

SCYTHING AND GENTIANIS (OR HOW TO APOLOGIZE TO A PLANT)

A much abbreviated version of the story below appeared in Chicago Wilderness magazine.

This is a story of imperfection and redemption.

First, to confess: I sometimes mistakenly kill rare and beautiful plants, including fringed gentian, Indian plantain and savanna blazing star. Yet in the long run it's best for them, or so I'll claim below, because of that above mentioned redemption.

Here's the deal. I am shepherd of many populations of wild plants (including five species of gentians, seven species on federal and state endangered and threatened lists, and scores of other rare plants). These species thrive at Somme Prairie Grove in Northbrook only because of protective stewardship. The rich plant community supports a great many species of uncommon or rare birds, butterflies, dragonflies, snakes and other worthy neighbors.

These ninety acres had been mostly degraded by invasive brush in 1980 when restoration began. The entire site would today be completely degraded, with none of the rare plants and animals, and only a few species of any kind, were it not for the restoration.

By 2007, most people who visit this handsome refuge understand why fires must burn and invasives must sometimes be battled with herbicide. But I still get odd looks when people see me with my beautiful Austrian scythe. Yet it's all part of the increasingly sophisticated—indeed elegant—discipline of restoring health.

Many people assume that restoration is fairly simple. You just cut brush, possibly plant some seeds, and wait for nature to restore that rich, sustainable ecosystem. But a degraded landscape is a patient, and cutting the brush is radical surgery. The grasslands and woodlands here need intensive care afterwards, so the open ground doesn't get infected with yet other invasives, which by their very nature grow virulently at any opportunity.

Thus, many patches at Somme are intensive care wards for a year or three. First, the North Branch



gentian photo by Doug Sherman

Restoration Project volunteers cut the brush, herbicide the stumps, and plant the seeds of more than one hundred rare species. In many places there is also a need for Forest Preserve District interns to spray foliar herbicide on tens of thousands of seedling buckthorn and other woody species that carpet the ground. After a few years of intensive care, a complex and beautiful ecosystem is able to proliferate and evolve healthily with only modest support (mostly those occasional controlled burns). But in the early years, the scythe can like swabs of iodine, keeping down infection until the natural defenses of good health can take over.

My trusty scythe has a razor-sharp blade 29 inches long. Its 'snath' or handle is 61 inches long. With some modest acrobatics, I can place its point 6 or 7 feet to either side of me, as I cruise through tall stands of splendid rare plants mixed with cancerous invaders. One of the worst 'infectious' plants is tall goldenrod, a native weed, which uses its own herbicides and its thug-like competitiveness

to eliminate other grasses and wildflowers. But it has no symbiotic relationships with the many species of a healthy ecosystem. So soon this thug itself succumbs to shrubs (in part because it doesn't carry the fire that would control the brush). Like the worst of disease organisms, it kills the patient. From tall goldenrod, to shrubs, and the grassland is gone.

After a fair amount of practice, you can easily slip that razor-sharp scythe blade between stalks of quality plants and invasives that are just millimeters apart. As the mighty goldenrod falls, the other twenty or thirty nearby species remain. They'll gradually fill in those spaces that are so attractive to invasives and continue to build the resilient and sustainable ecosystem.

Yes, it's fairly easy (if you're quick at telling apart all those plant species), and so very satisfying. To see the beautiful rare underdog plants regaining vigor while knocking back bully after bully. But mistakes are made. As the 29-inch blade on the 61-inch handle swings rhythmically back and forth, its point darting here and there, the cut is sometimes a shade too deep. It severs a gentian, or a lily, or some other rare grass or flower.

On those rare occasions, I used to berate myself and slow down drastically for a time. Consider the pace I like to work at. If I'm fully engaged, with clear focus, at about 36 rhythmic swings of the scythe per minute, for a three hour session I make about 6,000 cuts. Each cut takes out one to twenty invasives. Perhaps 20,000 degrading stems removed in three hours. But each aimed-for stem represents a great many decisions as I consider the relative values of the species involved. The more than 6,000 quick decisions determine the fates of the many species near the target goldenrod. If Canada thistle and other troublemakers reign in a little area, perhaps I cut every plant for a few square feet. Or I aim to include the alien thistles (avoiding the native thistles) as well as the goldenrod (avoiding the many goldenrod species that are part of a thriving ecosystem) and also perhaps half a dozen other troublesome species. Yes, they'll all try to grow back, but since this work protects species that are the strongest synergistic competitive community in the long run, and since the scythed

patches are often within a few inches or a few feet of thousands of classy seeds and slow-growing classy root sprouts, the rare recovering ecosystem can get the upper hand. Diverse rare plants under natural conditions know how to handle weeds just fine.

Consider what a weed is, ecologically speaking. In nature, weeds are plants of disturbance; they grow only where someone is digging or mowing or trampling or otherwise messing around. Weeds actually help the ecosystem heal. A stand of weeds is much like a scab that helps heal a minor injury to a person or animal. The bull thistle or purslane that invades your garden wouldn't be there for long if you just left the place alone. In a couple of years, longer-lived species would out-compete them. Those dandelions wouldn't last long in your lawn if you stopped mowing. Taller plants would shade them to oblivion. In an Illinois yard, the winner would likely be buckthorn or some other tree. But in the regularly burning Somme grasslands and woodlands, the scores of species throwing their seeds around each fall include many now-rare species that over thousands of years evolved the ability to coexist in a diverse ecosystem. Restoration means facilitating the recovery of that diversity.

Consider what the opposite of a weed is—a quality 'conservative' plant. Consider the Somme gentians that are so showy in the fall. They're all rare except in quality nature. Bottle gentian never opens. Some burly bumble bee has to pry open the flower to get inside. This end-of-the-season plant protects its nectar from ants and other pilferers so that true pollinators can fly that pollen from ovary to ovary. Fringed gentian solves the ant problem with those fringy impediments to pilferers. Prairie gentian—the most "deep and hurtful" blue of all, is a classic prairie species. Somme still have very few of these, in part because the deer and voles eat every one that isn't protected with cages and sprays—another story for another place. Stiff gentian is the commonest, even though we restorers never found many seeds of it. But it has increased to the tens of thousands. Somehow it loved the recovering landscape. It will probably decrease as some of the even more conservative plants slowly proliferate. Cream gentian is the only non-blue one—more of a savanna than a prairie or wetland

species. If you'd like to see or learn more about these gentians, check out the Trailside Wildflower Guides.

So as I swing my scythe, there are dozens of species in front of me, somewhere on the continuum from weed to conservative. I have to evaluate all these species each time I swing. That's part of the pleasure of it. It's like playing fast chess, or driving a race car. The quick decisions will make a big difference as the event proceeds. If most of the nearby plants are somewhat less aggressive weeds, I scythe just the worst menaces. But if there are large numbers of quality species nearby, then I'll scythe not just the tall goldenrod but also the saw-toothed sunflower, the white snakeroot, and other early successional species. They'll all come back, but I'll be facilitating succession toward health.

As all these value judgments are translated into the direction and force of the swinging scythe, probably 99.9% of the time, the result is pretty much what I hoped. But sometimes I misjudge. A hidden gentian falls. I could indeed slow down, so that my accuracy would be closer to 100%. But that would actually be a disservice, because I would cover so much less ground. In other words, if I was "perfect" in terms of making no mistake, I would overall do a much poorer job of helping the ecosystem. So I work at an effective speed, and make some mistakes—and then redeem.

Early on, I'd feel terrible when I found myself to have mistakenly cut a fine plant. In the quiet of the preserve I'd blurt out, "Oh! No! I'm so sorry!" But the apology was not very gratifying. Yes, I'd slow down then, but soon I'd also find myself looking around for another nearby individual or two of that aggrieved species. Then with extra care I'd cut away all its invasives, and also the only moderately rare plants nearby to give that more needy species an edge. Was this apology accepted?

It took me years to know. The race car driver learns the results of quick decisions within seconds, or at most minutes. But slowly I would come to learn that, where I once had surgically scythed, in future years there'd be thriving nature. The rich fuel there would burn well, and quality would improve year after year. Nearby in neglected "control" areas I'd see solid stands of tall goldenrod or other invasives

slowly giving way to brush, which would burn only under extreme conditions, and then explosively. The rare gentians, orchids, gerardias, lilies and other rare species gradually died out under such brush. In cared-for areas, rare bees and butterflies tended hundreds of rare gentians, which bloomed among thousands of other rare plants.

It feels good to speak with nature in this way—and have nature speak back.

For the published form of this story, go to <http://www.chicagowildernessmag.org> (Fall 2007) Reading Pictures. This version written for the Somme Prairie Grove website by Stephen Packard in September 2007.