

Wild Things Workshop for Stewards and Monitors
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 Notes by Pete Jackson

Session VI:

Seeding

Resource Experts:

Linda Masters, Steward, Somme Woods

Ken Klick, Lake County Forest Preserve District

Stephen Packard, Steward of Somme Prairie Grove and editor of the Tallgrass Restoration Handbook

Tom Vanderpoel, Citizens for Conservation, 25 years of prairie restoration work on multiple sites

There are numerous site-specific conditions that affect whether it is advisable to sow seed into a given area. How do we decide whether and when to seed under different scenarios?

Stephen Packard: Every site is different, and every species is different. In some high-quality areas, no seed may be needed; in these areas you might even collect seeds for use elsewhere. You also have places like Nachusa, where they have one seed strategy for high quality areas, one for grazed areas, and one for former cropland. One special case that comes to mind—Marlin Bowles taught me how to pollinate prairie fringed white orchid. It seemed like a good idea at the time to pollinate, collect the seed, and plant where Swink & Wilhelm associated suggested it might grow. I thought of a few places where it might grow, seeded there, and it came up in all of them.

In contrast, when I was a new employee with the Illinois Nature Preserves Commission my boss said “They are going to bulldoze Palatine Prairie, go dig up the white lady slipper orchids.” I did dig up a few, and planted them in a disturbed area near a Grade A prairie, and they sat there for years and never reproduced. But then I moved some seeds into Grade A prairie where they eventually established scores of plants. It took ten years, but they did succeed in the high quality habitat. So the bottom line is, some species may need high quality habitat. And even in a very high quality area there might be species missing that that could be restored. You can also seed most conservative species into an old ag field, along with more aggressive species.

Ken Klick: Seeding is a long-term thing. Throw in as many appropriate local species as you can.

Greg Rajskey: There may be some areas where seed is more of a priority – e.g. an eroded bank. But are there some cases that are lower priority where one may want to wait before seeding?

Linda Masters: I would generally not seed a lot the first year after clearing buckthorn from a degraded woods because follow-up will need a lot of herbicide.

Tom Vanderpoel: It is very time-consuming to collect seed—you need to prioritize when you put it in—I would generally wait a year. Every site is different—there is no rule such as “This is what you do.”

We have all kinds of people who collect seed for us, including large groups of kids. Fourth graders don’t have to pick gentians—have them pick Indian grass. As far as where the seed is distributed, I won’t throw seed on reed canary grass or where I know I will be herbiciding—but I may throw into some existing natives (e.g. meadow fescue) and let them fight it out.

Stephen Packard: In uplands, there seems to be little in the way of a functioning “seed bank.” I’d recommend seeding restoration areas as soon as possible.

Jean Sellar: Wetland seed banks for some species are long-lived. Other species seeds are short-lived (sometimes just a few days or weeks) and it’s best to just pick and sow.

Greg Rajskey: We hear much of late about the relationship between buckthorn, garlic mustard, and exotic earthworms—how does this relationship affect seeding strategy?

Stephen Packard: An expert came to my site and told me I couldn’t restore; it was all garlic mustard, buckthorn etc. But we’ve been successful at establishing the plant communities. Go to area remnants and see what’s there, use that as your model for what species should be on your site.

Q: Railroad prairies have a lot of conservative species, and they are in trouble. Do we try to restore these?

Tom Vanderpoel: The Union Pacific Northwest Line was our main source of seed, but the railroad does not manage these areas and so we are losing them. We collected as many species as quickly as we could

Pete Jackson: I know that railroad companies are very paranoid about granting access (liability issue). I am not sure that we have connected with the railroad, but we are working with the Village of Palatine who picks up the brush we clear.

Tom Vanderpoel: We did get permission to collect.

Stephen Packard: I think most local railroad prairies are doomed. We should probably focus on getting seed while we can. I also think we should look for opportunities to dig these remnants up and move, along with all of the plant species and soil biota in them. On the other hand, the very highest quality railroad prairies are some of the best that survive anywhere; they deserve the very best of care and protection.

Roger Keller: What about seeding brushpile burn scars?

Stephen Packard: They’ll come back just fine. There are even some species that love these spots and rapidly establish—figwort, *Geranium bicknellii*, *Geranium carolinianum*, *Eupatorium maculatum*, etc.

Q: Bob Betz once recommended scattering ash from burn piles- is that a good idea?

Stephen Packard: I did an experiment looking at this and concluded that it didn’t wasn’t worth the work.

Greg Rajskey: When are the best times to seed?

Diana Krug: Match to the times when the plant germinates – for woodland seed, generally as soon as you collect.

Stephen Packard: In general I like to sow in fall after the sparrows have migrated through (if no burn); if there will be a burn, sow afterward if possible. If you don’t get all seed down in fall then sow in the spring. Justin is always emphasizing that you can seed into snow, this can work also.

Greg Rajskey: What about raking seed in—necessary, or not?

Tom Vanderpoel: We collect seed and try to get it on the ground before Thanksgiving. You must wait until seed is ripe. The exception is we hold legume seed until spring to inoculate it. *Nachusa* doesn’t

bother with inoculation, so in that case you could sow legume seed in fall – but we prefer to inoculate. Scratching the ground is good if you can do it, but it's a lot more work.

Greg Rajskey: What about sowing into dense leaf litter?

Ken Klick: I believe it is critical to try and get in a burn first, to maximize contact with the soil.

Greg Rajskey: What about mixing some type of carrier into a seed mix, such as Vermiculite? Can this help to distribute the seed better?

Stephen Packard: Some species' seeds are so small you have thousands of seed in a single teaspoon full - e.g. Culver's root—750,000/oz. So mixing in a carrier can be good. Perlite is another...

Greg Rajskey: What concern should we have with using local genotypes?

Ken Klick: We buy a lot of seed—but then again we seed 400 acres per year. We use a 200-mile radius, seed must be harvested within that radius of the site (although admittedly we cannot always verify where the supplier got their seed). For conservative species, we rely only on local sources, less conservative species we will buy from sources farther away.

Stephen Packard: We should have different protocols for different sites. If we stick to site protocols and wait a while, we'll be able to test all these theories. Also, consider that the climate is warming—maybe we should go 150 miles south to collect seed.

Greg Rajskey: What about different seeding methods? Some counties are drilling in seed—McHenry, DuPage...

Ken Klick: Some species like grasses do better when drilled into the ground.

Linda Masters: We used a fertilizer spreader at Bartel—4 mixes, more coarse application but lots of land covered. We spread \$600,000 of seed in 4 days (seed was brought in by semi trucks!) The seed was purchased from a local nursery and was collected within 100 miles.

Greg Rajskey: We have noted that during wet years certain wetland species tend to germinate in great numbers, sometimes in places where you normally do not see those species. How does this relate to seed collection and distribution?

Jean Sellar: In a wet year you'll see an expression of wet species, the species are there...

Ken Klick: We saw iris growing next to upland species...

Stephen Packard: In our seed mixes we do make up separate mixes for dry, dry-mesic, mesic, wet-mesic etc., for prairie, savanna and so on, but I may throw in a handful of dry and mesic species into the dry-mesic mix.

Jean: The hydrology in the Chicago area is changing all the time.

Linda Masters: You can also sow seed to control invasives...

Greg Rajskey: Bob Betz recommended that we seed in pioneer species initially; I think there has been a reversal of this thinking since then. Thoughts?

Tom Vanderpoel: We try to get as much diversity in as we can. We don't use a pioneer mix—but you've got to "clear the way"—meaning, kill off the weeds—before seeding.

Q: What about seeding in tall grasses? I know of big bluestem that is still dominant 30 years later...

Stephen Packard: We didn't plant big bluestem but we did plant Indian grass. We established random plots and monitored, and the Indian grass was gone in 15 years. Big blue tends to increase and increase, Indian grass is a pioneer species.