

NATURAL AREAS RESTORATION – Suggestions, hints, and ideas

(You may agree, disagree, find exceptions or be inspired to write your own set of thoughts.)

The Basics

- ◆ Wear long sleeves and long pants to minimize scratches.
- ◆ Use repellent, West Nile is here to stay – get bit and you'll be too fatigued to work.
- ◆ Loppers should be used on stems of 1” or less.
- ◆ Cut straight across with a bow saw, not at an angle – no “punji” sticks, please.
- ◆ Cut brush and trees close to the ground.
- ◆ Tools should be dried and oiled before storing.
- ◆ You'll want to wear glasses, especially after you catch a twig in the eye.
- ◆ Apply herbicide along the outer edge of a stump – it's not needed in the middle. Let the herbicide run down the sides of the stump to the soil line – this is where re-sprouting is likely to occur.
- ◆ Don't apply Garlon or RoundUp to plants/stumps in standing water – only Rodeo is legal.
- ◆ Don't clear what you can't herbicide and seed – the situation worsens without those two steps.
- ◆ Eliminate early invaders – one Teasel can become a hundred in a couple of growing seasons (same goes for Musk Thistle, Canada Thistle, Multiflora Rose, etc., etc.)
- ◆ Isolated weeds or small weed patches located amongst high quality plants: pour a foliar herbicide into a container large enough to fit your hand. While wearing a plastic/latex glove, soak a sponge and wipe the weed from bottom to top. Caution: take great care not to spill the container.
- ◆ When cutting brush, look around for a nearby problem area (Garlic Mustard, Reed Canary Grass, Canada Thistle.) Build your pile there and scorch them.
- ◆ Target the mother trees. They can produce enough offspring to keep you busy forever.
- ◆ If you have a decent scattering of desirable plants where you're cutting, consider reusing old burn scars to conserve the good stuff.
- ◆ If you choose to try something “radical,” try it in a small, confined area, wait a couple of growing seasons to evaluate.
- ◆ The reward for your hard work will be in the form of delayed gratification. Many growing seasons are required to go from trash to treasure. Volunteer hours and seed availability will be limiting factors. Accept what you're able to accomplish as progress. Do not dwell on the ugly spots. This is not a sprint. This is a long-distance run.

Brush Pile Location, Construction and Burning

- ◆ Build brush piles in a spot with an open canopy and also in a place that is not likely to hold water in the fall or winter.
- ◆ Cut and herbicide invasive brush before spotting a brush pile. The fire may not be hot enough to kill the roots. And, there are a few species that will produce root suckers out from the burn scar (Black Locust, Gray Dogwood, Tree of Heaven, Silver Poplar, and Aspen.)
- ◆ Utilize old burn scars or build on top of a weedy patch.
- ◆ Avoid proximity to dead trees that can ignite from intense heat, even if the flames are ten or more feet away.
- ◆ Avoid locating the pile under a low-hanging limb of a native tree – you might cook it.

- ◆ Loose, poorly-built piles can be hazardous, hard to start, and will not burn quickly or thoroughly. Branches should be close together, minimizing open air spaces as much as possible.
- ◆ 5' - 7' flat, rectangular or square-shaped piles are the easiest to construct properly (avoid circular teepee-shaped piles.)
- ◆ Brush, tree limbs and logs should be cut into 5' or 7' sections and stacked with the branches and limbs facing in the same direction. Intersperse large limbs or logs throughout the piles; don't pile them all on the bottom.
- ◆ Branches that stick out at 50 to 90 degree angles should be trimmed to facilitate stacking and maintain a tight square or rectangular shape.
- ◆ The base of the pile should consist of smaller branches 1" to 3" in diameter to a depth of 2' to 3'. Then, larger logs placed on top will compact the pile. Repeat these steps as the pile grows higher. This will result in a dense pile that is easy to ignite, quick to burn and self-consuming.
- ◆ When dealing with untrained volunteers, assigning a veteran to be the "pile master" is almost a necessity.
- ◆ Ignition of the pile should always start on the side facing the wind so that the heat of the fire blows directly into the pile.
- ◆ Once started, wait until the pile is fully engulfed in flames before adding additional branches and logs to the fire. Warn new volunteers to always add to the burning pile from the side facing the wind to prevent flying sparks from burning holes in their clothing.
- ◆ When adding to a burning pile, aim for the center of the flames, and try not to expand the "burn scar" of the original pile – add items that are no longer than the pile.
- ◆ The extra time we put in today will mean faster and easier burns next season. It's easy to let a brush pile get chaotic. At a work day, you want to put a big hurt on Baron Buckthorn, or just chat with old friends, and not be a construction manager; but *someone* should be watching the brush pile, especially if there are a lot of new volunteers on hand.

Seed Is a Precious Commodity

- ◆ You can sow seed when you're done collecting in the fall.
- ◆ Plant as diverse a mix of seed as you can gather.
- ◆ Create a separate mix for each habitat type: prairie, savanna, damp or wet spots, even sub-sets for marsh edge, stream border, dry hill, etc.
- ◆ Separate seed from the heads to get better dispersal in your blends.
- ◆ Pick seed under dry conditions (seed should not be stored wet.)
- ◆ Store seed in paper bags so air can circulate.
- ◆ Store seed in a cool, dry place.
- ◆ When you store seed over the winter, place outdoors out of direct sunlight in a creature-safe, dry container (allows the seed to freeze.)
- ◆ For optimal seed germination, use a 3-prong or 4-prong rake to scratch the ground. Scatter the seed and step on it. The object is to make soil contact. Look for weakly populated spots, bare spots or weed whack selected areas to minimize competition. A 4-prong rake (fire rake) is available at www.forestry-suppliers.com or call 800-647-5368.
- ◆ When sowing *tiny* seeds, mix dirt from your site in a container large enough to fit your hand, blend in the seed, sprinkle some dirt in the appropriate spots. You'll get a lot more coverage.
- ◆ Use pioneer species to help hold the ground until the slower-starting species are able to get going. Some examples that have worked are: Sun = Yellow Coneflower, New England Aster, Heath Aster, Canada Wild Rye, Bergamont and Stiff Goldenrod; Shade = Bottlebrush Grass and White Snakeroot. Use the pioneers liberally, they will fade as more competition develops.

- ◆ Quite a few species will spread rapidly without competition (like Cupplant and Joe Pye Weed.) *Plant as diverse a mix as possible.*
- ◆ Record your protocols (guidelines) for seed gathering (and/or purchase) so that researchers in the future can learn the most from your site. County Forest Preserve Districts may have established protocols – check with the volunteer coordinator. Seeds can be from on-site (if a sustainable biodiversity survives,) within 10 miles, within 100 miles north and south and 200 miles east and west – or some other protocol. Follow your protocols once they're written down, and list any exceptions or mistakes in a permanent record.

Tall Grass Prairie Is Not All Tall Grass Prairie

- ◆ Our remnant prairies have a great diversity of herbaceous flowering plants (Forbs.) Forbs are slow to grow from seed so you would do well to give them a head start over the tall grasses.
- ◆ In drier areas, start Little Bluestem, Side Oats Grama and Northern Dropseed in with the Forbs right from the start.
- ◆ In any restoration, be *very* leery of Big Bluestem and Indian Grass. They are easy to collect and spread rapidly. Hold these two species out of your planting until you see where your early efforts take you. You could hold them out for 10 years and know they'll find their way very easily when you do add them in.
- ◆ Some say you can work Forbs back in to a heavy stand of Big Bluestem or Indian Grass. But several restorations have seen the tall grasses overwhelm a loosely-knit field of Forbs. Use caution.
- ◆ However, working with Forbs alone will be slow to provide the level of fire fuel that the tall grasses provide.
- ◆ Be advised, the prairie birds need a large, nearly treeless expanse – like in the neighborhood of 100 acres.
- ◆ Working with sites of less than 100 acres, if you leave a few islands of brush, there's a good chance you'll attract a few more bird species.
- ◆ Wet and damp areas can hold a seed bank for a long time (maybe decades.) However, in the uplands, expect to have to add the seed of missing species.

The Idea Bin

- ◆ Torture Garlic Mustard in the off season – use a hand scythe or a weed whacker, cut it to the ground. There will be less vigor in the spring.
- ◆ When Garlic Mustard bolts, wait until the flower head forms, and whack it down before the flowers open.
- ◆ If the Garlic Mustard flowers have opened, whack down or pull, then bag and remove from the site to avoid latent germination.
- ◆ Canada Thistle is a perennial that travels under ground. Herbicide each stalk before the flowers open.
- ◆ Non-native, cool-season grasses can hold weeds out. Use a scythe or a weed whacker to open some 6' pockets. Seed the cut areas. Step on the seed. Make good seed contact with the soil. Consider breaking into a cool-season grass patch over a couple of seasons.
- ◆ Skinny trees less than 6" in diameter at chest height (a.k.a. pole trees) can shade out desirable plants by filling in the canopy. Some may be native, but are “weedy” by nature: Black Locust and Wild Black Cherry in a savanna/woodland are examples.
- ◆ If you have a damp area(s) at your site, you'll probably want to remove Cottonwoods and Black Alders – they multiply rapidly and the resultant saplings are a time-consuming pain to remove.

- ◆ Perhaps clear and seed some small areas scattered around the site. When you restore your way into those spots years later, you'll find a reward waiting. And, those plants may already be contributing seed.
- ◆ Planting native plugs: it's hard to find just the right spot where the plant will flourish. The failure rate is high, but the local woodchuck is hoping you'll try.
- ◆ A forest preserve heavy-duty mowing device can make short work of a brushy field, however, volunteer follow-up is usually needed to herbicide the cuttings. Re-sprouts will usually show in the first growing season. Get them sooner rather than later because the re-sprout tangles are worse after the motorized cutting.
- ◆ If a weed patch fails to die back after you've applied the recommended herbicide, consult your Volunteer Coordinator. Factors like timing and % of active ingredient will need consideration.
- ◆ Watch for biennial rosettes (Teasel and others.) Herbicide as many as you can at this early stage. You'll see what you missed in year two. Picking off stragglers is far easier than tackling a full blown patch.
- ◆ Aggressively locate invasives that spread seed by the wind (any non-native Thistle.) Herbicide before flowers open or at a minimum, clip heads before seeds disperse.
- ◆ Some trees can sprout via the root network. Tree girdling can induce sprouting. Herbicide the bottom cut. Consider girdling during a drought period when the tree is already stressed.
- ◆ Mid-winter girdling vs. growing season girdling: the dying summer tree with its brown leaves can be a bit of an eyesore.
- ◆ In areas altered by construction equipment (sewer line, old spoil piles), the exposed subsoil may require a seed mix different from the surrounding soil. Bare, steep slopes can make the job tougher (perhaps, brainstorm with other stewards.)

Visit Other Sites

- ◆ If you can arrange it, take a site walk with a site steward. No telling how much you'll learn.
- ◆ On any walk in a natural area, note what grows where: Little Bluestem – dry, Cord Grass – damp, etc.
- ◆ Even a few inches of elevation change can shift plant populations (moisture differences.)
- ◆ Note the shade/sun areas and how species differ on either side of the sun/shade line.
- ◆ Get to meet other stewards by volunteering for their workday(s). You may share common problems. You might have a “new idea” and want a sounding board. It's an opportunity to find if others have thought of it, tried it, succeeded or failed or have already arrived at some useful learning.
- ◆ All-in-all, how and where you volunteer, bask in the sense of accomplishment. You do make a difference.
- ◆ I'm tired of writing this – get me outside, quickly!

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