

Early Autumn 2012



Tie Up Your Laces
And...Work!

Points to ponder:

- What is a puncheon anyway?
- When are puncheons most appropriate and what are five good reasons for using them?
- What's the difference between hardware cloth and metal lath?

FLTC Field Maintenance Manual on Website

Most of your questions about basic trail maintenance should be answered in the FLTC's **Field Maintenance Manual** which can be found at this address: www.fingerlakestrail.org → Members → Trail Workers. (Earlier issues of the TTN are also posted here.) Please read the manual – you'll find specs for the trail, including how wide the tread and corridor are supposed to be, proper blazing and acceptable colors you can buy locally, what signs to use where, etc. And there's a convenient check list you can print off and take with you.

Updated FLTC Safety Manual in the Works

Marty Howden, Trail Quality's Coordinator of Chainsaw Training, and Matt Branneman, Director of Crews and Construction, are leading a review of the FLTC's **Safety Manual**. The main focus is to update policies and practices for FLTC crews working with sawyers and doing benching work on hillsides. Daily "tailgate" briefing sheets are being added. The Manual will be ready before next season and posted on the website.

TRAIL TENDERS' NEWS

A publication from the Trail Quality Training Team

Finger Lakes Trail Conference



Please Mark Your Calendars!

Virgil and Bainbridge Area Meetings Coming Up October 20th & November 10th

Every fall, Trail Maintenance and Trail Quality hold two meetings for trail maintainers *and interested parties* in either the western or the eastern part of the state. We firmly believe that informed trail maintainers are key to keeping landowners enthusiastic about the trail, providing hikers with good hiking experiences, and attracting new members to the FLTC, so please attend so we can hear about your experiences and the problems you've encountered, and tell you about what's new or especially important for next season's trail maintenance.

Last year, Area #1, the western area (FLTC Maps M1/CT1 to M6 and CT1-CT12) met in Springville; and Area #2, the west-central area (FLTC Maps M7 to M14 plus L1, L2, B1-B3 and CH1-3) met in Bath. Meetings will be held for you folks again in 2013.

This year, meetings will be held in Virgil, for the central-east area (Area #3), and Bainbridge, for the eastern area (Area #4).

- **Area #3** – If you work or host trail on FLTC Maps M15 to M22, plus O1, O2, I1, QC, MF, please meet October 20, 10-3, at the Virgil Town Hall, 1176 Church St., Cortland.
- **Area #4** – If you work or host trail on FLTC Maps M23 – M33, please meet November 10, 10-3, at the Scout House in Bainbridge (from I-88, head NW on NYS 206, then left (SW) on Rt. 7 So. Main St., then right on Walnut St., cross Pearl and Juliand, pass school on right, turn left on Prospect., parking & scout house will be on your left).

Regardless of where you live in the state, if you work on any trail in the Finger Lakes Trail System or are just interested in working on the trail, you are most welcome to attend. The content for each meeting will be roughly the same, although it may be tailored to questions or topics raised by or especially relevant to Watkins Glen-east and up the Onondaga Branch, or east of Syracuse through the Catskills.

These area meetings are designed for you to get to know your neighboring fellow trail maintainers, learn what's new in trail maintenance, and bring your ideas and suggestions (frustrations and complaints, too!) directly to members of Trail Management and the Travelin' Training Team. This is your opportunity to get your voice heard...**and pick up a few trail freebies (!!!)** while breakfasting on donuts and cider. **So, your pre-meeting assignment is to email questions or topics you want us to discuss at these meetings to Lynda at ljrassoc@roadrunner.com (please).**

Topics likely to be discussed at these meetings include:

- New safety rules for working around sawyers and for when benching-in (side-hilling) trail
- Identifying spots on the trail that need improvement or enhancement
- Getting your bigger trail maintenance/improvement projects paid for and get out of doing all the work yourself

BRING YOUR LUNCH, YOUR QUESTIONS, AND YOUR IDEAS!

Update on Anti-Slip Methods

Over the past few years, we've experimented with several methods for making the surfaces of puncheons, boardwalks and bridges less slippery, including using:

1. **Latex Paint with Grit** – either regular latex to which sand is added or latex paint with pre-added man-made grit;
2. **Marine epoxy paint with man-made grit added;**
3. **Hot dipped (HD) galvanized hardware cloth** (½" squares);
4. **Strips of rough asphalt shingles;**
5. **Scuffing the surface** of each plank using a chainsaw; and
6. **Diamond-shaped wire mesh (metal lath)** used to hold plaster.

First, thanks to everyone who has taken on the challenge of finding a method that (a) works (i.e., prevents or seriously reduces slipperiness and injury), (b) is affordable, and (c) is light enough to be hand carried into the back country. We applaud your ingenuity and really hope you'll keep looking.

Below we'll briefly review the advantages and disadvantages of the first five methods listed and then devote some extra space to new information gathered from a phone interview the Facilities Manager at Yarrow Golf Resort, where the summer's NCTA conference was held, about the metal lath solution.

1. Latex Paint with Grit (Sand) Added:

- Latex paint with grit pre-added is comparatively expensive
- Latex paint with grit added later is less expensive
- Lasts for several years, but
- Must be applied to *thoroughly* dry wood, otherwise
- Will peel or scuff off if applied to green or wet wood
- Man-made grit is lightweight but comparatively expensive;
- Sand is cheap but *very* heavy, so is recommended only when site is accessible by vehicle.



2. Marine Epoxy Paint with Man-Made Grit Added

Photo at left shows first application of thinned epoxy paint sprinkled with man-made grit ready to dry overnight. A second, un-thinned coat is then applied.

This puncheon is constructed of 4 parallel pressure-treated 4x4's ("stringers"), spaced ~1" apart, running lengthwise with the trail, setting on 2 or 3 pieces of wood (4x4's) called sills, placed across the trail. Assembled in the woods, using carriage bolts inserted into pre-drilled holes. Sturdy and bike-averse, and technically temporary because it just sits on the ground! Tread width is only 18".

Continued at right

Update on Anti-Slip Methods, continued

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- Marine epoxy paint is comparatively expensive; but
- Marine epoxy paint is supposedly made to be applied to semi-dry wood and used in harsh and wet conditions; but
- We've seen that the wetter the wood at application, the more likely the paint is to flake off (i.e., if applied to seasoned/air dried pressure treated wood at home and then carried in, the paint lasts fairly well)
- Man-made grit is lightweight and easy to apply
- Brands differ in their application requirements – Pettit, e.g., requires only 2 paint applications and the 2nd one can be done the following day.

3. Hot Dipped Galvanized Hardware Cloth (½" squares)

Photo at right shows hardware cloth applied across both planks. Puncheon is traditional style, low to the ground with long planks setting on low wide sills, to



keep puncheon "floating" on the surface. Hardware cloth is bent around sides of stringers and fastened with staples or nails. Although called a 'cloth,' the material is actually metal – threads of hot-dipped galvanized steel "woven" into a mat of small squares (½" size squares recommended).

- Hardware cloth is readily available
- Hardware cloth is moderately costly, but
- Must be cut to size and bent around boards, a technical challenge that the folks in the ADK-ON chapter have solved, so they should be consulted before trying; and
- Hardware cloth is somewhat slippery to start with – good in snow, but not so good in wet or damp, which sort of defeats the purpose



4. Strips of Rough Asphalt Shingles

Photo at left shows strips of old shingles spaced apart and nailed to stringers made of 4x4's using hot-dipped galvanized roofing nails. This puncheon is constructed the same way as described at bottom of

column at left – i.e., 4 parallel stringers made of pressure treated 4x4's attached to 2-3 4x4 sills using 8" carriage bolts at ends and, if needed, in middle. Tread width = 18".

- Usually very inexpensive -- an excellent way to use up old asphalt shingles from your barn or garage; and
- Checkerboard style provides enough traction, eliminating some weight; but
- Asphalt shingles are heavy!

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Update on Anti-Slip Methods, Asphalt shingles, *continued*

- Not sure how long small pieces last. Other applications using larger pieces seem to have lasted well.
- Shingles must be cut into pieces, a hard job which can scuff knuckles.



5. Scuffing the Surface Using a Chainsaw

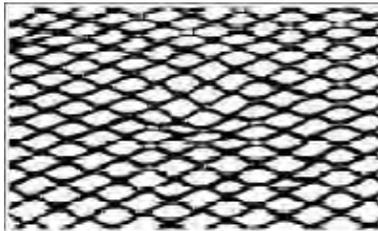
Photo at left shows boards' surface scuffed with a chainsaw, which created light grooves in the wood that caught mud from the builders' boots. This is

a traditional style puncheon, with pressure-treated 2x12 boards as stringers sitting on sills placed across the trail, held together with HD galvanized nails.

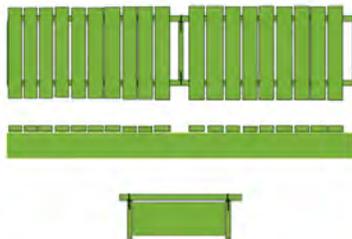
- Least expensive method;
- Easy to transport in and construct in the woods; but
- Stringers should be scuffed before construction -- place board on 2 lightweight sawhorses and sweep chainsaw along the board; to do so
- Requires certified sawyer and his/her gear; but
- No surface treatment to add to costs; and
- Immediately effective.
- Long-term effectiveness not yet known (scuffed-top puncheons have been in the woods for only one year)

6. Standard Metal Lath

Image at right shows close-up view of metal lath -- a flexible mat of sharp-edged strands of galvanized metal, designed to hold plaster.



The primary application has been in the western part of the FLT System, particularly on the Conservation Trail, where metal lath has been used to cover the surface of a "boardwalk style puncheon" -- i.e., a puncheon with a rectangular box made of 2x8's standing on their edges as a base that's then topped with a deck of short boards placed across the box, perpendicular to the trail. Potzler's sketches of the top, side, and end views of this kind of puncheon, without the lath yet applied, are shown above. "Decking" is pressure-treated 2x4's, usually 36" wide.



- Metal lath is less expensive than hardware cloth.
- Metal lath is electroplated galvanized, not hot-dipped, so may

Continued at right

Update on Anti-Slip Methods, *continued*

- rust more quickly;
- Comes in 2'x8' sheets, so can be run down center of puncheon > 24" wide;
- Lightweight and easy to transport;
- Can be fastened down with staples, but need to be placed fairly close together along edges, to keep edges down
- Every diamond in the mat has sharp edges, so good gloves a must
- While puncheon width exceeds the standard for puncheon in the FLT System and decking may attract bikes, addition of metal lath may actually deter bikes?
- Immediately effective; and
- Very good with light frost; but
- Long-term effectiveness and appropriateness questioned

When trudging between buildings at the Yarrow Golf Resort near Battle Creek, MI, to attend workshops at this summer's NCTA annual conference, I noticed a pattern of small diamond shapes on the surface of some of the wooden walkways. At first I thought some sort of sander had made the pattern; then after I saw some sheets of metal lath covering several sections, I realized the diamonds in the wood had been carved in by lath that had been walked on but was no longer there. I also noticed stain marks that looked like the metal had rusted in spots. Realizing this was an opportunity to get results from someone else's pilot test, I phoned Pete Lussier, Facilities Manager at Yarrow Golf Resort, to ask about Yarrow's experience using metal lath and why it seemed to have been removed from some of the walkways. Pete graciously gave me 20 minutes worth of information about their experiences with metal lath, plus another ten chatting about various alternatives we've both tried or had thought about.

Pete's main points were:

- They were no longer putting on metal lath and in fact, whenever they had time (and it was a time-consuming process), they were taking it off.
- Why? Because two individuals had slipped and fallen on it and cut themselves up pretty badly. They did not sue, but it was, in Pete's words, "like they had fallen on a cheese grater."
- The metal lath required constant maintenance, to keep the edges tacked down so people wouldn't trip on them.

Is there a lesson in this for us? I think so. Hikers may wear more clothing than members of a chic golf resort and so may be better protected -- but maybe not. And just putting out one's hands to ward off a face-plant could lead to some cut up palms. Perhaps it is time to discontinue the use of metal lath until we see how our own experiments work. **In its place, we recommend using pieces of asphalt shingles nailed down with HD galvanized roofing type nails (assuming the wood is pressure treated), Pettit epoxy paint with man-made grit applied to air-dried pressure treated wood in advance of taking it to the woods, or scuffing the surface with a chainsaw. For now, the appropriate solution is up to you, dictated by your budget, terrain conditions, how close you are to the puncheon site, and how well you think the solution does the job.**

Why Put In Puncheons in the First Place?

Puncheons – little low bridges that sit on top of the ground – are among the most useful trail structures ever invented, particularly for trail on public land. Here are 9 reasons why:

1. Puncheons are relatively inexpensive structures -- a 10' puncheon costs around \$100.
2. Puncheons span wet, mucky stretches of your trail that otherwise suck off hiker's boots and/or cause users to move off the trail; thus, puncheons greatly improve the hiking experience.
3. They sit on top of the ground and therefore do not disturb it.
4. This means they are considered temporary structures.
5. This means that any required environmental assessment should be minimal.
6. This means they do not have to be ADA compliant.
7. This means approval should be expedited.
8. This means we can build them to a width and in a fashion that is best for a back country hiking trail and the sport of hiking.
9. This means they do not have to be built to a width or in such a fashion that they invite other types of users, but can, in fact, be a strategic part of your efforts to assure that the trail is for foot travel, only.

What Style of Puncheon is Best?

It depends on the geography and the goals you want to accomplish by putting in puncheon.

- If your terrain is hummocky, so that puncheons can be perched on the hummocks while spanning the wet area, the sills do not need to be very wide, but the stringers need to be sturdy
- If your terrain is low and moist, 10'-12" wide sills help keep the puncheon "floating" on top and keep it from sinking into the mud.
- Planks across the stringers are less slippery than narrow boards or stringers running with the trail.
- Planks across the stringers invite other users onto the trail, while (4) 4x4's in parallel ~1" apart discourage other kinds of users.
- >10 foot 2"x12" boards running parallel with the trail can sag and bounce, if not supported in the middle with another sill.

Make plans now to attend a Trail Maintainers' Area Meeting Oct. 20 or Nov. 10. Details on page 1!

Please send questions, comments, complaints, corrections, suggestions, new information or tips about trail building or trail maintenance to: Editor/writer -- Lynda Rummel (ljrassoc@roadrunner.com); or the conscripted volunteer contributors -- Bill Coffin (wmscoffin@twcny.rr.com); Mary Coffin (mcoffin1@twcny.rr.com); and Irene Szabo (treeweenie@aol.com). Training (trail maintenance, design and construction) *on your section* available upon request. Want to join the "Travelin' Training Team" or contribute to the *Trail Tenders' News*? Please contact Lynda Rummel at ljrassoc@roadrunner.com.

Upcoming Area Meetings & Puncheons, Puncheons, Puncheons!

**Finger Lakes Trail Conference
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