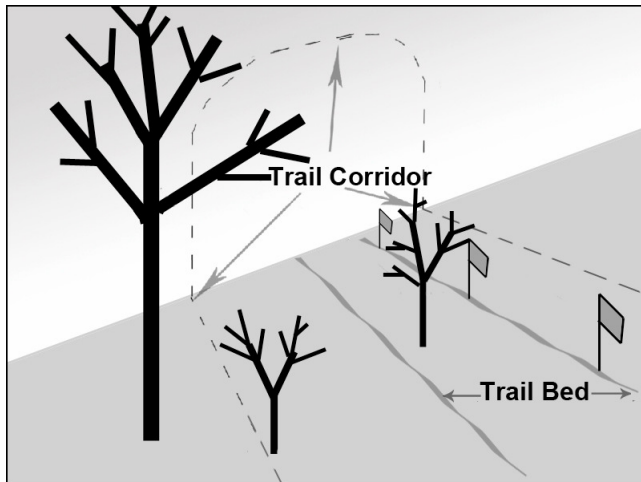
Rhino – for loosening and scraping dirt and chopping roots along the trail bed

Rogue Hoe – a lighter tool for loosening and smoothing dirt along the trail bed

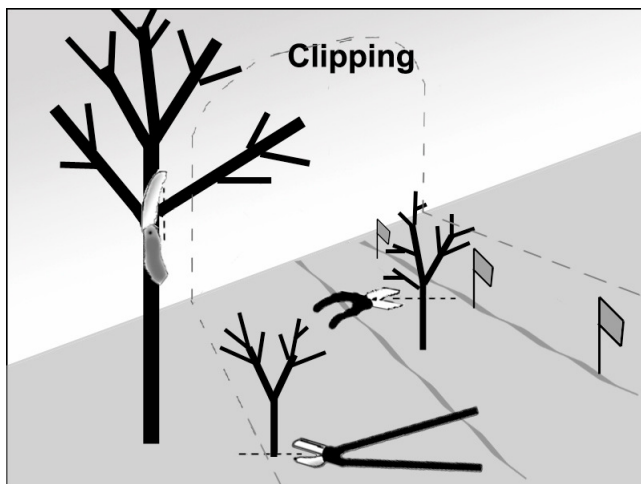
Shovel – for removing dirt from the trail bed and smoothing the trail bed

McLeod – for general raking and smoothing the trail bed (pronounced “Mick Loud”)

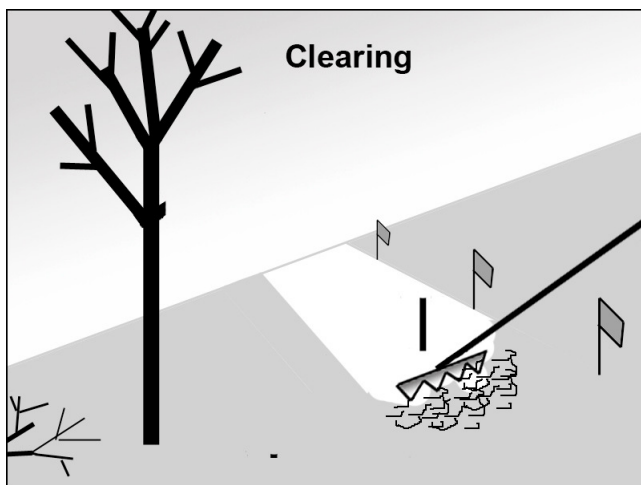
CLIPPING AND CLEARING



The trail corridor is marked with surveyor, or pin, flags. These small flags are stuck in the ground on what will be the **uphill** side of the trail bed (or tread). The trail bed is the surface that people will walk on, and it extends about eighteen inches downhill from the flags.

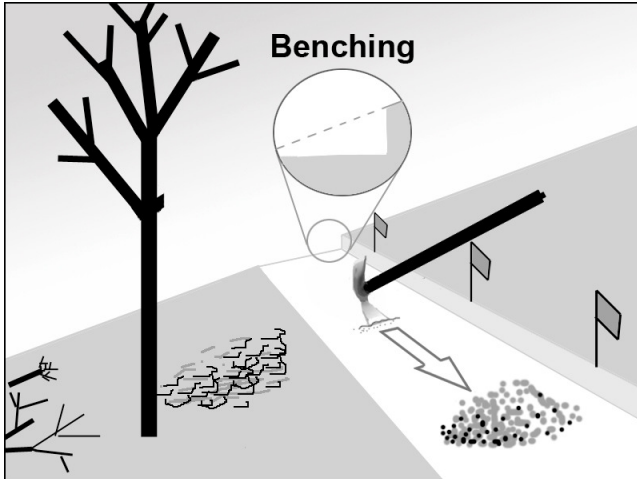


Pull or cut bushes and other small plants out of the trail corridor. If you can easily pull a plant out with its roots intact, that's better than cutting it and leaving the roots in the ground. If you need to cut a plant **in the trail bed**, leave about twelve to twenty-four inches of stem so its roots can more easily be dug out during the benching phase. If you need to cut a plant **outside the trail bed**, cut it down to the ground without leaving any stalk. Throw or drag cut plants downhill from the trail corridor with their cut ends facing away from the trail. Try to cut branches about one fourth inch to one half inch from their origin on a trunk or larger branch.

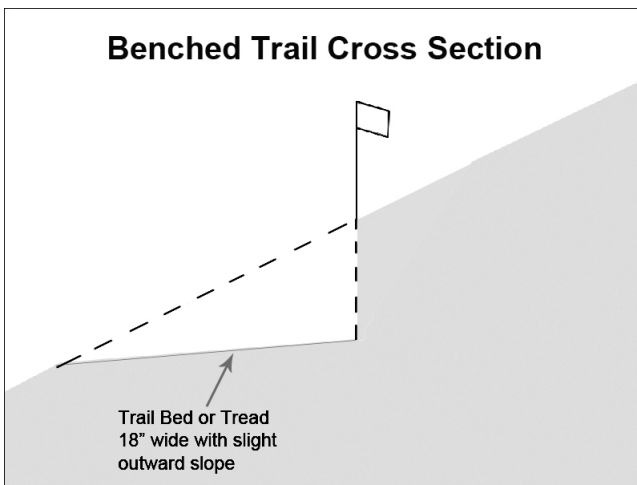


Clear downed limbs from the trail corridor. If a limb is too big to move, leave it for the chainsaw crew. Drag limbs and other debris **downhill** from the trail bed and outside the trail corridor. Use fire rakes and McLeods to rake leaves and small sticks from the trail bed. You don't have to dig into the soil or cut plants while raking. Scatter leaves well below the trail bed, or rake the leaves into piles well downhill from the trail bed. It's important that you don't leave a ridge or berm of leaves along the edge of the trail bed.

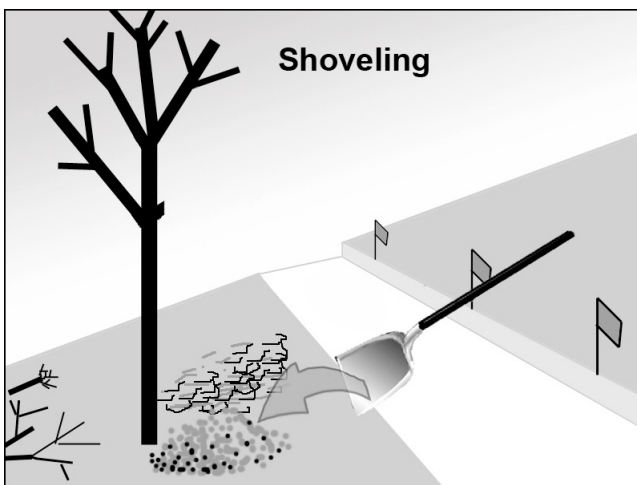
BENCHING



Benching is the most strenuous activity in trail building. The “bench” is the flat surface of the trail bed, and benching is the process of digging and scraping away dirt to achieve this surface. When benching, most people like to work in sections of trail about twenty feet long. The best tools for benching are Rhinos and Pulaskis, but for shallow benching you could also use Rogue hoes or McLeods. The most effective method is to scrape the trail lengthwise (see arrow in diagram). Keep pulling your dirt pile toward you as you work your way along the trail. When the pile gets too big to move, shovel it off the trail bed (see below). As you work, dig out any saplings that were left by the trail clearers and cut out any small roots that could cause people to slip or trip.

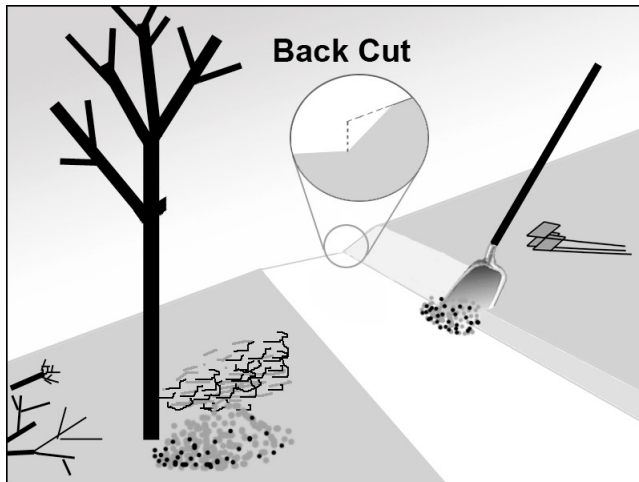


Choosing the correct depth for the trail bed can be difficult. The goal is to scrape to a depth that will result in a nearly flat trail bed that is eighteen inches wide. Try to make the tread either flat or slightly sloped toward the downhill side of the trail; don't let it slope into the uphill side of the trail bed. It's best to make several passes along the trail rather than trying to dig to the correct depth on the first try. After you get to the correct depth, use a McLeod, Rogue hoe or flat shovel to smooth the trail surface. Scrape lightly as you smooth out lumps in the trail.

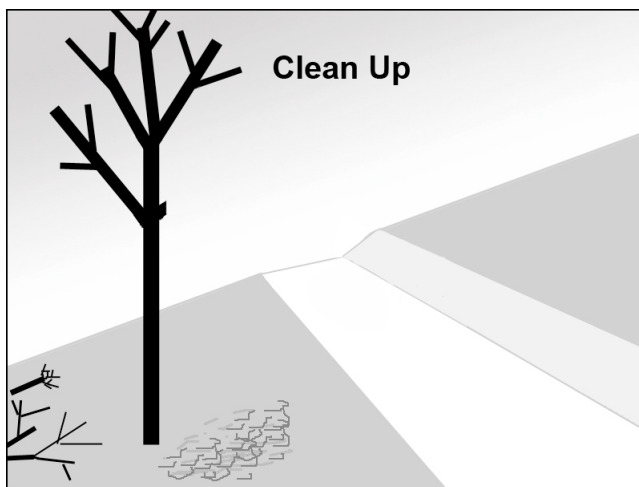


When you need to remove dirt from the trail bed, use either a flat or round shovel to put the dirt into piles downhill and away from the trail. It's important to keep the dirt away from the edge of the trail. Make dirt piles close to leaf piles so you can use the leaves to cover up the dirt later (see below). Alternatively, scatter the dirt downhill well away from the edge of the trail.

FINISHING



After the tread is flat and smooth you should make a slant or “back cut” at the uphill edge of the trail. This will allow water to flow smoothly across the trail. The back cut should slant about forty-five degrees from vertical. Use a shovel or hoe to make a slanted cut from behind the pin flags to the uphill edge of the trail. At this point you will need to remove the flags. Shovel the dirt off the trail into piles as above.



The final step in building a trail is to naturalize the area so it looks as if the trail has been there for years. Smooth out dirt piles to make them less conspicuous. Scatter leaves over any visible piled or scattered dirt. Remove and save pin flags and any plastic tape.

TIPS

- While benching, look up often as you work to make sure you’re staying in line with the flags.
- Walk back and forth on the trail as you bench. Use your feet to feel for lumps and areas that aren’t flat enough to walk on comfortably.
- Use different tools and switch from working right-handed to left-handed to give yourself a rest.
- Ask your neighbor to help you evaluate your work; it’s hard to judge something when you’ve been working so close to it for a long time.
- If you brush against or trip over something while you’re walking along the trail, remove it.
- For shallow benches, you can often just use your foot to press a slant into the uphill edge.

This guide outlines basic procedures for building a hiking trail along a predetermined route. There are other aspects to trail building that aren’t covered here. Some of these are finding and laying out the route and building water control structures such as reverse grade dips. These are concepts that you will learn as you gain more experience with trail building.