Low-Impact Herbicides Transform Virginia ROW

Electric cooperative employs low-impact herbicide strategy to address invasive species and more.

By Ronnie Ponton, Central Virginia Electric Cooperative

With flourishing wildflower patches and pollinator populations, the 3,500 miles of electrical lines that make up the Central Virginia Electric Cooperative right-of-way (CVEC ROW) are unrecognizable from just a few years ago, all while service and satisfaction have reached new heights. Gone is a proliferation of rough, disruptive vegetation that historically interfered with service among paying members. The wildflowers are bringing valuable pollinators to new areas of the ecosystem, and wild turkeys, songbirds and honeybees now populate green spaces beneath the power lines.

It is the result of a years-in-the-making revamping of CVEC’s vegetation management program, using data, developing and implementing a new strategy, and selectively using low-impact herbicides. The program transformed not only the ROW itself, but how CVEC works to keep vegetation growth manageable and sustainable to benefit its customers.

No one wants a stinky, ugly tree growing unchecked in the backyard. But because of the plant’s ability to thrive in urban environments, including its resistance to insects and the ease with which it establishes itself, it is something residents must actively fight against. The sumac also is a resource hog, taking up valuable sunlight and water from other plant life.

For utilities and cooperatives in the region, it is an even bigger nuisance. It can stymie a vegetation management program that does not specifically account for the unique threat and attributes posed by the tree. Historically, it has been one of the top causes of line interference along CVEC’s ROW. For years, the utility followed a traditional five-year line-clearance cycle, but the Chinese sumac proved difficult to control with that approach.

The tree’s branches grow more rapidly than accounted for within the five-year cycle. By the time certain portions of the grid were up for pruning in year five, the Chinese sumac’s branches had already grown up into the lines and conductors. Additionally, the invasive species would require unpredictable responsive action, throwing a wrench into scheduled pruning activities when power needed to be restored in each area affected by the sumac.

A few years ago, the vegetation management team made it a priority to take back control of the ROW from the sumac. The team’s strategy involved identifying the specific needs of the system, allocating the necessary budget to perform the work and making the cooperative-wide commitment to put a new comprehensive strategic plan into action. CVEC’s new approach to its vegetation management program began with a full system analysis using a third-party software system, Arborcision from ACRT. Using this type of software was a shift for the vegetation management team and enabled more comprehensive identification of needs based on the data collected. CVEC could identify the overall status of vegetation along with the areas needing specific attention and why.

It did not come as a surprise this analysis identified the Chinese sumac as a primary cause for many of CVEC’s reliability issues, along with a few other invasive tree species. In addition, the analysis brought into sharp focus that invasive trees required their own tailored solution to have a lasting impact on customer reliability. A more sophisticated approach would be
needed, rather than the traditional five-year pruning cycle.

**Specific Targeting**

After bringing the identified needs to the attention of CVEC leadership, and once the necessary budget was approved, the vegetation management team began developing its approach. Part of the path forward was already in place. The team had seen success in controlling the Chinese sumac in certain parts of the system through the selective use of targeted herbicides to curb growth, but a comprehensive approach had yet to be taken. The utility decided to expand the herbicide program as part of its five-year approach. CVEC enlisted ACRT's assistance in developing the new program, and armed with data from the preliminary system analysis, critical parameters for the new program logically fell into place.

First, CVEC deployed a comprehensive mowing schedule across its entire grid. This required expanding the total number of pruning crews from one to five, each working in tandem to prepare the ROW for herbicide treatment. Next, it was time to put the herbicide program into action. Key to these efforts was the extreme selectivity with which crews applied herbicide to the identified invasive species. Herbicides sometimes have a bad reputation, but the methodology for their use is far more advanced than just 10 years ago. Applicable products go through rigorous oversight approvals. Used responsibly, the approved products can become a valuable component of a sustainable approach to utility vegetation management.
The extra planning and research has paid off. CVEC’s resulting herbicide application process is far more precise than the old, jokingly characterized “hack-and-squirt” method of herbicide application. It is critical to leave any vegetation undisturbed that does not directly threaten service, so spray crews walk the entire 3,500-mile system using backpack sprayers to apply herbicide only where needed.

Crews are deployed two months of each year in the cycle, covering approximately 650 miles of the system. The teams are instructed to apply herbicide only where needed, taking care to apply from short distances rather than from 20 ft away.

Adhering to this selective herbicide use has been critical to satisfying CVEC members who were unreceptive to herbicides at first, particularly where private property was involved. Clear communication with members is another important compo-
nent of the program to set the proper expectations. CVEC crews inform property owners of the upcoming work and how it will affect vegetation growth.

CVEC members are given the option for line-clearance crews simply to brush trim without herbicide application. For some, it has taken seeing the results of the application in their neighbor’s yard a year or two after the initial work — where sumac has not grown back — to be convinced. However, many members have allowed herbicide use on the first pass, so CVEC crews have been able to work efficiently throughout the service area by clearly communicating the benefits of the application.

A Lasting Impact

The direct benefit to CVEC of the selective use of herbicides is the elimination of the invasive Chinese sumac throughout most of the utility’s system. As of spring 2017, only 200 miles of ROW have yet to be treated. Of course, 100% control on the very first cycle is impossible, so crews are being deployed to spot treat certain areas missed initially.

The results of the program are clear. CVEC has identified, after treatment, less than 10% regrowth, exceeding its expectations from the outset for the new program. Service outages due to line interference from the sumac have been reduced drastically, and CVEC members are experiencing the benefits. Not surprisingly, the results tracked very well with the goal of revamping the vegetation management program in the first place. Beyond enabling more reliable service, what has taken shape in the CVEC ROW has been truly transformative.

Elimination of the sumac has enabled beneficial vegetation to grow back in its place, including large patches of wildflowers that, in turn, have brought back pollinators to the area, fostering a renewed ecological cycle beneath the power lines that was nowhere to be found several years prior. CVEC ROW now makes better habitat for local wildlife, including wild turkey, quail and more, flourishing in the absence of the inhospitable sumac.

Taken collectively, CVEC’s program is a testament to how selective herbicide use can be an effective and sustainable approach to utility vegetation management. By helping to shape more diverse plant ecosystems throughout ROW, cooperatives can protect electrical facilities and reduce maintenance needs while shifting the thinking from ROW as sacrifices. Instead, thriving new ecosystems can be created for the benefit of local wildlife, all while beautifying service areas.

CVEC plans to continue enhancing its program over the next several years and hopes to serve as a model for how like-minded organizations can approach vegetation management. The team is seeking third-party certification for additional credibility on its approach. The investment made in CVEC’s vegetation management program demonstrates clear benefits. Reliability is up, all while enabling more beneficial vegetation and wildlife to thrive throughout the ROW. It is a model for how successful utility vegetation management comes to life.

Ronnie Ponton has managed Central Virginia Electric Cooperative’s vegetation management program for 18 years, helping both to lead and evolve the program to meet new challenges. He holds several certifications from the International Society of Arboriculture, including ISA certified arborist and ISA certified utility specialist credentials.