Straight-Jacketed Tornado vs. Forest Oasis

By Jim Minick

From the ground, they are long, barren alleys into the forest, sometimes as wide as an interstate, and always ugly. From the sky, they are strands of thread traversing the fabric of the land, stitches that both render and join. And in our towns and cities, these lines parallel streets and are less obtrusive to the eye because they blend in with the trees.

And there's the rub, the trees. For utility power lines and their right-of-ways, trees are both the problem and the cure.

The old saw, "Nature abhors a vacuum," aptly applies to power lines. For decades, phone, gas and electric companies have maintained these corridors by spraying herbicides or cutting the 40 to 200 foot right-of-way. The line crews currently work around dogwood, redbud, and other low growers, but still when finished, they leave a path that looks like it was hit by a straight-jacketed tornado. We customers may abhor the sight but have unconsciously appreciated and expected this; we like to flick switches, cook supper, and stay connected, to be joined by these many lines that span our country. The World Wide Web is, after all, figurative and literal, digital and physical.

The utility companies need this space to keep the power flowing and provide public safety. As Lynn Grayson, Forestry Supervisor for American Electric Power Company (AEP) explains, "Trees are the leading cause of power outages." I've witnessed a sapling short out a line, and the sparks are pretty, but also frightening. A simple tree can do amazing damage. Much of the northeast U.S. and parts of Canada lost electricity in the blackout of August 2003, 50 million people without lights because of a poorly maintained

power line. Other smaller examples occur locally and often, especially during wind or ice storms. Because of a massive ice storm in the 1990s, our family cooked on the woodstove and read by candlelight for nine days. Hauling water didn't stay romantic for long.

Trees, however, don't have to be "the enemy," don't have to be a "threat to homeland security," as one researcher calls them. They can instead fill this right-of-way, if we choose the right kind. That's what Virginia Tech's Dr. Bonnie Appleton has been preaching for over ten years, and slowly, utility companies, governments, and landowners are beginning to listen.

The idea is to plant small trees to fill the space and hold back the unwanted growth of towering pines and oaks. Like several foresters in the industry, Kevin Sigmon, a Utility Forester for AEP calls this, "The right tree in the right place." If done well, this eliminates the outage dangers and also improves the aesthetics. Any cruise down a recently pruned street with all the trees topped to look like hat racks will illustrate this ugliness. The heavy pruning does little for the health of the tree. I've witnessed crews limb one side of mature pines, and then a few years later, the excessive injury causes the pines to die. The dead trees then become an even greater hazard to the line.

In 1994, Appleton created the Utility Line Arboretum at the Hampton Roads Center. The local power company set up three poles and two spans of uncharged lines. Appleton and a graduate student planted the right of way. To help others, they created extensive lists of suitable plants, from shrubs like crape myrtle and Rose of Sharon, to small trees like fringetree, saucer magnolia and dogwood. Ten years later, the arboretum shows how trees can fill the space without crowding the lines, a solution both utilitarian and beautiful.

Planting appropriately-sized trees makes sense economically. Nationally, utility companies spend approximately $2 billion dollars annually to keep our lines clear. In southwest Virginia, Lynn Grayson estimates that Appalachian Power spends several million dollars per year to stay ahead of the vegetation on roughly 125,000 acres of rights-of-ways. Pruning and spraying costs anywhere from $200 to $800 per acre. No long-term cost analysis comparing these types of maintenance with appropriate tree planting has been done, but surely the potential economic benefits warrant one.

This practice makes ecological sense as well. Regular maintenance is required until the new trees become established. But once mature, they shade out competitors and reduce the need for herbicides and pollution-spewing chainsaws. The plants provide habitat and food for wildlife, and possibly people, if they like eating papaws and hazelnuts. Our own government recognizes planting forests as the leading method to reduce global warming, so why not plant the acres of power lines for this cause as well?

Dr. Appleton's research focuses primarily on the needs of populated areas where she hopes to have the greatest impact. AEP Utility Forester Kevin Sigmon agrees with this urban focus. In Abingdon, VA, Sigmon and others have aggressively pursued the concept of "right tree, right place." Since 2001, they've cut and replaced over 200 huge, high-maintenance trees, like silver maple and ash. He estimates the cost of replanting will be recovered in eight to ten years. The new trees, dogwoods, witch hazel and redbud, stop growing at 30 feet, the power keeps flowing, and the utility company and customers are both happy.

Rural landowners also face similar problems, and my wife and I fall into this group. Our house is serviced by a stretch of wire a half mile long and covering two acres.

Much of it traverses an old pasture that we're converting to timberland, so in the process of planting hardwoods and pines, we decided to also plant the right-of-way. One of Appleton's criteria for urban plantings is that the trees don't create a mess with their fruit. This matters little to us, so I eliminated that criteria and added a few others. We want shrubs and trees that are native, attractive, and that increase the diversity of our forest as well as provide food for both wildlife and us. Some of our choices include: pawpaw, serviceberry, dogwood, redbud, crab apple, hazelnut, winterberry, and elderberry.

Before I ordered the trees, I contacted Steven Feggeler, the Utility Forester for our area. He approved my list of plants and made note of our pole numbers so that future maintenance crews will know that appropriate trees are planted in this right-of-way. Anyone planning a similar project should make sure they contact the local utility forester to protect their planting.

Fortunately, government programs created to help landowners plant trees on abandoned pasture covered most of our costs. Otherwise, we couldn't afford this. Such incentives, however, don't exist for forested or urban landscapes. If a landowner wants to convert a right-of-way traversing his woodlot to appropriate plants, he has to fund it all out of his own pocket, and this is wrong. Our government needs to create incentives to encourage planting right-sized trees, and utility companies and research institutions could help as well with incentives, education, and a shift from clear cutting to following their own "right tree, right place" slogan.

This spring, weather and body permitting, I'll enjoy the slow hard work of planting these 800 seedlings, slicing holes into the soft earth and slipping in the delicate

roots. In a few years, weather and body permitting, I'll pick and eat the sweet fruit of pawpaw and hazelnut, trying to get a few bites before the birds and other creatures.

Hopefully by then, the seams of power lines that cover our land will no longer separate one side of the forest from the other, but instead stitch the right-of-way into its surroundings, helping it join the natural web of life.