

Utility Arborist Newsline

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The Value of Mining and Sharing Close Calls

By Beth Lay, Director of Safety and Human Performance, Lewis Tree Service

In early October, the flagger for a Lewis Tree Service mowing crew noticed that a gas line shared the corridor on a utility right-of-way (ROW). The general foreman conducted a pre-job walkthrough with the crew. The terrain was uneven, slippery, covered in thick brush, and in it they found debris from an old railroad. As the general foreman came closer to the pipeline, he smelled gas and immediately cleared the area from phones, lighters, or anything that could cause a spark or flame. One hour later, the gas company arrived and confirmed the leak. Javier, the general foreman, reported this close call through the Lewis safety app where it has since been studied and discussed.

Javier’s immediate actions may have saved lives.

Good Practice #1: *Learning from What Goes Well*

At Lewis, we believe that **close calls are culture-shaping opportunities**. In the pipeline situation, the flagger was scanning the environment (i.e., employing situational awareness). In addition, leadership was not only present but engaged in walking the terrain and marking hazards with his team. The general foreman displayed a willingness to do the hard work necessary to keep his crew safe

and had genuine empathy for how difficult the work is. In the conversation reviewing this close call, leadership probed and praised the actions of the general foreman and crew that enabled them to notice, understand, and forecast to manage the risks so well. Two questions to ask when studying any close call are: (1.) what enabled it to go well? and (2.) what kept it from being worse? We’ve noticed that there are always things that went well in any close call or incident.

FOCUS ON TRENDS AND BMPS



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Good Practice #2:**Analyzing Close Calls for Common Risk Factors**

Without studying close calls, we are operating blind.

When reviewing incidents alone, we miss the opportunity to learn from the number of times that close calls occurred and to analyze the related trends and common risk factors. Throughout the past year at Lewis, we recorded close calls with serious injury potential in five key areas that may not have come to light otherwise: (1.) line of fire (vehicle and equipment), (2.) struck by tree or limb, (3.) electrical contact, (4.) collision, and (5.) fall from height. For example, when considering close calls related to being struck by a tree or limb, we found they often happen on the last cut and may involve a new team member. We examine why breakdowns occur during the last cut and teach crews that when we have a new team member, we have a new team, and the entire team must communicate differently. We use this information to get ahead of the risk, noticing when risk is stacking up so we can better manage it.

Good Practice #3:**Providing Real-Time Guidance on Emergent Risks**

The 2020 storm season was one of the most active hurricane seasons on record. It was also the first year Lewis rigorously encouraged the craftworkers deployed on storms to enter close calls into our safety app nightly. This collection of close calls enabled leadership to understand storm-specific risks and provide real time support and guidance to the crews. During Hurricane Laura, for example, one of the hazards trending on our safety app was related to vehicles hitting low-hanging wires (e.g., cars, debris haulers, a garbage truck, a UPS van). We immediately alerted our teams to, first, send a lookout ahead to scan roads for obstacles and, second, put flaggers in traffic to warn drivers of low wires.

Good Practice #4:**Preparing for What Could Go Wrong**

When Michael Phelps was competing in the Beijing Olympics for a gold medal in the 200-meter butterfly, his goggles filled with water. He was literally swimming blind. Yet, not only did he win the gold, he also broke the world record. Michael did not specifically prepare to swim blind. However, he had envisioned the perfect race in his mind (i.e., work as planned) and prepared mentally for what obstacles he may encounter (i.e., work as done) by knowing the exact number of strokes required to reach each end of the pool and what level of effort was required to finish.

By studying and learning from close calls, common risk factors, and good practices, we are better prepared to adapt and overcome when challenges present themselves in the variable work of utility vegetation management.

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SPOTLIGHT**Lessons and Opportunities from *Extreme Ownership***

By Keith Pancake,
Safety Manager, ACRT
and Bermex

Ownership is a foundational element of the utility vegetation management (UVM) industry. Our electric, gas, and water utility partners must own their services to their customers at all times, taking responsibility for ensuring reliable power 24/7, year-round. And we, as service providers to utilities, must own the work we perform for them and their customers.



Published in 2015, the book *Extreme Ownership: How U.S. Navy SEALs Lead and Win* by Jocko Willink and Leif Babin—two retired U.S. Navy SEALs—was rapidly adopted throughout UVM and many other industries across the country.

The authors link leadership experiences from the battlefield to principles that apply to business applications. Early on in the book, the statements “There are no bad teams, only bad leaders” and there are “only two types of leaders: effective and ineffective” both cement the key point that what happens in our respective lines of operation is our responsibility, including what we can’t control.

As supervisors, managers, and directors, it’s up to us to adopt this approach first and implement it throughout our teams, regardless of size. Aligning our people around this concept of taking complete ownership enables all of us to solve issues effectively and with greater focus, without looking for fault.

There are many great insights and lessons in *Extreme Ownership*, and throughout our organization, they seamlessly link with our philosophy of leading from the front, practicing servant leadership, and empowering employees to achieve greater levels of success for our clients, our organization, and ourselves.

We strongly encourage any leaders seeking real-world lessons and guidance to apply in their daily work to pick up a copy of *Extreme Ownership*.





Trends and BMPs

Greetings, my fellow UAA members! My hope is that all of you are doing well during these unprecedented times. Last year's activities—or lack thereof—have been unusual, to say the least.

Our essential industry has shown that we can be flexible and innovative in our approach to problems and has become a culture of cancelations, adaptations, and transformations. We *will* persevere and improve from our experiences from this past year. If I'm sure of anything, I am sure of *that*. Please remember, the UAA is here for you. Please reach out if you need thought leaders to help you with concerns during these extraordinary times.

This issue's *Newsline* theme is about trends and best management practices (BMP). Throughout the years, the UAA has built its reputation by trying to shine a light on trends, shared BMPs, thought leadership, diversity, and technology in our industry.

Data seems to be the key to helping us measure the success and failure of our industry and its programs. Having the ability to understand trends and turn that information into actionable objectives takes a lot of subjectivity out of the vegetation managers' decision process and helps them to justify it. Especially in an operations-and-maintenance-centered world, having outage, contract performance, and cost data plus quality data trends may help obtain those elusive maintenance dollars. If you are on the utility side of the business (as opposed to the contract side), I strongly recommend engaging in the Vegetation Managers Summit Committee's work. This team is involved with trying to tackle some of the industry's most difficult questions from a utility perspective. If you are interested, please reach out to me or anyone on the executive team, and we'll help you get involved.

I'd like to take a moment to highlight a pioneer in our industry who supported anyone who asked for help. We lost Betty Marie Light (1957-2020) this past November. She was a pioneer for women in our industry on the East Coast. She quietly blazed a path for so many others in what has been a primarily male-dominated industry. Betty was someone who didn't look for recognition, passionate about her profession,

personal (even to those with conflicting opinions), and treated her peers and coworkers like family. She was very focused on safety, and when someone got hurt, she worked tirelessly until she was satisfied the mistake wouldn't recur. Lineman, arborists, and utility vegetation management (UVM) contractors loved working with (and for) her. Betty's favorite recognition was seeing everyone go home safely to their families each night. When you get the chance, be sure to thank the "Ms. Betty" in your life. Don't take these people for granted, because someday, their wisdom and advice will be greatly missed.

Lastly, please take the time to start the new year off on the right foot. Keep yourself happy, healthy, and out of harm's way by fostering a culture of safety within your organization. You can do that by keeping your communication simple, checking your ego (humility is the #1 leadership trait), and using a simple, continuous improvement model called "Plan, Do, Check, and Adjust" to validate performance. The UAA encourages you to have continuous engagement with your peers and members of our organization. As our normal forums for learning, communicating, and networking with each other continue to be unavailable to us, it is important that we don't hide away and become reclusive. The strength of our organization is its *people*. We all should take advantage of this strength and utilize the webinars and committee/subcommittee structure that our UAA platform has to offer. Take care and stay well!



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Executive Director Comments



By Phil Charlton

Industry standards and best management practices (BMPs) are critical to our industry. Standards and BMPs ensure that science and proven methodology guide our work practices.

Because they are so important, the UAA works to ensure we are engaged in their development.

The key industry standards are:

- ANSI Z133—Safety
- A300 Part 1—Tree Pruning
- Part 7—Integrated Vegetation Management (IVM)
- Part 9—Tree Risk Assessment

Rebecca Spach (First Energy) and Jason Cooley (Southern Company) are the UAA representatives and alternate to the A300 committee. Jeff Racey (Duke Energy) and Dennis Beam (Altec) are the UAA representatives to the Z133 committee.

Through a new partnership with ISA, the UAA now has a leading role in developing and revising the industry's BMPs. John Goodfellow led a team to write the Utility Tree Risk Assessment BMP in 2019. Randy Miller is currently leading the effort to update the IVM BMP. It will soon align with the revised standard, which was itself aligned with the Right-of-Way Stewardship Council's accreditation standard. The UAA and ISA are now finalizing plans to start the process of updating the Utility Pruning of Trees BMP, which will begin soon.

We owe these industry leaders our appreciation. They take their time to make certain the UAA and our readers have a voice in the process that guides our operations. The UAA is fortunate to have such experienced professionals leading the way on our behalf.



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2020 - 2021
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An Update on the Reorganization of the UAA Committees

By Phil Charlton and Paul Hurysz

The UAA has been serving the utility vegetation management (UVM) industry for more than 40 years. At first, members had to be employed by an electric utility and involved with vegetation management (VM). In the '70s, there were few members fulfilling the requirements—nearly all were foresters almost exclusively focused on the distribution system. They met annually at the ISA International Conference to network and share their experiences, a few drinks, and a lot of golf.

Over time, the doors opened to all professionals engaged in UVM. With the development of the ISA certification program, the heart of the UAA grew from combining education and its networking.

Today, the industry looks a little different. Where the utility industry once hired only foresters, it now looks to a wide range of people with very diverse backgrounds and expertise. While the UAA was once primarily concerned with electric distribution line clearance, it now encompasses electric transmission, liquid and gas pipeline, and more. We no longer rely exclusively on the annual ISA conference but offer numerous in-person and on-line opportunities for networking and education. The UAA has added a few services over the years as well (Figure 1).



To meet the needs of our members, the UAA has developed a strategic plan, and at any given time, there are as many as 14 teams working to fulfill that plan. At the beginning of 2020, the board tasked a small working group to assess the UAA's future operations. Although the team identified few changes to the UAA's basic activities, three critical needs emerged and became overarching goals (Figure 2) to motivate the

UAA to make some changes.

To achieve these goals, the UAA has created three leadership teams, each comprised of three board directors and the chairs and co-chairs of the various committees (Figure 3).

The plan is to have all the committees working to refresh the strategic plan between now and the end of the year. Timelines and metrics

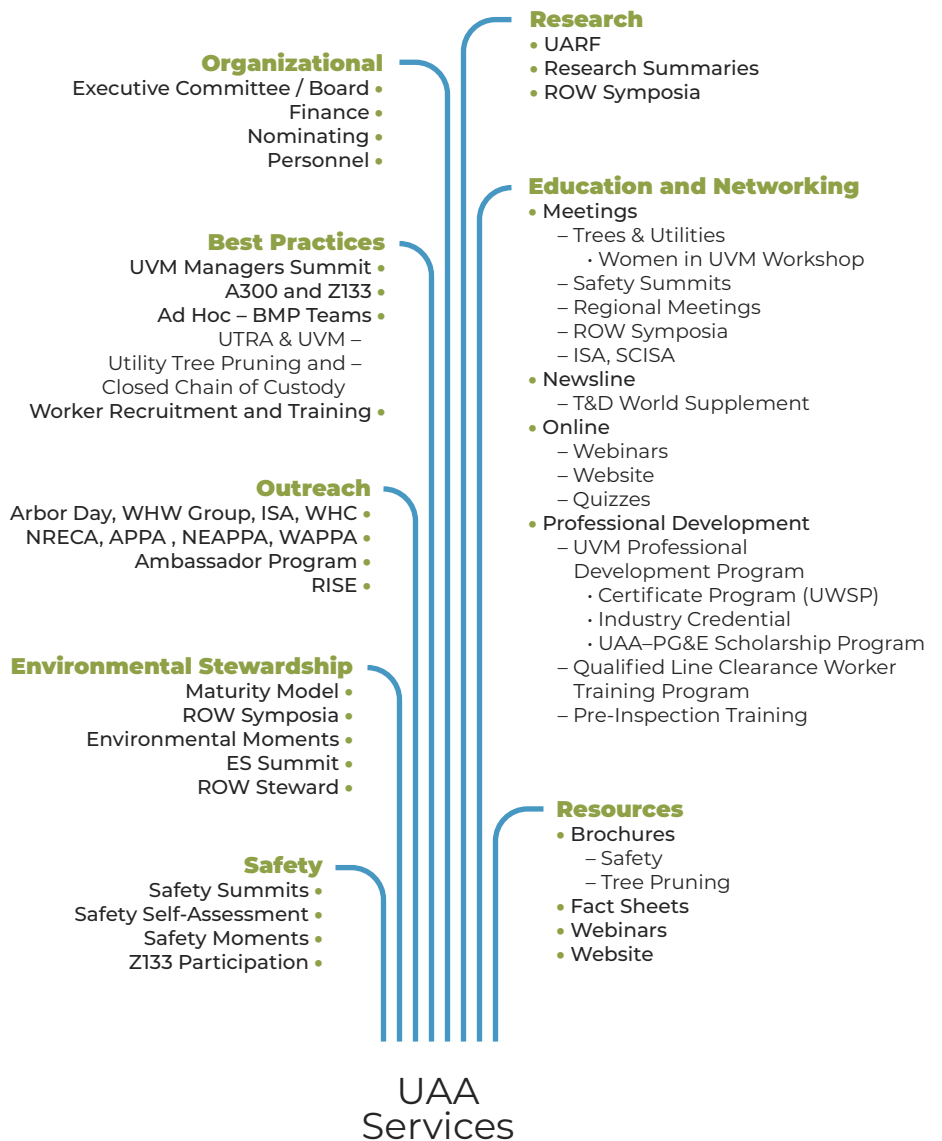


Figure 1. UAA has continually grown to meet the evolving needs of the UVM industry.

are being attached to everything the teams do and a strategy of “Plan, Do, Check, & Adjust” will keep the strategic plan fresh.

Changes are underway and more are in the works. It takes time to iron out all the details, but the committees and leadership teams are well on their way. An updated strategic plan was set for January 1st of this year, and we anticipate a strategic marketing plan to be completed at the end of the month. A vision-casting committee planning for the future will be formed in the first quarter.

Thank you to all the volunteers that are making these changes happen.

Figure 2. Three overarching objectives with 11 specific goals are driving change in UAA operations.

Operational Changes in Pursuit of Greater Efficiency and Effectiveness

1. Improve strategic plan (SP)

- Renew and refine the SP
- Improved collaboration, coordination and communication among committees (eliminate silos)
- Incorporate continuous improvement process providing a more robust plan (rather than 3- to 5-year revisions)
- Clear milestones, timelines, and metrics to assess progress
- Improved process for assessing new ideas before incorporating into the SP

2. Improve volunteer engagement

- Greater effectiveness & efficiency (more results; same or fewer meetings)
- More effective use of board members
- Volunteers to see clear results of their contribution
- Improved communication of progress towards goals
- Celebration of successes

3. Improve marketing of UAA

- More active approach to marketing and outreach

Figure 3. Three leadership teams will work to improve communication and collaboration among the committees.

Board

Education

- Professional
- Events
- Editorial
- Research
- T&U conference
- Marketing and Outreach

Best Practices

- Safety
- Environmental Stewardship
- Summit
- Worker Recruitment, Training, & Retention Task Force
- Outreach
- Z133 & A300 reps

Business Development

- UVM Certification Program
- Utility Arborist Training
- Finance
- Nominating
- Personnel

Figure 4. The UAA looks to improve collaboration and cooperation among committees, making better use of the passion and skills of its volunteers.

Leadership team

- Manages the content of the strategic plan
- Fosters collaboration and facilitates communication among committees
- Assigns goals/tasks to committees and establishes metric
- Monitors progress
- Implements continuous improvement process
- Communicates with other leadership teams
- Collaborative assessment of new ideas and initiatives
- Meets quarterly under leadership of board champions

Committees

- Advises leadership team on strategic plan
- Establish metrics, milestones, and timelines
- Managed by the chair and co-chair
- Assignments to subcommittees or individuals
- Meets only when necessary, and if possible, not the month that there are leadership calls

Subcommittees

- Small discrete tasks
- Operates independently, reporting to committee



City of Eugene, Oregon staff get ready to climb one of the city's tallest planted giant sequoias. Photo courtesy City of Eugene

Announcing the 2021 SMA Urban Tree of the Year: Giant Sequoia

Feature courtesy of the Society of Municipal Arborists

Each fall, members of the Society of Municipal Arborists (SMA) nominate and vote for the SMA Urban Tree of the Year. Tree species or cultivars of species native to the U.S. Midwest, South, and East have dominated the Urban Tree of the Year program in its 25-year history. For 2021, SMA members in the western states of the U.S. organized their efforts, and their collective might pushed the majestic giant sequoia (*Sequoiadendron giganteum*) over the finish line.

Although giant sequoia is native to a small swath of western slopes of the Sierra Nevada Mountains, its hardiness (given most generously as Zone 6a to 9b, with some sources constraining that range) makes it suitable

for use beyond its indigenous terrain, having been planted in many western spaces, urban and otherwise. Like most trees, it prefers a loamy soil, even moisture, mid-range pH, adequate soil volume, freedom from soil compaction, and full sun. However, it can grow in less than these ideal conditions, and the more well-established the tree, the better it will be able to ride out periods of drought. Full sun appears to be the least negotiable condition for giant sequoia.

Addressing the elephant in the room: how can a giant sequoia, in all its massive glory, be considered for urban spaces? Gordon Matassa is the Urban Forestry Grant Project Coordinator in the Tree Services Division of the Department of Public Works in Oakland, California. “If planted correctly in urban areas, this species can bridge the natural world to the

“It would be hard to find a species of urban tree in the Pacific Northwest with greater net benefits for humans.”

cities that many of us call home,” Matassa said. “Giant sequoia are well-suited for climate-appropriate urban areas when given enough room to grow, such as when planted in city parks. We have several giant sequoias in our parks in Oakland, California, where they stand out as sentinels in the urban landscape.”

Giant sequoias are numerous in Portland, Oregon, with many planted circa 1900. There are seven Portland Heritage Tree Program giant sequoias in the city—growing in parks, in the city right-of-way (ROW), or in residential front and side yards. The tallest of them is growing in Portland’s Mt. Tabor Park, measuring 200 ft (61 m) tall, with a 50 ft (15 m) canopy spread and a 25.3 ft (7.7 m) trunk circumference. The genetic potential of giant

Leadership Insights for a Challenging Time

In today's world, effectively managing people and leading teams has never been more valuable. The ongoing pandemic and regulatory environment have created new obstacles, apart from those already associated with the utility vegetation management (UVM) industry, that leaders must be prepared to navigate.

"With everything going on right now, people are facing new stressors that we haven't seen in decades," said Bryan Durr, director of operations for ACRT Pacific. "It's a challenging time for everyone, and as leaders, we need to be working hard to understand our people, keep them connected, and support teams as they go about their important work."

Throughout our organization, we've placed a greater emphasis on communication—both in the field and in the office. In every touchpoint, upholding the communication principles of honesty, transparency, and clear direction from leaders to strengthen our working relationships builds trust and keeps us moving forward.



To ensure our employees are empowered to reach higher and achieve more—while not seeing one another and navigating uncertainties—our leaders are investing time in coaching and mentoring practices.

"A key part of our approach is providing guidance for employees at all times," Durr said. "Whether it's turning mistakes into opportunities or providing coaching so they're set up for success in their projects, we believe that employees stand on the shoulders of their managers. It's our job to give them the foundation they need now and for future roles."

The entire world—not just our industry—is facing a variety of new challenges. As many occur in our personal lives, leaders don't always see these. We must be cognizant of what our people may be going through. We encourage all leaders in our industry, even the most experienced, to invest time in learning about your employees, what their goals are, and how you can support them.

sequoia's height, given ideal conditions, can exceed 250 ft (76 m).

According to the Portland Parks and Recreation website, nearly 500 sequoias and redwoods have been inventoried in the city, and 93 percent were rated as being in good or fair condition. The website stated, "These trees thrive in our urban forest, and as large-form evergreens, they provide us with enormous public health and environmental benefits. A mature giant sequoia in Portland can store over six tons of carbon and scrub pounds of pollutants from the air annually."

The city of Eugene, Oregon, is celebrating the early fulfillment of their giant sequoia planting goal for 2021. According to SMA President and Eugene Urban Forestry Management Analyst Scott Altenhoff, giant sequoias grow extremely quickly but, unlike so many other fast-growing tree species that tend to be high-maintenance, giant sequoias tend to be

very low-maintenance, if planted in the right locations.

"They are extremely resistant to drought, high winds, snow/ice, and pests/pathogens," Altenhoff said. "In most cases, they just don't require structural or maintenance pruning. When it comes to providing ecosystem services, giant sequoias are veritable workhorses. They are true champions when it comes to cleaning the air, providing shade, intercepting rainfall, sequestering carbon, attenuating noise, and instilling people with a sense of beauty and grandeur. It would be hard to find a species of urban tree in the Pacific Northwest with greater net benefits for humans."

Through the "2021 by 2021" initiative, the city of Eugene planted giant sequoias in shared public areas, such as parks and street medians, school property, local businesses, and homes. Eugene originally conceived the effort to commemorate the city's hosting of the 2021 World Athletics



Giant sequoia in Colorado. Photo courtesy of Tara Costanzo, Wyoming State Forestry Division Community Forestry Coordinator

Championships, which have now been rescheduled for 2022.



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SPOTLIGHT on the Environment

2021 Goals

By Philip Chen, UAA Environmental Stewardship Committee Co-chair

Back when the UAA Environmental Stewardship Committee (ESC) was founded, we began by pulling together a focus group to help us identify ways in which the UAA could help support the membership in living out the core value of environmental stewardship. In those meetings, we identified practices, tools, and techniques to aid that support. At the same time, these conversations yielded a list of key knowledge gaps in the industry as they pertained to environmental stewardship and managing thriving compatible ecosystems on our rights-of-way (ROW).

Armed with the knowledge and insights gained from these conversations, the ESC hit the ground running. Our first goal was to bring an awareness of environmental stewardship to the industry. As a result, we built out an environmental stewardship section of the UAA website, played a key role in the development of both *The Stewards* and *Lifelines*—the two videos in our UAA video series, so far—and started this Spotlight on the Environment section in *UAA Newline* to mirror the Spotlight on Safety.

In this space, over the past two years, we have largely focused on presenting success stories, bringing attention to environmental stewardship, and displaying examples of it in practice. We wanted to take environmental stewardship

from the abstract to the concrete, and hopefully provide avenues for you to see a path to practice in your own program. When reviewing the results of CNUC’s latest industry survey, I realized our committee still has work to do. I touch on this realization in the Op-ed I wrote for this issue titled “Have UVM Programs Missed the Point of IVM?” Therefore, this year, we want to explore the use of this space to address some of the knowledge gaps that exist



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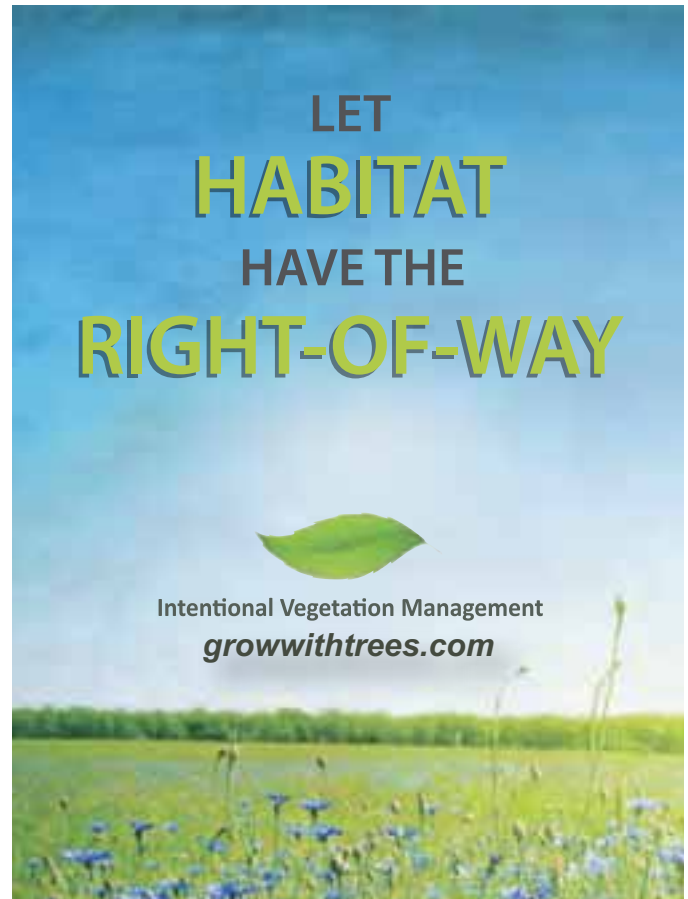
around managing for thriving, compatible ecosystems on our ROW.

In today's post-blackout ROW management, there is a necessary focus on regulations. We feel, as a committee, that a way to enhance ROW management is to provide instruction on how to manage ROW in agreement with regulations that also cultivate ROW for multiple uses, like ecosystem services, recreation, and revenue-generating activities. This need for additional committee support seems more important than ever as we face major institutional memory loss as an industry. Many UVM managers with experience in managing ROW for benefits beyond compliance are retired or near to it; and much of that knowledge is departing with them.

There is a general lack of understanding and quantification of secondary benefits provided by ROW ecosystems. Factors like soil benefits, water benefits, benefits to taxa, crop production, and the potential for game management are not well understood or measured. Utilities and UVM managers would benefit from a better understanding of the possible adverse impacts that their management decisions can have on adjacent ecology. The increase of foresters in the industry has proliferated the knowledge of forestry and arboriculture to its benefit. However, there are still opportunities to better understand herbaceous and woody shrub communities on ROW.

Now that these focus areas have been illuminated, we can nurture them to build a UVM workforce better equipped to deal with the modern challenges of our work. If we all approach environmental stewardship on ROW and the management of thriving compatible plant communities with a growth mindset, we can continue to learn and become better UVM professionals.

If you have identified key knowledge gaps not described here, or have ideas for articles to address them, please reach out to me directly at pchen@cnutility.com. I look forward to hearing your ideas and learning along with you this year.



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Research Corner

RESEARCH STUDIES: TECHNICAL REVIEW



Written by Amy N. Murray, Project Developer, Davey Resource Group

Technical review by Morgan Browning, Corporate Safety Support Specialist, Davey Tree Expert Company

Arboricultural Operation Safety Standards: A Global Perspective, Part II

By John Ball, Timothy Walsh, Shane J. Vosberg, and Donald F. Blair

This is a technical summary based on an article that was published in the ISA, bi-monthly magazine, *Arborist News* (Volume 29, Issue No. 5) in October 2020. The first part of this perspective was published in the August 2020 issue of *Arborist News*, which covered the common arboricultural operation incidents and the development of safety standards. The second part covers the most common event categories and the standards designed to reduce or eliminate these common hazards.

● Keywords

Arborist Safety Standards; ANSI Z (American National Standards Institute); ANSI Z133; Arborist Safety; Hazards; Incidents; Training

● Challenge

Regulations and standards for arborist safety vary around the globe. Within the U.S., differences extend to state Occupational Safety and Health Administration (OSHA) programs not harmonizing with OSHA or ANSI Z standards. Risks during arboricultural operations would be minimized with uniform arborist training, better awareness of standards, and compliance with regulations and standards.

● Main Objectives

- Increase awareness of the similarities and differences among safety standards
- Review the most common arboricultural operation incidents for which safety standards have been written
- Show the need for more uniform safety standards for arboricultural operations across the globe

● Process

International standards were reviewed, compared, and contrasted for three primary arboricultural hazards (Bureau of Labor Statistics event categories):

- Contact with objects or equipment
- Fall events
- Exposure to harmful substances or environments

● Conclusion

Standards for the most common hazard sources for fatal and nonfatal incidents are not globally uniform. Harmonizing these standards would benefit safety in arboriculture by raising awareness among practitioners, identifying and publishing the most effective diverse standards, reducing risks during arboricultural operations, and facilitating continual improvements.

● Utilities Moving Forward

- Document current regulations and standards for arboricultural operations in utility policies and procedures (P&Ps)
- Establish training expectations for suppliers, citing appropriate standards
- Refer to regulations and standards in operational lexicon to improve awareness of the existence, practicality, and efficacy of standards in minimizing exposure to hazards

SAFETY

Culture

Release the ideas of:

*Doing things because you 'have to';
hesitating to act; restraint.
Doubting yourself.*

Embrace the concepts of:

*Learning from one another. Protecting
each other and the environment. Taking
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Working for the greater good.*

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A Joint CNUC University of Wisconsin-Stevens Point UVM Survey

By Richard Hauer, Professor of Urban and Community Forestry at University of Wisconsin-Stevens Point; and Randall H. Miller, Director of Research and Development, CNUC

Last summer, CNUC finished its most recent survey—in a long line of utility vegetation management (UVM) surveys—in cooperation with Dr. Richard Hauer of the University of Wisconsin-Stevens Point. The survey was developed in November of 2019 and followed the outline of *Utility Vegetation Management: The Utility Specialist Certification Study Guide* (Miller and Kempter 2018). The questions were designed to quantify the companies’ characteristics and their approach to UVM safety, program management, pruning, integrated vegetation management (IVM), electrical operations, storm response, and communications. The results document 2019 as a base year, with the idea of describing what utilities were undertaking and accomplishing in UVM at that time.

Rather than originating online, the questionnaire was mailed to 210 utilities, using a combined list from CNUC and the Arbor Day Foundation Tree Line USA database, with a return deadline of early March 2020. Sixteen questionnaires had either invalid addresses or were returned blank, making the distribution list total 194 potential participants. There was a 36.6% return rate, with 71 utilities that responded, including 65 from the U.S. and six from Canada. The utilities that responded included more than 52 million customers, along with 107,000 miles of transmission, nearly 80,000 miles of sub transmission, and 1.1 million miles of distribution lines.

The responses were statistically analyzed by the arithmetic mean—the sum of values divided by the total responses. The

range is the value from the lowest-to-highest reported values for a question. The standard error (SE) of the mean was used to denote an estimate of how far the sample mean is likely to be from the population mean. For example, if the current length of the tree-pruning cycle has a mean of 4.5 years with a standard error of 0.18 years, any cycle length longer than 4.68 years or shorter than 4.32 years would be statistically outside of the average length. In many cases, the survey used a five-point Likert scale—one for “strongly disagree,” three for “neither agree nor disagree,” and five for “strongly agree.”

Selected Results

The results of the survey will be published in a comprehensive report later this year. However, here are a few that UAA members might find particularly interesting:

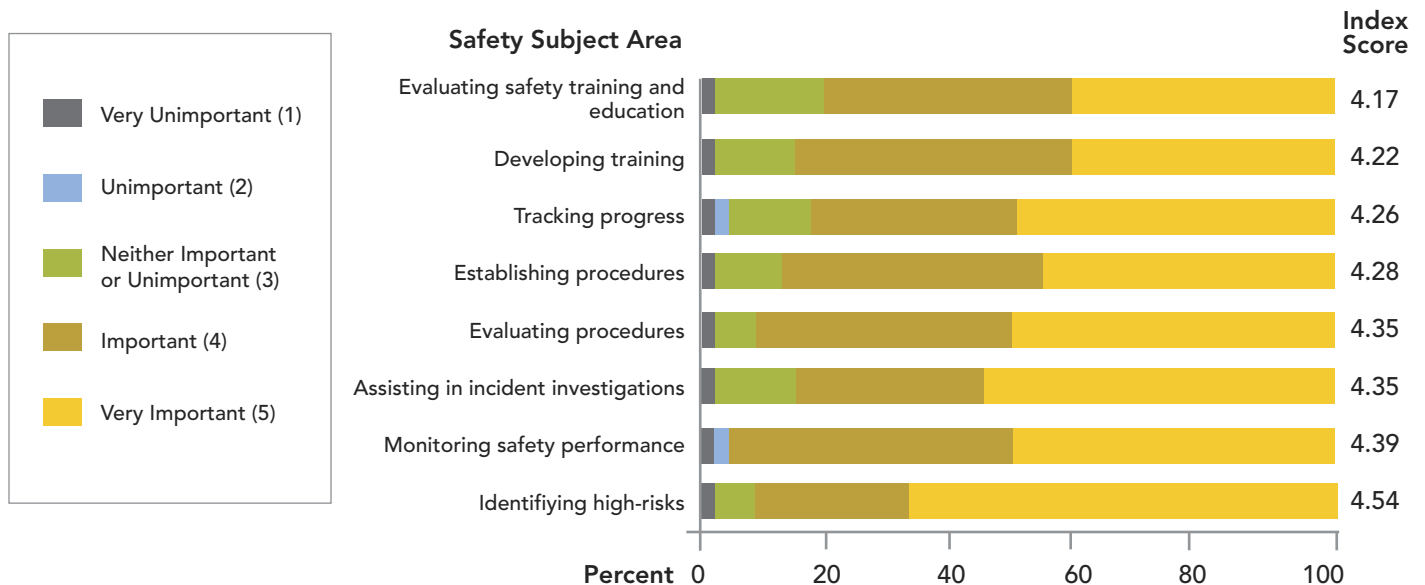
Utility Characteristics

Of the utilities that responded, 38% were investor-owned, 31% were municipal or public utility districts, and 20% were cooperatives—the remainder answered other. Nearly all (97%) were operated distribution systems, and only 28% were distribution only. Of the utility companies, 41% were distribution, transmission, and generation companies. The average customer base was 756,000, with a range of 350 to 7.8 million. The average distribution system covered 16,523 miles with a standard error of 3,514 miles.

Safety

Safety was an important to very-important aspect for many subject areas (Figure 1). Nearly all of the utilities that responded (97%) sought to learn from safety incidents and (Continued on page 17)

Figure 1. The importance of safety subject areas to the safety committee. (n=46)



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Asplundh Tree Expert, LLC Promotes Kieran Hunt to Municipal Manager

Asplundh Technical Services is pleased to welcome Kieran Hunt as Manager of Municipal Services. He is responsible for working with Asplundh's field operations to improve and expand municipal and roadside vegetation management (VM) programs. Asplundh Municipal Services brings industry best practices and VM expertise to government organizations that contract for these services.

Hunt joined Asplundh in 2018 as a work planner in New Jersey. He spent his first two years with the company in the field, planning pruning and removal operations for distribution line clearance crews, liaising with municipalities, stakeholders, and the public, and helping coordinate storm response and special projects with the local investor-owned utility company. Prior to Asplundh, he worked for a private consulting firm as an arborist and GIS coordinator engaged in tree inventory projects, the preparation of municipal tree management plans and canopy assessments, tree risk assessments, and tree protection and mitigation planning for construction projects in the New Jersey and New York City metropolitan areas.

Hunt comes to his new role with the ISA Certified Arborist Utility Specialist and New Jersey Licensed Tree Expert credentials. He received his Bachelor of Science in ecology, evolution, and natural resources with a certificate in environmental geomatics from Rutgers University in 2015. He is currently an Executive Board member and webinar panelist for the New Jersey Forestry Association.

UNUC-UW Survey (Continued)

close calls by communicating them throughout the organization. Only 30% of the utilities used a third-party safety administrator (like ISNetwork), although 60% of utilities with more than 10,000 miles of distribution line and 71% of investor-owned utilities (IOUs) did. Utilities were largely ambivalent about UAA safety summits, rating them as 3.1 (neutral) on a five-point Likert scale—IOUs rated them at 3.2. Fewer than half (44.4%) of the utilities subjected employees who committed unintentional safety errors to discipline, although 95.2% reported that they subjected intentional safety-rule violations to progressive discipline.

Program Management

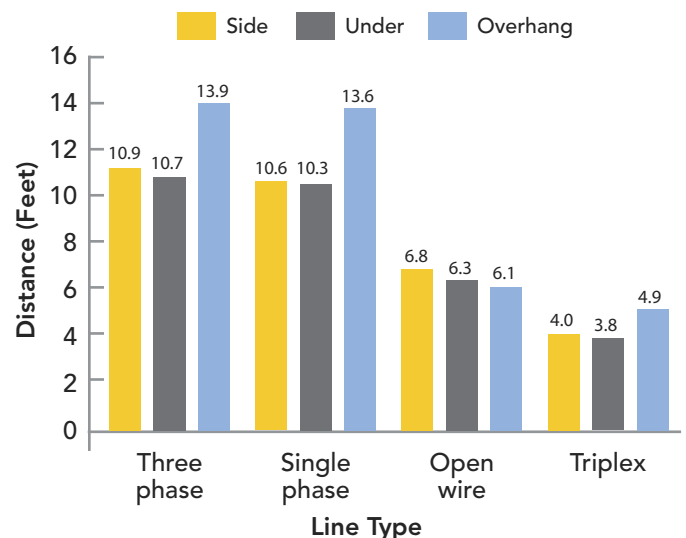
All of the utilities that responded had centralized programs. Nearly 80% were centralized as a single department, 17.4% were centralized by program (e.g., distribution or transmission), and the remainder were centralized by other structures. Nearly all (92.9%) had a department head. Almost 90% of utilities pre-planned or inspected work ahead of tree crews. Of the utilities that responded, 52% used contract workers, 39.1% used company employees, and 5.3% used tree crews. All of the utilities conducted some type of quality assurance or quality control by spending an average of \$27 million a year (plus or minus \$7 million) on UVM in 2018. More than half (52.9%) indicated their UVM budget was inadequate.

Pruning

The returned surveys indicated that an average of 21.3% of trees were in contact with distribution lines at the time of work. The average side and under distribution clearance after work was 10.9 and 10.6 feet for three and single-phase lines, respectively, with overhang being an additional three feet (Figure 2). The most important reasons

(Continued on page 21)

Figure 2. Pruning clearances by electric distribution line type. (n=17 to 46)



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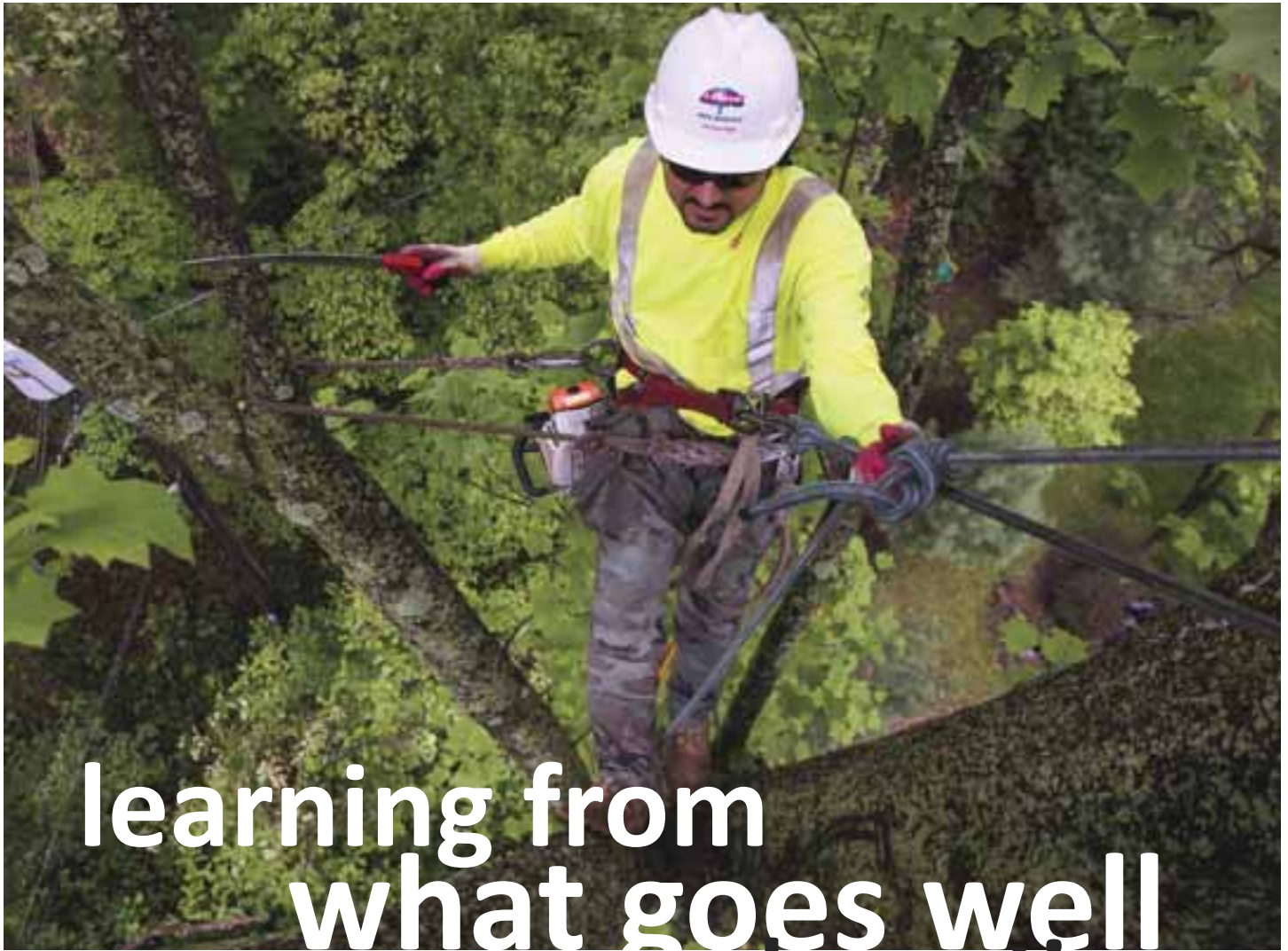


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UNUC-UW Survey (Continued)

utilities expressed for clearing trees from distribution lines were reliability (4.47) and risk reduction (4.45)—based on the five-point Likert scale. Further, they considered ANSI A300, Part 1 (4.5) and the ISA *Utility Pruning BMP* (Kempton 2004) (4.44) as the most important authorities for developing specifications.

Integrated Vegetation Management

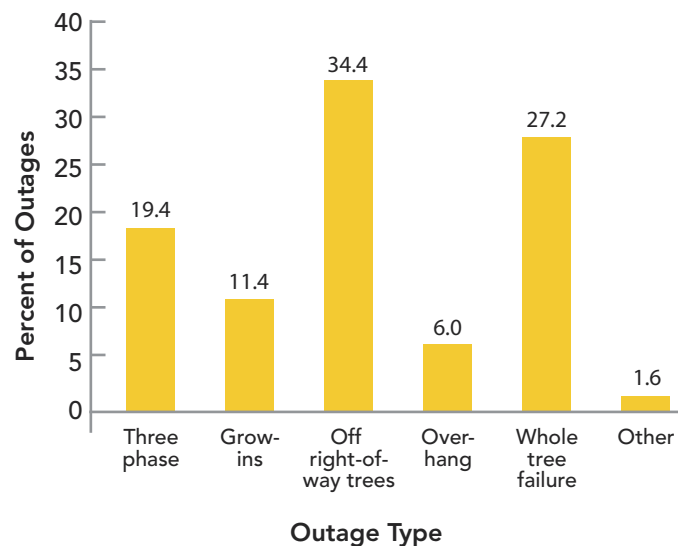
Safety and service reliability (both at 3.34) were the most important reasons given for IVM programs. Environmental stewardship was the least important (2.33). According to the utilities, the most important method for conducting workload evaluations were ground surveys (4.69). LiDAR (2.62) and unmanned aerial systems (2.62) were considered least important. ANSI A300 Part 7 was ranked as the most important reference to incorporate into IVM programs (4.12), followed by the ISA *Best Management Practice for IVM* (3.99) (Miller 2014). Nearly 80% of utilities said that the ISA *Tree Risk Assessment Best Management Practice* (Smiley, Matheny, and Lilly 2011) was unimportant to their UVM programs. This was before the UAA and ISA produced a tree risk assessment specifically for utilities (Goodfellow 2020).

Electrical Operations

For single and three-phase distribution lines, 64% of utilities had the same UVM strategy. There was an average of 23.2% of distribution outages that were caused by vegetation. More than 60% of vegetation-caused outages on distribution lines were from off right-of-way (ROW) trees (34.4%) and whole tree failure (27.2%) (Figure 3). Utilities valued greater action thresholds on three-phase lines (4.13) and greater clearance (4.08) as the most important methods to decrease vegetation-related outages.

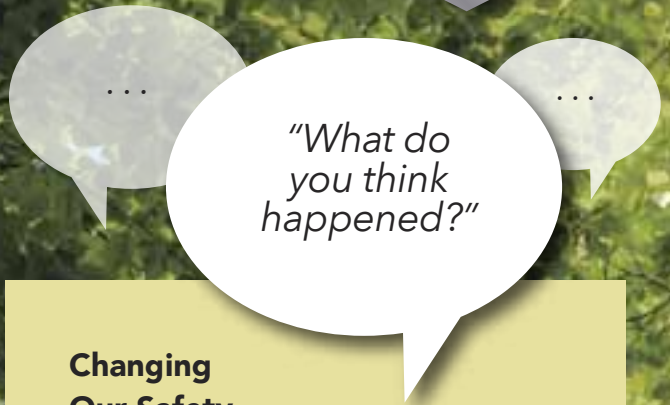
(Continued on page 23)

Figure 3. The percentage of vegetation-related outages caused by outage type. (n=53)



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What stories do the cuts on your chaps tell? Next time you ask field leadership to inspect chaps, ask them to tell the story of what happened, or place damaged chaps in front of crews and ask what they think happened. After they take turns guessing, tell the *actual* story. What are their stories? What makes kickback more likely? What actions do they take to avoid kickback?

When we mine these stories and probe the extremes, we engage our senses and get to the emotions which embed memories. And as we pass along these stories conversationally, we learn from others and build collective memory—increasing the odds that someone will remember and prevent a similar incident in the future. We’re also changing our conversations to model learning. Next time you need to take a vehicle out of service, ask yourself what pressures you will face by not having this truck available? This paves the way to learn about pressures that push us toward riskier positions (i.e., drift), address concerns, and develop solutions.

When a harrowing close call is shared, thank the team for their transparency. Encourage your team by reiterating, “I loved hearing about this close call. Let’s make a big deal out of this. This was a gift—a lesson we can all learn from.” The way we treat others shapes our safety culture.

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UNUC-UW Survey (Continued)

Storm Response

Emergency response center was ranked as having the most important storm-response strategy (4.31), followed by pre-storm communication checks (4.17), and an incident command system (4.16). Utilities ranked safety (4.96), electric hazard communication protocol (4.57), supervision (4.56), and fatigue (4.55) all as very important considerations in storm response.

Communication

Most utilities use multiple approaches to communicate with customers; 57% used in-house employees, 55.7% used contractors, and 50% used tree crew members. Mail (14.3%), phone messages (14.3%), and door hangers (8.6%) were less important. Apart from face-to-face communications, brochures (3.57) and social media (3.45) were the most important communication strategies.

■ Summary

The 2020 Utilities and Vegetation Management in North America survey—a collaboration between CNUC and the University of Wisconsin-Stevens Point—describes the current state of utility forestry tree activities and operations. This study drew from a list of 196 utilities that was combined from a historical CNUC list and Tree Line USA recipi-

ents from the Arbor Day Foundation. Of the responses, 71 (36.6%) returned surveys. The survey covered more than 52-million customers, along with 107,000 miles of transmission, nearly 80,000 miles of sub transmission, and 1.1 million miles of distribution lines.

Important findings included that 97% of utilities learn from safety incidents, but they were not enthusiastic about the UAA Safety Summits. Nearly 80% of utilities had centralized UVM programs. More than 21% of trees were in contact with distribution lines at the time of work. Safety and service reliability were the prominent reasons utilities used UVM programs, while 23.2% of outages were attributable to vegetation. Emergency response centers were a prominent storm-response strategy, with safety being the most important consideration. Aside from face-to-face interactions, the most important communication strategies for UVM programs use in-house arborists to educate customers using brochures and social media.

The study is a contribution to a body of CNUC surveys that date back to nearly 20 years. It sets the stage for future UVM industry collaborations between CNUC and the University of Wisconsin-Stevens Point.

■ References

Goodfellow, John. *Utility Tree Risk Assessment: Best Management Companion publication to ANSI A300 Part 9: Tree, Shrub, and Other Woody Plant Management - Standards Practices (Tree Risk Assessment a. Tree Failure)*. (Atlanta, GA: International Society of Arboriculture, 2020), 95.

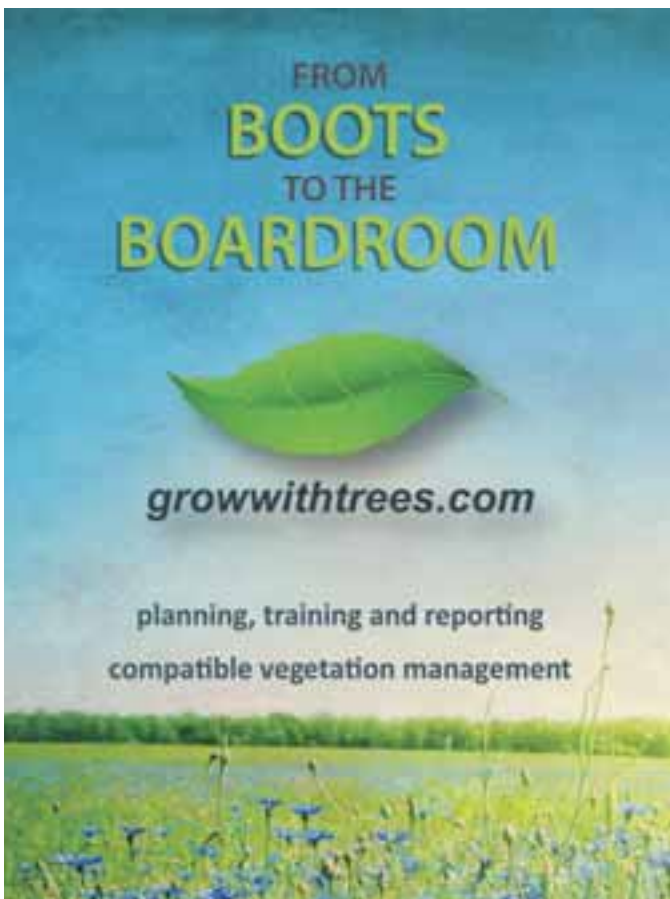
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A Team's Approach to Benchmarking

By Lori Jones, Manager Maintenance Services, SRP, and Pat Paternostro, Operations Manager, ACRT

At Salt River Project (SRP), part of the 2035 Sustainability Goals, is working toward a sustainable future for the benefit of customers and the communities served. To do this, decisions are made through the eyes of future generations—balancing costs and impacts while providing reliable, affordable water and power, for today and tomorrow. It's not done alone; SRP relies on contractors to help us make our goals successful.



Tim Elder (left) and EJ Cochrum (right) with SRP, working 6 feet apart. (Photo courtesy of Tim Elder)



Cercidium floridum (Photo courtesy of ACRT Insider)

When a utility company employs contractors to assist with vegetation management (VM), creating a team atmosphere among the partners is a crucial component to a successful utility vegetation management (UVM) program. All partners need to feel trusted and validated. If the team feels comfortable in their roles and responsibilities, second guessing one other's performance and intentions can be avoided. Field benchmarking offers a consistent means of creating that atmosphere.

ACRT's family of companies has utilized field benchmarking for many years—a staple for building relationships with utilities and tree crew partners. Benchmarking can be conducted in a variety of methods and approaches, but the intent is always the same: to create a standard by which to evaluate and compare the work completed. Benchmarking works best when all partners come together in a field environment. These field meetings offer a perfect backdrop to discuss and reinforce industry standards, to assure state and federal guidelines are outlined, and to assure utility specifications and expectations are clearly defined and understood. Each partner may have different tasks to complete for the utility partner, but the end product needs to comply with specifications outlined in the utility's scope of work. Assuring all levels of field staff understand their specific job roles is crucial to a successful program. Benchmarking is a proven means of obtaining understanding and compliance.

Throughout ACRT's ongoing partnership with SRP, benchmarking has become a critical element of the relationship. Both companies quickly realized that forging a solid partnership—including the tree care company, Asplundh—would be crucial to the program team's long-term success. Through a variety of methods, including quarterly all-hands meetings to discuss production and metrics, SRP has fostered the outstanding relationship that ACRT and Asplundh still share. Of all these approaches, benchmarking seemed to be the best method of communication and partnership, particularly for the field level staff.



Under the bark of a Mediterranean Pine shows damage from the Mediterranean Pine engraver beetle. The beetles are attracted to stressed trees. (Photo by Steve McKelvey, AZDFFM)

During field exercises, each member of the UVM team is provided with permitting examples and each completes their assignments without conferring with others. When complete, the entire team discusses the proposed solutions and collaborates to come to a consensus, using the utility specifications and standards as the guide.

The field exercises themselves not only serve as methods to enhance the program and solidify the understanding of all participants, but also bring individual team members together to develop their field skills, create and build upon their relationships, and promote respect for each other's crucial roles and responsibilities.

This group doesn't just come together for benchmarking either. Last year, SRP hosted an Urban Forestry Workshop in Phoenix, Arizona, where about two dozen attended from SRP, ACRT, and Asplundh. Presenters included leaders from all companies, as well as from the Department of Forestry and Fire Management (AZDFFM), the City of Phoenix Parks and Recreation Department, and the University of Arizona.

This workshop consisted of a panel discussion lead by ACRT's Pat Paternostro and Bob Urban on customer satisfaction and how notification and refusals can be improved. The AZDFFM discussed emerging issues affecting Mediterranean Pines, types of insects and diseases, and signs and symptoms of infestation. The City of Phoenix and Recreation Department offered insight into the best management practices (BMP) for growing urban forests. The University of Arizona lead an in-depth discussion on utility-friendly vegetation and tree response to utility pruning.

The event was rounded out with a walk on SRP's sub-transmission and distribution lines, verifying species and comparing pruning and removal findings.

With benchmarking, communication is key, and having the right partners on your team is crucial to its success. Creating an environment where everyone feels free to share ideas and have constructive discussions will help continuously improve your end result. At the end of the day, we are all working to provide safe and reliable service to our communities.

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Asplundh GF Eric Juedes explaining safety precautions and proper clearances, while Dominic Garcia (in bucket) prunes a mesquite (Prosopis spp.) underneath sub-transmission and distribution lines. (Photo submitted by Pat Paternostro)



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Integrated Vegetation Management Today: We Need More

By Rich Hendler, IVM Specialist, ACRT Services

We've Come So Far, But We Can Go Further

Integrated vegetation management (IVM) is one of our industry's largest trends. It is also one of the most commonly used terms in utility vegetation management (UVM) today. Most members of our industry say they practice it, but it is a relatively recent phenomenon that originated within agricultural integrated pest management (IPM) efforts.

In retrospect, IPM was a much-needed trend that helped all pest management approaches be safer, more focused, more effective, and more appreciative of beneficial pests—versus bad actor “pest” organisms—that the effort had been tackling. Regarding insect control, both indoor and outdoor applications prioritized pest management versus pest eradication. It was overdue in the evolution and creation of diverse tools and their correct use in agricultural, horticultural, landscape, turf, indoor pest control, forestry, and vegetation management (VM) arenas.

Today, countless utilities and their partners across the country are focusing on IVM. Many have already implemented IVM programs which are being executed throughout their service territories. Properly implemented, these programs are achieving great things: property owners are welcoming crews and understanding their importance and benefits, VM leaders can more effectively manage invasive species, and VM programs are becoming stronger and more manageable. Despite these results, it's critical that we—as an industry—continue to take our knowledge of and approach to IVM to the next level.



Thickets should require a selective herbicide mix and/or a more precise application.



We can be more selective with our herbicide mixes and our application methods.

Go From Practicing to Perfecting IVM

It is important to understand that integrating and including a number of mechanical, chemical, biological, and cultural vegetation control options is only *practicing* IVM. *Perfecting* IVM is an ongoing, dynamic process of refining and elevating objectives to pursue excellence in all IVM facets. The industry must shift toward adopting this process.

We cannot be satisfied with minimal mechanical clearing approaches, a single terrestrial, a single aquatic low-volume foliar mix, or a one-size-fits-all approach. Prescription control must address and deliver more selective, site-specific brush control and ecological benefits.

To meet our goals, our internal and external communications and messaging need improvement. All utility employees should understand and support proper urban and rural rights-of-way (ROW) land management pursuits. Our planning and implementation processes must transcend the spend or committed mile quota success orientation to deliver sustainable, diverse, and desirable plant communities. We can develop ecological solutions that promote beneficial vegetation, rather than focusing exclusively on brush control.

Selective techniques, mixes, and beneficial results would upgrade IVM application if we had a renewed focus on delivering appropriate training. In regional climates, collateral damage should be reviewed to quantify the benefits of selectivity. Tree pruning and removal, as well as stump treatment practices, remain essential and can always be improved. We need to seek excellence and not fall victim to complacency. Our entire industry should be *all-in!*

With the front end of IVM stealing our focus, the bidding and percent control has taken away from the monitor treatments and quality assurance aspects. Wise spending is important, but we can improve brush control and choose to create a lower impact on plant desirables through scope of work, training, plant identification, and auditing. We should reward better treatments and emphasize crew expertise and more plant identification (desirables compared to undesirables), which would help

EXTEND YOUR VEGETATION MANAGEMENT SEASON

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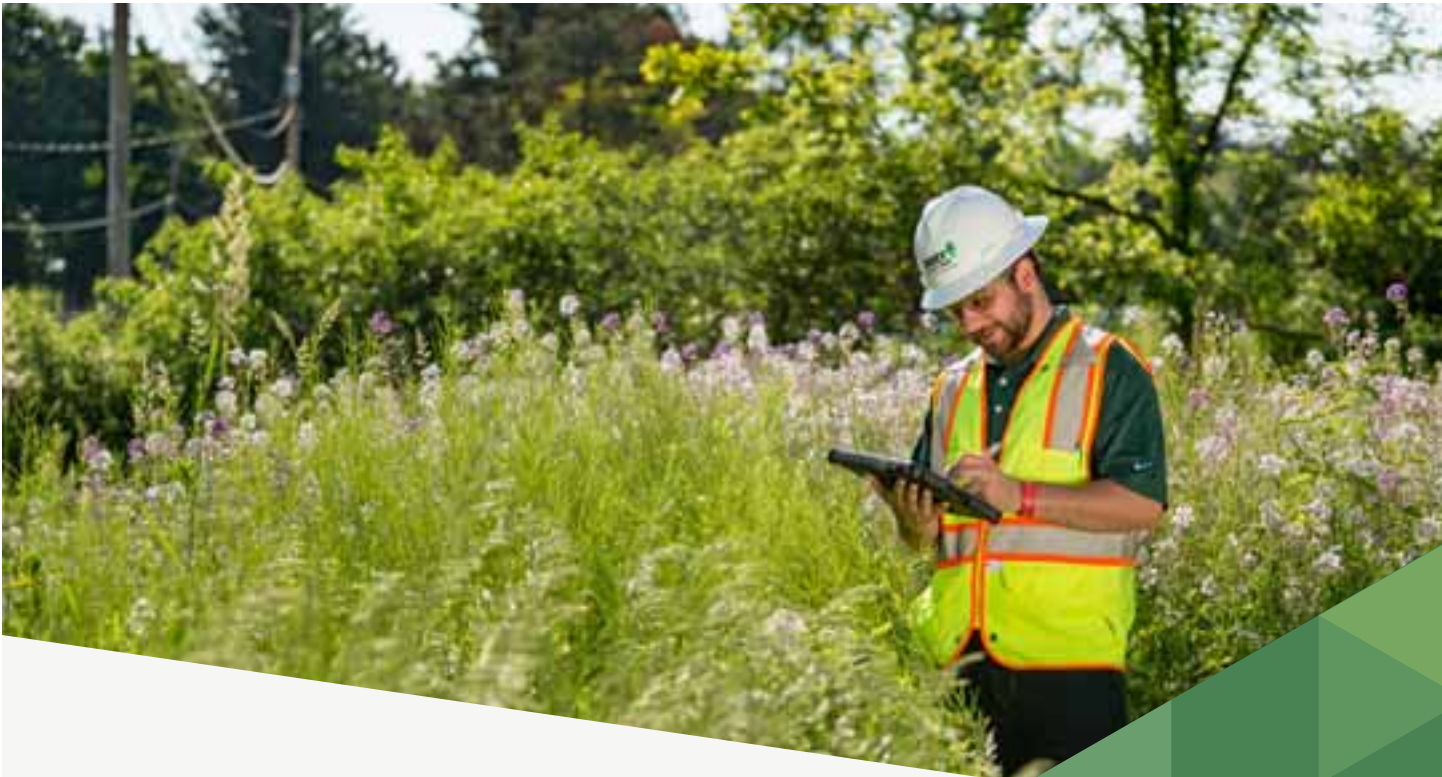


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This is a good example of controlling the undesirable species while maintaining the desirable species.

develop precise, selective measures based directly on species and density—including difficulties in treating thickets. We can streamline the various control recommendations for more specific, usable, and prescribed practices—not just one blanket mix.

Prioritize and Learn Best Practices

So, how should we proceed? If you don't own a copy of *Best Management Practices: Integrated Vegetation Management* by Randall Miller, get it. Read it. Share it. Quote it. The back end of the process requires a dynamic review and tweaking for continuous improvement, which can boost IVM towards a brighter future.

Our jobs are difficult and the government recognizes us as essential workers. Oftentimes, weariness may sneak in, but maintaining our fervor for improvement and achieving goals can reinvigorate all of us. Share BMP copies within your VM group, know the IVM flow chart by heart and use it, and push to continuously raise both the IVM bar and IVM industry IQ. Look to those in your industry who possess motivation and enthusiasm and try to follow their example.



This reference is the backbone of the IVM process. Everyone should have a copy.

Additional resource materials that I strongly recommend are the *Best Management Practices (BMP) - Utility Pruning of Trees* by Geoff Kempter and the *UAA BMP Closed Chain of Custody for Herbicide* by John Goodfellow and Harvey Holt. You can utilize the objectives in these materials for your program to be greener. Environmental stewardship is based solidly on IVM principles. We are essential workers, and better IVM decisions are the driving force for improving our VM processes. Don't think you've got it whipped. We can all do better. Thank you and be safe in all you do!

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The Grand Canal which runs through Phoenix and Scottsdale, Arizona

Maintaining Canals with Automated Detection of Water Leakages and Vegetation along Embankment Slopes

By Jiawei Chen¹, Bala Paladugu¹, Tiyasa Ray¹, Pingbo Tang², David Grau¹, Todd E. Rakstad³, Lori Jones³, Michael S. Patrick³

- ¹ School of Sustainable Engineering and the Built Environment, Arizona State University
- ² Civil and Environmental Engineering, Carnegie Mellon University
- ³ Salt River Project

What is the problem?

The overall goal of this research effort is to improve the management of water canals by leveraging rapid data collection with remote sensory technologies and automated information extraction with advanced computing methods. Specifically, we focused on the identification and analysis of “anomalous patterns” on canals (e.g., water leaks, vegetation growth along embankment slopes). Still today, the operation and maintenance of water canals mostly depends on manual field inspections, which are tedious, costly, and error prone. As a result, data collection is often delayed—or simply bypassed—resulting in ineffective or unknown canal condition assessments and inefficient management response. The advanced sensing and computing approach in this study aims to utilize the canal condition status assessment to make timely and informed management decisions.

What are we doing about it?

In response to current manual-based field operation and maintenance

practices, this research effort has explored advanced remote-sensing technologies and computing methods for canal management—particularly for the automated identification of water leaks and vegetation growth. This short article focuses on two main objectives of the study: (1.) leakage detection and (2.) identifying vegetation presence along embankment slopes. Even though the two objectives are complementary, we used distinct data collection methods to accommodate their individual goals.

How was field data collected?

The project team’s investigative approach used combinations of the following:

- Images collected with satellites
- Terrestrial images and 3D point cloud datasets collected with truck-mounted (terrestrial) laser scanners
- Deep learning methods to automatically extract information from the vast sets of collected data

The hypothesis of this effort was that the combination of sensing and computing approaches could augment the decision-maker’s ability to efficiently and effectively monitor water bodies by enabling a rapid and reliable condition monitoring along miles of canals—thus, avoiding the tedious and error-prone field inspection processes.

The rest of this section focuses on describing the terrestrial range-



Figure 1. SRP Canals in the Phoenix Metropolitan area

sensing technology—as opposed to satellite imagery—employed in this study. Indeed, truck-mounted Laser Imaging Detection and Ranging (LiDAR) and photogrammetric sensing units were employed to collect high-density point cloud data of the geometry of Salt River Project’s (SRP) water corridors and surrounding vegetation. The LiDAR device emits laser pulses that bounce back against the surrounding surfaces, which are captured by the photon receiver of the laser sensor. The resulting cloud of points (or point cloud) replicates the geometry of the power infrastructure and vegetation surfaces, by means of individual points containing X, Y, Z coordinates with professional surveying accuracy. Reference points marked on the ground at every embankment mile helped achieve centimeter geolocation accuracy. The LiDAR unit also captured the RGB color imagery associated with each point in the cloud. Overall, this study used both satellite imagery and 3D laser-scanner point clouds covering the 131 miles of SRP canals (Figure 1) in the Phoenix metropolitan area.

How can water leaks be identified?

Our method relies on the evaluation of canal status in complex urban scenarios based on environmental features (e.g., land surface temperature, vegetation cover, and soil moisture content) all indicative of water leakage. For example, the appearance of vegetation in a dry area where vegetation is uncommon indicates that seepage may exist. In our approach, a deep learning algorithm was developed to classify sections of satellite images as leaking and non-leaking, based on historical canal maintenance records. These records contain canal sections labeled by inspectors as having cracks during dry ups.

After training the deep learning classification algorithm—using the images of cracked canal sections—the researchers tested its ability to forecast the leakages in scenarios of different geospatial contextual complexity (i.e., rural to urban). Since every pixel in the satellite image corresponds to 30 m on the ground, each satellite image was split into small georeferenced windows that resulted in fined-grained visual data, which could be analyzed when imported into geographic information system (GIS) tools (Figure 2). Finally, the efficiency of the proposed algorithm was contrasted with actual data by means of:

- True positives (leakage is indicated and actually exists)
- True negatives (no leakage is indicated and does not exist)
- False positives (leakage is indicated but does not exist)



Figure 2. Mapping the leakage locations (in magenta) with ArcGIS

- False negatives (no leakage is indicated but leakage actually exists).

The leakage detection approach proved highly reliable, with an 86 percent precision of the methodology, 86 percent recall, and 85 percent accuracy (Figure 3).

What about vegetation presence along bank slopes?

In order to detect vegetation along embankment slopes—where high slopes make visual detection difficult—the 3D spatial data and corresponding RGB imagery collected with the truck-mounted terrestrial LiDAR unit were used. Such high-density 3D colored point clouds (as opposed to the low-resolution in coarse satellite images) were necessary to detect the presence of scarce vegetation along the embankment. Similarly to leak detection, the slope vegetation approach relied on deep learning that fused color and intensity information with the corresponding morphology in the point clouds, resulting in an enhanced accuracy of the vegetation detection results. The deep learning approach increased the accuracy of the vegetation detections with its automated learning capability, which efficiently computes the large datasets in this study. Our team generated an ArcGIS mapping product to transfer our findings to SRP. Figure 4 illustrates a sample of the georeferenced vegetation detections along embankment slopes. The vegetation was grouped in three different categories based on the



Figure 4. Vegetation density on the north side of an embankment slope

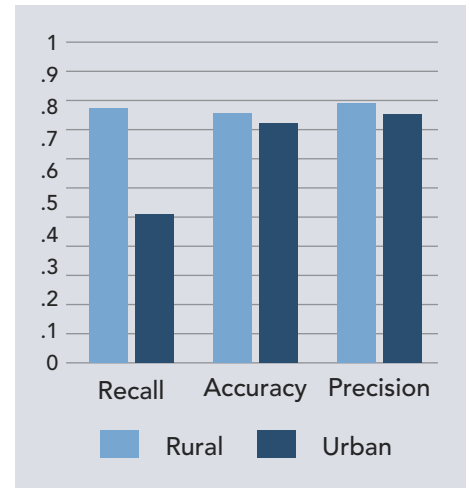


Figure 3. Comparison of the performance in different environments

density of vegetation: (1.) blue vegetation represents high concentration or high intensity, (2.) green vegetation represent medium intensity, and (3.) yellow vegetation represents low intensity (e.g., grass).

What are the impacts?

This research project represents an initial step in enabling SRP managers and field workers to make educated decisions for preventive canal maintenance along water corridors. The methods and results in this study promise to support water and vegetation management decisions and to improve the future of canal status assessment with the baseline conditions determined in this study. Overall, this study demonstrates that the combination of advanced sensing and computing technologies have the potential to positively impact the maintenance of SRP’s water canal infrastructures. This results in support for management in decision-making and, therefore, a positive impact on public safety and health.

Acknowledgments

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OPINION EDITORIAL

Best Practices for Managing Teams in a Changing World

By C. Troy Ross, EVP of
Operations, ACRT Services



Teams and the work they perform are a foundational component of the utility vegetation management (UVM) industry. Consisting of various sizes, structures, cultures, and overall goals, these teams of people are working tirelessly across the country—both in the field and in the office—to ensure that our utility partners and the people they serve continue to enjoy safe, reliable power, day in and day out.

While managing individual people has its own challenges for managers, this complexity further increases in the team format. Multiple perspectives, backgrounds, objectives, and other elements are centralized in a single entity—sometimes with great results, but sometimes not. Managers of distributed teams stand to experience this complexity with additional challenges woven in, such as locational differences, how to promote and sustain engagement between employees in separate areas, and coordination of remote work across different schedules and time zones, to name a few.

Today, teams in our industry and beyond are operating more remotely and with less routine in-person interaction. For managers to ensure the success of those teams and to build a foundation upon which they can

achieve their own goals, it's essential to make team management more streamlined, meaningful, and employee focused. In our organization, we understand that our success is tied to how our teams are performing in the field and in offices nationwide. Here, we'd like to share how our managers are strengthening teams and empowering the employees that comprise them.

Put Employees on Top

We're all familiar with organizational hierarchies, but it's important to understand that the people that comprise teams are not at the bottom; in truth, employees are at the top. That's because employees are the people that perform the services and functions needed by customers. It's the manager's job to empower their people, and that starts by being the foundation that employees need. As managers, employees should stand on our shoulders, enabling them to reach higher and achieve more for the good of the customer and the organization.

Practice Servant-Leadership

Servant-leadership is the inverse of the norm found in many companies today: instead of people working to serve the leader, the leader works to

serve people. Employees' needs are put first, and the manager seeks to develop them and empower them into exceptional performers. Managers must remember that they are there to serve and guide employees. Always ask what employees need to be successful—then deliver. Whether that's additional training or guidance on a specific project, this investment in people makes teams stronger and more successful.

Lead from the Front

Managers must serve as an example for their teams, and that example should have a strong foundation built on experience. Asking a team to do something that a manager has never done or does not understand fails to inspire confidence. Instead, the team is being set up to fail. Managers who assign tasks and responsibilities to teams that they themselves have never handled or are unwilling to do are not putting their employees first. They are not acting as servant-leaders. With so many teams operating remotely, it's essential that they have confidence in managers' knowledge of the project and what it takes to get it done. The leadership stance can no longer be, "Do as I say," but should instead be, "Do as I do." Show team members what success looks like, then

provide the support needed to reach it. There can be no room for hypocrisy.

Build the Right Kind of Power

Leaders will be familiar with the many forms of power, but there are three worth noting: first is positional power (gained from a role in the organization). The second power is knowledge power (gained through experiences and what is known). The final power that leaders can possess is reverent or referent power (gained through strong interpersonal skills). Managers have positional power through their level in the organization and should have knowledge power, however, referent power is the strongest. Managers build referent power through everything we have discussed: being honest, leading from the front, acknowledging accomplishments, communicating, supporting learning, and more. Managers will have built and earned the first two forms of power, but referent power takes even more earning. Once it's gained, teams will be more excited, will value manager input and approval, and ultimately will produce stronger output.

Promote from Within

Whenever possible, managers should seek to promote from within. There are a few key reasons for this. First, promoting from within strengthens the professional bond between the manager and employee, demonstrating that the manager trusts the employee enough to advance their position. Second, it ensures that talent is retained in your organization—not lost to a competitor or other industry. Third, it ensures that the team member's knowledge and skills continue to benefit their team. And, if the advancement results in the person moving to another team, his or her knowledge will continue to benefit the organization as a whole. As a manager, promoting from within tells team members that their experience and accomplishments are seen, appreciated, and rewarded. This has a compounding benefit of the other team members having

worked with the person being promoted, understanding the leadership's position, and having an opportunity to further their own careers.

Maintain Sustainable Ratios

While managers are often overhead in UVM, organizations must be cautious to not overload managers with a large base of direct reports. While changes sometimes require managers to recruit additional employees and teams, great care must be taken, as managers cannot effectively lead excessive numbers of employees. This is particularly true if those teams and people are spread across state lines. The more a manager's team is spread out, the less they'll be able to interact on a frequent basis. Over time, this negatively affects the organization in multiple areas, such as employee dissatisfaction, higher levels of turnover, and reduction in quality of work.

Communication and Training

Last, but certainly not least, is the importance of communication and training. Without offices and in-person interactions, the pandemic

quickly forced our industry and many others to over-communicate—creating more frequent touch-points, check-ins, and other solutions to ensure team members knew what they were supposed to be doing, where projects stood, and what was happening within the organization. It also forced the industry to leverage technology for communication and training. While much remains to be seen, managers must leverage these tools and embrace the increased need for communication, which will continue to strengthen the relationships and performance of their teams.

C. Troy Ross is the executive vice president of operations at ACRT Services, where he oversees our subsidiaries and maintains a great working culture for customers and employees. Prior to his role at ACRT Services, Troy served as president of ACRT—our VM subsidiary. He is a past director of the UAA. He holds a bachelor of science in organizational leadership from Union University and holds an MBA from Ashland University.



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Clearion Interviews Dan Siewert from We Energies and Wisconsin Public Service

Chris Kelly, CEO at Clearion, spoke with Dan Siewert from the WEC Energy Group (We Energies) and Wisconsin Public Service (WPS) about the digital transformation project inside their vegetation management program.

KELLY. Thanks for taking the time today, Dan. Can you talk a little bit about your personal background in the utility industry with vegetation management (VM) and what's your job today?

SIEWERT. I got into the utility vegetation management (UVM) business straight out of college in 1995. I started as a contractor, worked at Entergy for a while, and then moved north with ECI to manage UVM for a group of three co-ops. In 2002, I went to work at WPS as a regional forester, and a few years ago, I took a leadership role in our project to deploy technology to achieve a paperless UVM program.

KELLY. What's the approach to VM at your utility?

SIEWERT. So, we're a cycle-based program. We break up our territory into project areas and trim those somewhere between a three- and eight-year cycle at WPS. And we're reclaiming ROW at We Energies with the goal to get onto a similar cycle as WPS.

We use time and material contracts, but we require the vendor to give us estimates. We use this and other bid principles to help promote efficiencies in the organization.

We have a large reactive work program around customer trim requests and trouble work. And we do landowner notifications. After we send letters, the planners on our contractor staff talk to the customers who have concerns. We audit 100 percent of our overhead primary planned maintenance work. Part of our goal with the field technology was to help us manage that landowner process so that we remain proactive and, therefore, make the customer feel their needs are being met.

KELLY. So, your planners and foresters have been digital for a couple of years, and you rolled out software to your crews a few months ago. What was life like before this project, and what were your motivations to implement software?

"I was actually surprised by how quickly they got past that fear and started to see that this truly could make their jobs easier. I've had a lot of good feedback. They had access to data that they've never had before and no longer needed the big stacks of map books. They saw that someone can update information in the system, and they would receive that information automatically within seconds. They were surprised how fast and easy data flowed within the software."

SIEWERT. That's right. Like most utilities, we ran our program with paper maps and spreadsheets. Known customer concerns were on one spreadsheet, and then any other customer calls that came in were managed on a separate form or through voicemails or handwritten notes. So, it was a lot of paper shuffling, and we spent a lot of time calling and driving around to ensure that the crews had up-to-date information. That was a major driver: to eliminate the cost of managing that paper and get information instantly to the people in the field who need it.

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KELLY. What were some of the key lessons you took away from the project, and how did your approach with the software evolve over the past year or two?

SIEWERT. We invested considerable time in the design phase to think through what we needed from the software. That was time well spent, but we really started to receive the necessary level of detail when we started to deploy the software and get feedback from the users in the field.

The technology is so robust and can do so much. You don't always know in the beginning the best way to leverage the software in your specific work environment. We've gone through several iterations with the way we configure the software, and that's been important for our continuous improvement process. This data is so critical to our operations, but we are also very attuned to the ease of use for the users in the field.

KELLY. That's a really good point. I think that when we're going into software deployments, we tend to automate some existing business processes. Then, once the process is digital, you start to realize how much flexibility the software brings to your operation, and you find new ways to improve your processes. So, you go through this iterative process of building, testing, and putting it into the real world.

SIEWERT. Right. The whole point is trimming trees. That's the end goal; you have to get sawdust on the ground. And the technology should allow the crews to focus on that work instead of shuffling papers. We want them only clicking a button or two and then returning to trimming trees.

KELLY. Yeah. I remember you had some really clear benefits in mind, and I remember the mantra that this software had to be more efficient than paper for the crews. We couldn't slow the crews down.

What was the training and onboarding process like for you?

SIEWERT. I think it turned out really well. We definitely had concerns about the folks in the field sitting in a truck trying to start a computer or tablet. We expected the younger generation to pick it up quickly. But we were concerned about adoption for the guys that didn't grow up with technology.

We had people say, "I don't own a computer. What is this thing?" I was actually surprised by how quickly they got past that fear and started to see that this truly could make their jobs easier. I've had a lot of good feedback. They had access to data that they've never had before and no longer needed the big stacks of map books. They saw that someone can update information in the system, and they would receive that information automatically within seconds. They were surprised how fast and easy data flowed within the software. We kept it simple and the team really embraced it.

KELLY. One other thing I remember about the project is aligning your company's cybersecurity policies with the goal of getting the software and data onto your contractors' devices. Because your crews bring their own devices, correct?

SIEWERT. Yes. For the crews, they bring their own device. And the nice part of the technology we use is that we can pretty much use any device. Therefore, we didn't have to struggle with the contractor on that. Like most utilities, we're concerned about data and network security. Because so many of our users are contractors, we chose to house the database on the Clearion cloud servers, which meant the contractors didn't need access to our network. And we had to make sure that the contractors put the appropriate security in place. We coordinated closely with the contractors' IT departments, and

they did a great job securing the data on the devices and also handled all of the software installations automatically.

KELLY. What's next for you and your software project?

SIEWERT. There's still some testing and learning we want to do with the crews as we tweak the technology. COVID has made training a much tougher challenge. We can't have big group meetings and bring everybody together in the way we would normally. To address this limitation, we put our training online through YouTube. Now the crews have a link on their tablets, taking them to a library of YouTube training videos that we put together. They can go back to it anytime they need a refresher or reminder of how to do something in the software.

Now we have a lot of our training on our own private YouTube channel. We're keeping our PDF training materials and user guides there, as well, but the on-demand videos have been a great tool for the users.

KELLY. That's fantastic. It's fascinating to see how the pandemic is pushing us to adapt so quickly to a new operating reality. We didn't get to talk about your SAP and call center integrations, and that was a huge part of the value proposition for your system.

SIEWERT. Yes, we completely automated our customer trim requests and reactive work coming from external software systems at the company. It was a big part of eliminating paper.

KELLY. Maybe we can follow up on that in another interview. Dan, thank you so much. I really appreciate you taking the time to share this experience with the UVM community.

SIEWERT. It was a pleasure. Thanks, Chris.

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New IVM Best Management Practices

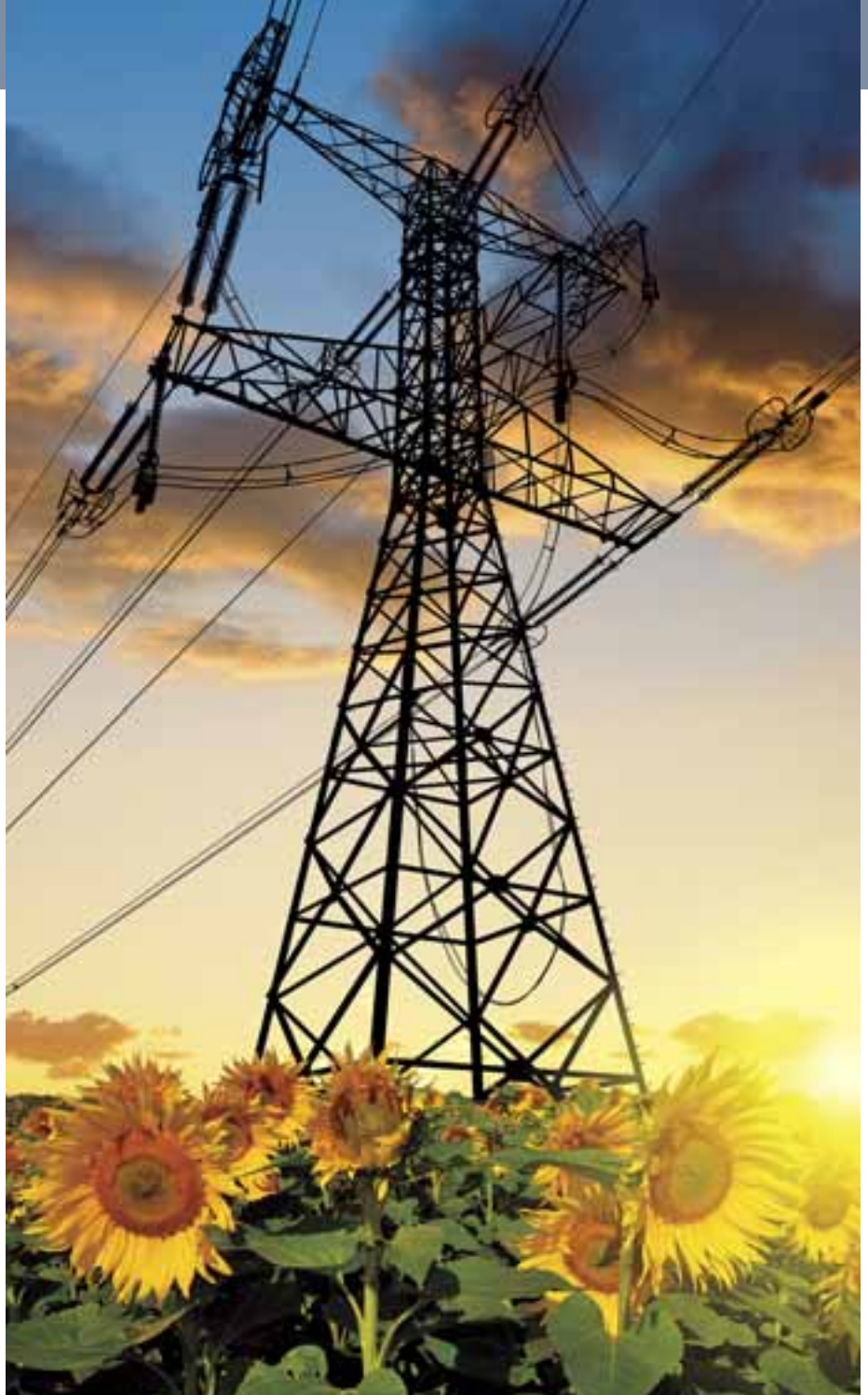
By Randall H. Miller, Director Research and Development, CNUC

The third edition of the integrated vegetation management (IVM) best management practices (BMP) will soon be available from the International Society of Arboriculture (ISA). The IVM BMP is a cooperative effort between ISA and the UAA and was last revised in 2014. This edition is a product of nearly two years of work by a review committee made up of vegetation management (VM) authorities from electric utilities, departments of transportation, wildlife habitat nonprofits, and railroad and pipeline VM professionals. ISA BMPs are companion documents to ANSI A300—the *American National Standard: Tree, Shrub, and Other Woody Plant Management - Standard Practices*. The IVM BMP is associated with Part 7 of the A300 series, the most recent edition dating to 2018 (ANSI 2018). As of this writing, IVM BMP development is nearing completion, with expected release in the first quarter of this year.

What's the Same?

The fundamentals of IVM haven't changed. IVM is still a planned, systematic process dependent on objective analysis of vegetation and site data. Control methods selected based on that analysis are still the means to successful IVM outcomes. More than one method often needs to be integrated into a project to achieve maintenance objectives. Controls are implemented then results monitored and evaluated for quality. The intervention involved in completing a project changes vegetative and site conditions, so the process circles back to the beginning—completing new vegetation and site assessments for future decision making, which will again be evaluated.

Communication and stakeholder engagement remain important to IVM.



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Communication plans should be designed to engage stakeholders, both internal and external to a VM organization. The plan needs to stress transparency and involve anyone who might have interest, including executives, engineers, public relations departments, call centers, governmental agencies, property owners, nonprofit organizations, and others.

The concept of action thresholds is the same: defined as a level of incompatible plant pressure that

initiates work. Most of the control methods are presented as they were in 2014, including biological, chemical, cultural, manual, and mechanical methods (manual and mechanical control are now grouped together as physical control). Biological methods involve using plant competition, allelopathy, animals, insects, or pathogens to control undesirable vegetation. The new edition still emphasizes biological control for its environmental benefits and cost effectiveness. For example, as in 2014,

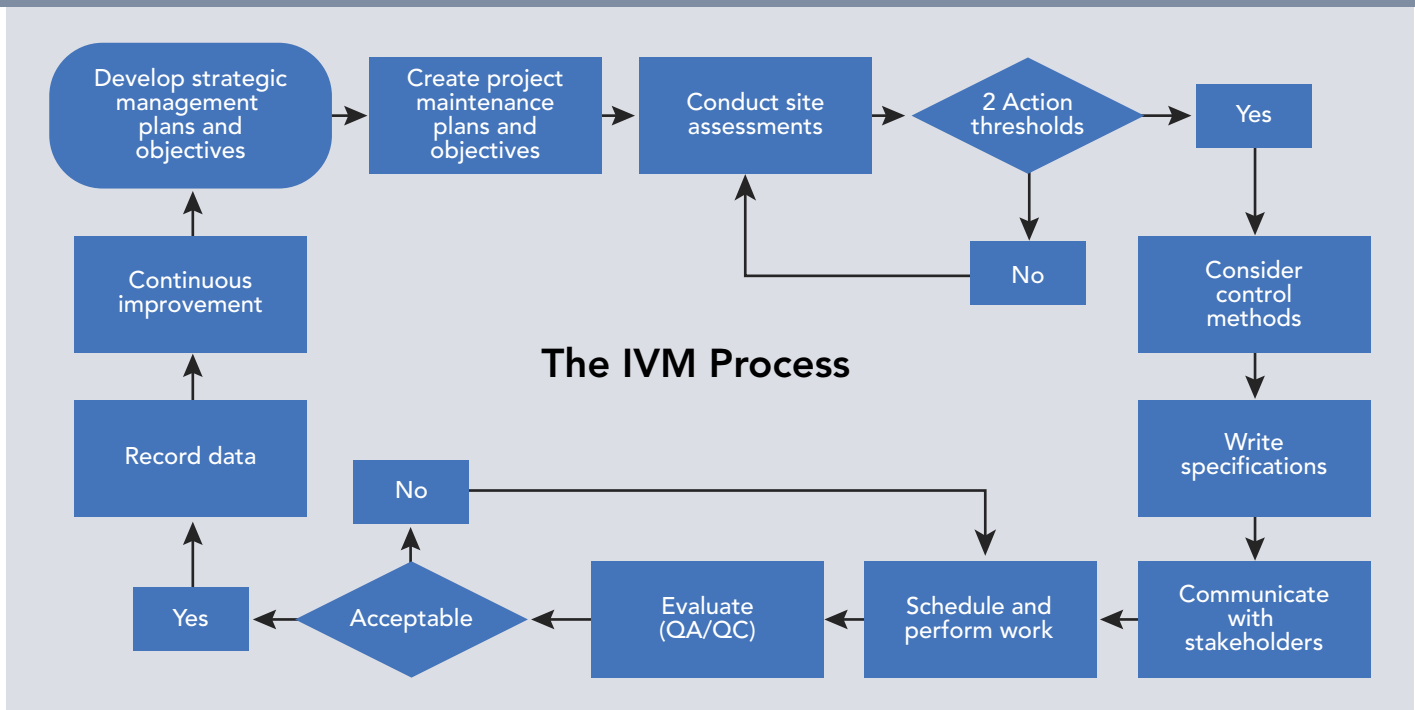


Figure 1.

the biological method of cover type of conversion is promoted as most desirable wherever possible. Chemical control is managing vegetation with the use of herbicides or growth regulators. Cultural methods involve land uses that preclude growth of incompatible plants. Mechanical methods employ machines, while manual methods use tools (e.g., chainsaws).

What's Changed?

While the fundamentals of IVM haven't changed, there is a lot that is new. One major modification involves the IVM process flow chart (Figure 1). The review committee realized that planning occurred on two levels: management and maintenance. This concept wasn't clear in the 2014 chart, which prompted the revision. Management plans are strategic and comprised of a programmatic overview, which includes vision, mission and value statements, general descriptions of the area under management (e.g., land use and infrastructure attributes), specifications, tolerance levels, action thresholds, communication protocols, quality assurance and control practices, and strategic outcomes that govern maintenance level objectives. Vegetation maintenance plans establish objectives for desired outcomes on a project level.

They are tactical, short term, and often annual. Maintenance plans are precise and explain exactly what needs to be done, who needs to do it, and where.

Further, the IVM BMP has been aligned with the principles and criterion in the Right-of-Way Stewardship Council's (ROWSC) Accreditation Standards (Right-of-Way Stewardship Council, 2016). The standards establish technical requirements necessary to achieve recognition from the ROWSC for excellence in IVM programs. Among the principles introduced from ROWSC Accreditation Standards, the most notable are:

- Right-of-use, which is fundamental to IVM because it can't succeed without the long-term right to manage the land for the intended purpose
- Understanding ecosystem dynamics
- Accounting for economic viability, in which management and maintenance plans are adequately funded to achieve their goals and objectives, including implementation of cost-effective techniques
- Accounting for environmental viability, when managers take the impacts of IVM into account, and control method selections are made considering both positive and

negative ecological consequences

- Adaptive management, which makes use of a quality assurance and control program to improve future outcomes

The concept was implied in the previous versions' cyclic presentation of the IVM process, but the approach is strengthened in this edition.

This version's controls discussion stresses the importance of an integration of methods, with emphasis on biological techniques. Each method is described in terms of its application, advantages, and disadvantages, some of which are:

- Prescribed fire—added as a control method
- Cultural method section—expanded to include targeted grazing, seeding, and multi-use
- Manual and mechanical methods—combined as physical controls
- Chemical control method section—deemphasized in favor of biological methods, particularly cover type conversion and chemically facilitated biological control as the preferred herbicide use

The body of the BMP covers IVM best practices that can be applied universally. Specific purposes like electrical,

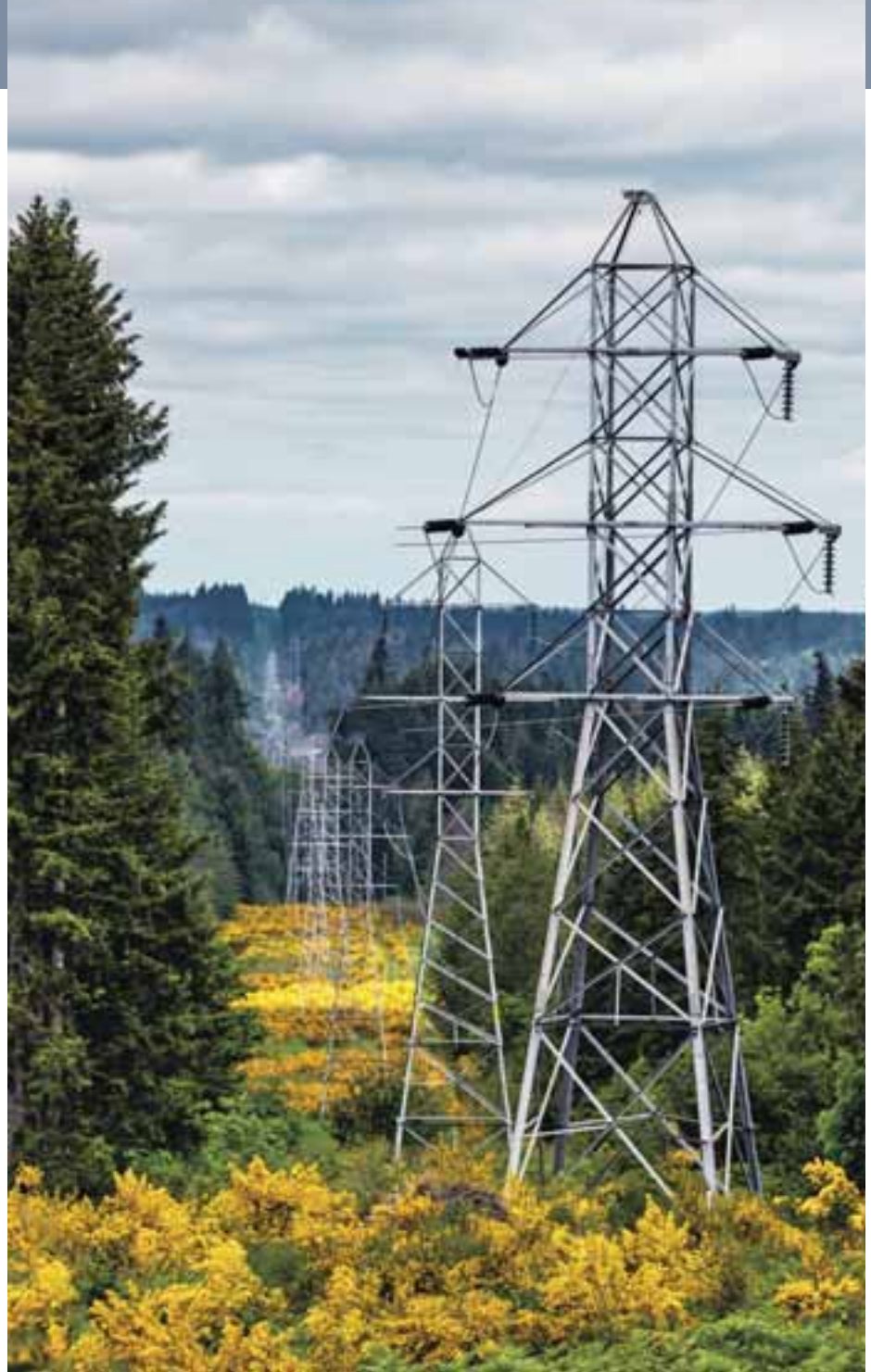
pipeline, roadway, railroad, and wildlife habitat IVM have been moved to appendices:

- Nearly all electric right-of-way discussion from 2014 has been transferred to an appendix, including the wire-border zone concept.
- New to this edition—roadway, railway, soils, and wildlife stewardship discussions. Pipeline, roadway, and railway appendices provide overviews of IVM adaptations to achieve goals attendant to those purposes.
- Wildlife habitat stewardship appendix contains an examination of habitat linkages, moderating climate change, and understanding needs of the animals targeted for benefit.
- Soils appendix stresses the importance of soil health to successful IVM.
- The BMP concludes with an appendix on herbicide use. Much of this information, such as descriptions of application methodology, was in the body of the 2014 version. Additional information has been added about the interrelation of herbicide mode of action and application practices in influencing selectivity, as well as details on active ingredients of chemicals commonly used in IVM.

Conclusion

The revised IVM BMP is the culmination of nearly two years of work by the review committee. It retains the fundamentals of previous editions while expanding and updating them. Notably, the new IVM BMP recognizes that there are two levels of planning: management and maintenance. Management-level planning—strategic and long term—establishes broad goals that govern maintenance plans.

Maintenance plans are tactical and short term, approximately a year in order to establish objectives for specific projects. The new BMP is written to be consistent with the principles and criterion of the



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ROWSC Accreditation. Environmental stewardship is highlighted throughout the document and emphasizes cover type conversion as a cost-effective biological control and the most desirable IVM outcome, wherever possible. The BMP has been expanded to include specialties, such as pipeline, roadway, railway, and wildlife habitat stewardship IVM as appendices. There are also appendices on soils and chemical application. The new revision is expected early this year.

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Managing Hazardous Vegetation During Lockdown

By Michelle Vignault, Marketing and Communications Manager

When New Zealand abruptly entered Alert Level 4 lockdown in March of last year, the vegetation management (VM) team of the WEL Networks utility provider was well-positioned, having already gone digital in January 2020. The paperless and sustainable move enabled WEL's work dispatcher to digitally schedule and assign work to vegetation teams during this period while teams adhered to strict COVID-19 social distancing and contact tracing requirements.

Background

An essential service that's based in the city of Hamilton, New Zealand, WEL Networks distributes power from the national grid, connecting over 93,000 households and businesses to electricity services. As with any electricity distributor, WEL needs to manage any potential safety risks posed by overgrown trees and other vegetation to over 2,100 miles of overhead power lines.

Keeping vegetation clear of lines across the WEL network is the responsibility of a dedicated in-house VM team of ten utility professionals. WEL's arborists work to ensure public safety and to reduce disruption—particularly in storms—caused by trees and branches to the electricity supply in the Waikato region, which lies south of Auckland on the north island of New Zealand.

Why go mobile?

WEL Networks' existing VM system was no longer supported. The system was not mobile, which no longer suited business requirements. WEL also wanted to reduce manual processing and paper usage to increase efficiencies in the office and out in

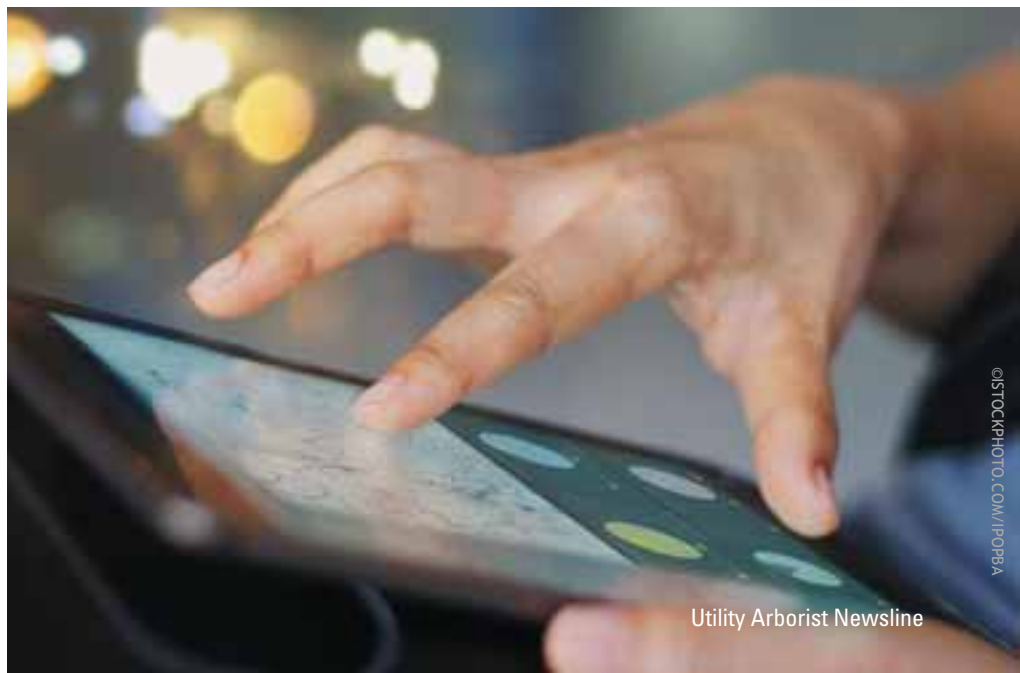


The work dispatcher, previously working from the office, is now able to plan and assign arborists' work from home.

the field. What they needed was a new, purposeful mobile VM tool to deliver a more efficient user experience while enabling accurate data capture in the field. The new system also needed to provide feedback to help with the prediction of vegetation growth rates and to assist with WEL's future planning work.

The patroller who scoped the work out in the field needed to know

which part of the network required inspection and be able to document the vegetation work on site that needed to be carried out. The work dispatcher needed a system that would enable them to effectively plan and assign work to arborists, providing accurate directions to specific job locations. The arborists in the field needed to be able to notify the work dispatcher in real-time when the work had been completed.





“We’re able to create detailed work plans, automate maintenance cycles, issue electronic work orders, track post-work inspections, rework and calculate both estimated and actual costs, and manage schedules and budget.”

has increased the accuracy of the information captured on-site and reduced the amount of data entry for WEL’s vegetation crews. We’re able to create detailed work plans, automate maintenance cycles, issue electronic work orders, track post-work inspections, rework and calculate both estimated and actual costs, and manage schedules and budgets,” said WEL Network’s Field Delivery Manager Mark Keller.

data is then synced to the master database. The new system, fully supported by WEL’s in-house information services team, went live in January 2020 and crews began using it immediately on their tablets.

Vegetation team members can instantly receive jobs by syncing the tablet. The system provides transparency, and the tablets have GPS built-in which helps with the identification process of trees and assets. Patrollers are also able to identify any vegetation that needs to be managed, enter the data into their tablet, and obtain signatures approving vegetation work from private landowners while they are on-site. Briefing information—including location coordinates, hazards, and permits—is loaded onto the tablets by the work dispatcher for each job. One of the elements that fit in with WEL’s overall requirements was predictive analytics.

The new mobile solution

In mid-2019, WEL Networks commissioned Clearion, an industry leader in VM system applications from the U.S., to provide applications modified to suit New Zealand business requirements that utilized the smart mapping capabilities of WEL’s Esri ArcGIS platform. Clearion leveraged the ArcGIS platform to set up the system specifically designed for VM. This provides mapping capabilities and spatial analysis tools for WEL to manage its workflow effectively, visualize vegetation, and analyze potential network vulnerability. The ArcGIS Dashboards allow WEL’s VM team to preview pending work by man-hours and location. It provides a heat map of high-risk trees on the network and allows the team to review work that has been completed.

The new mobile system complemented other IT initiatives at WEL. Clearion could also be loaded with historical data from the old system. The Clearion application was installed on Panasonic Toughbooks and Windows tablets that would be used by WEL Networks’ VM crews out in the field. It can be used where there is no internet or mobile data coverage. When back in connectivity, the

Overall benefits

Tailored to suit WEL’s vegetation requirements, ArcGIS/Clearion enables WEL Networks to use maps anywhere, even without internet access, replacing paper maps with data-rich digital maps for all staff in the field. “Using the new mobile VM system



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The ArcGIS platform provides mapping, analysis, and communication, which allows staff to efficiently continue their essential services during the pandemic.

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“There’s a lot of information that’s available at your fingertips with this system. You can select the type of tree and Clearion will tell you when and how much it will need to be trimmed next so that it’s within the Growth Limit Zone. Clearion has enabled our team to be completely mobile out in the field. We’ve cut down

paper usage and the system and data are current, so it’s streamlined our processes,” said Keller.

The advantages of being paperless during COVID-19

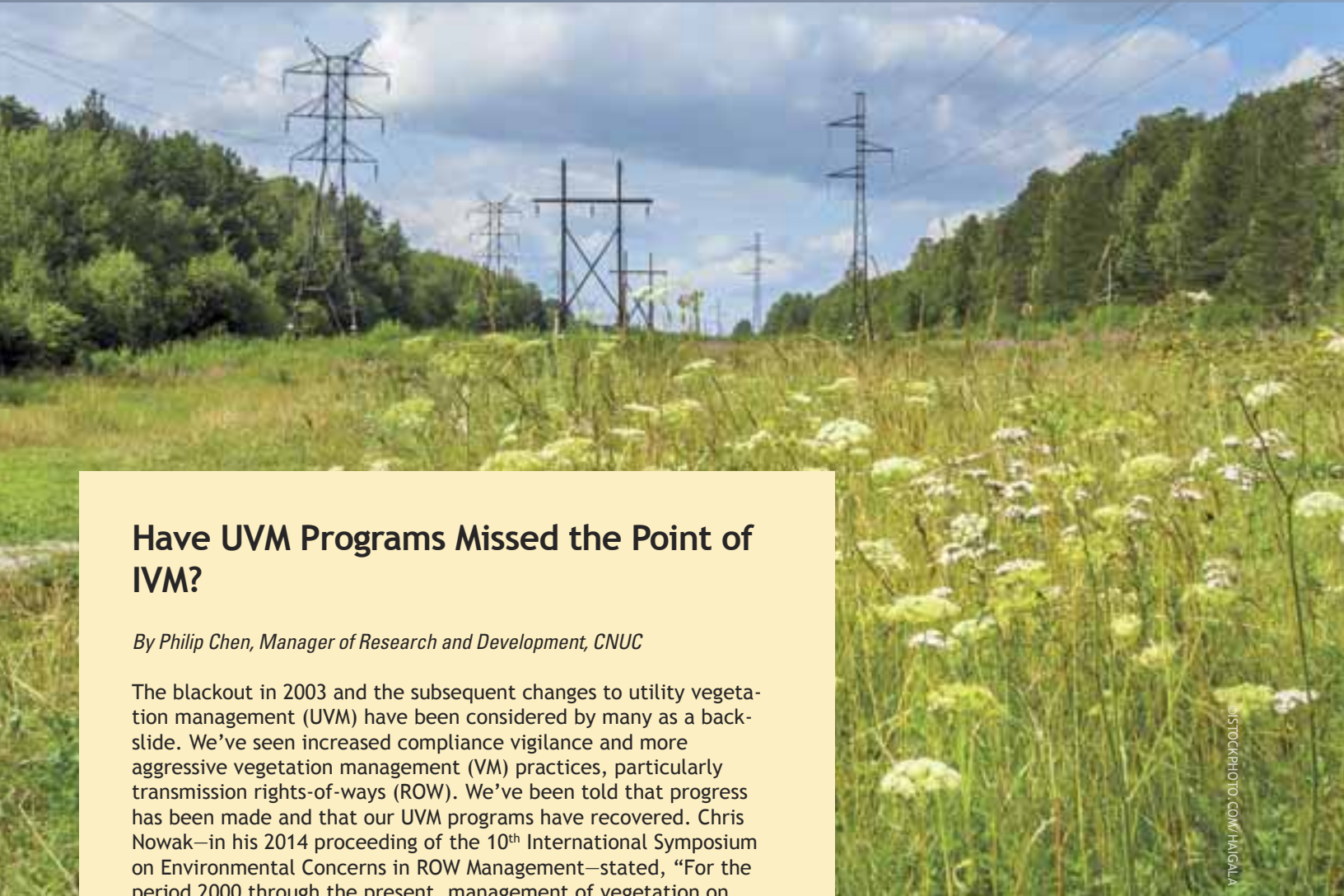
By the time New Zealand had made the transition to Alert Level 3, all

vegetation jobs were being efficiently scheduled from the work dispatcher’s home office, allowing crews to be dispatched into the field with their tablets to continue carrying out essential services. This would not have been possible without the new ArcGIS/Clearion mobile solution. Data captured in the field was immediately accessible to the work dispatcher and management team for planning and analysis. “We were conscious of our teams working on or near private property because of the requirements of social distancing. Being mobile and paperless made it easier to comply with social distancing guidelines,” said Keller.

WEL Networks is well-positioned to advance its VM program by implementing best practices amidst COVID-19. This year, WEL is moving forward to expand the use of Clearion’s technology for the future.

Crews can now be dispatched directly from their tablets to continue essential vegetation work.





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Have UVM Programs Missed the Point of IVM?

By Philip Chen, Manager of Research and Development, CNUC

The blackout in 2003 and the subsequent changes to utility vegetation management (UVM) have been considered by many as a backslide. We've seen increased compliance vigilance and more aggressive vegetation management (VM) practices, particularly transmission rights-of-ways (ROW). We've been told that progress has been made and that our UVM programs have recovered. Chris Nowak—in his 2014 proceeding of the 10th International Symposium on Environmental Concerns in ROW Management—stated, “For the period 2000 through the present, management of vegetation on power line corridor ROW was all about safety, reliability, environment, socioeconomics, integration, and management systems, but was expanded to fully include considerations for sustainability and accountability...and we are doing it!” But are we doing it? We simultaneously have seven utilities recognized by the Right-of-Way Stewardship Council as ROW Steward Utilities; some are completing their second audit under the program, while lawsuits continue to pop up around the country against utilities for what is considered, by citizens, as overzealous tree-cutting policies.

The reason for IVM, as stated in the standard, is “to create, promote, and conserve sustainable plant communities that are compatible with the intended use of the site, and manage incompatible plants that may conflict with the intended use of the site.” It goes on to say that in the evaluation of IVM methods:

I consider myself an optimist, and there seems to be good reason for optimism; every conference abounds with talks on integrated vegetation management (IVM), the UAA has adopted environmental stewardship as a core value, and the industry largely favors the use of low-volume, selective herbicides over the non-selective, edge-to-edge applications of our past. And yet, as I review the results of the recent CNUC University of Wisconsin-Stevens Point UVM

survey, it appears that much of the basis for our optimism may be grounded in misinterpretation and misunderstanding.

Adoption of IVM is on the rise. In our survey, 77% of the respondents (n=69) reported the ANSI A300 - Part 7 Integrated Vegetation Management standard and its associated Best Management Practice (BMP) as important or very important to their UVM program. But are we practicing IVM?

Biological methods should be preferred as a long-term control. Chemical methods should be used to transition the plant community to sustainable, compatible species by facilitating biological controls. Cultural methods should be encouraged where appropriate. Manual methods should be implemented when other methods are impractical or as a supplementary practice. Mechanical methods should be considered when non-

selective maintenance cutting is required.

How this standard is interpreted and put into practice seems to differ significantly from the intent. In our survey, we asked the participating utilities how important the various control methods are to their IVM program. The result was only 28% claiming biological control was important or very important, while 100% cited physical control (manual and mechanical) as important or very important (Figure 1). How can it be that 77% of the survey respondents claim that IVM is important to their program—a standard which emphasizes biological control—and yet 72% of them do not cite biological control methods as important to their IVM programs? Have we not read the standard which we all espouse? Are we hypocrites? Or is this a matter of misinterpretation?

CNUC University of Wisconsin-Stevens Point UVM survey results

First, you may say, let's not lose sight of the big picture. We know



that, in large part, the management techniques being leveraged are delivering on our objectives to provide safe, reliable power and to meet compliance obligations. I grant that that is true, but at what expense to our industry? Should we, as land stewards, not also have objectives of environmental stewardship, considering existing biological, ecological, and cultural resources? As UVM managers, we also act as business stewards. Should we

not implement management that leads to sustainable, low-cost solutions? Did we forget that the primary focus of IVM is to create, promote, and conserve sustainable plant communities—not the management of incompatible plants that conflict with the site's use? Of course, we must manage incompatible plants in our pursuit to cultivate sustainable compatible plant communities. The question is, are we more focused on managing against what we *don't* want than on managing for what we *do* want?

The IVM standard states that manual methods should be implemented when other methods are impractical. Does the strong emphasis on physical methods by our survey respondents imply that biological, cultural, and selective chemical control methods are impractical, in practice? We know from John Goodfellow's work in least-cost analysis that an IVM program that emphasizes chemically facilitated biological control is consistently and convincingly less costly than programs using only manual or mechanical controls. We've seen and heard success stories, like New York Power Authority under the management of Lew Payne, where stable compatible plant communities are promoted, providing habitat and biological control. This evidence does not suggest that these methods are impractical.

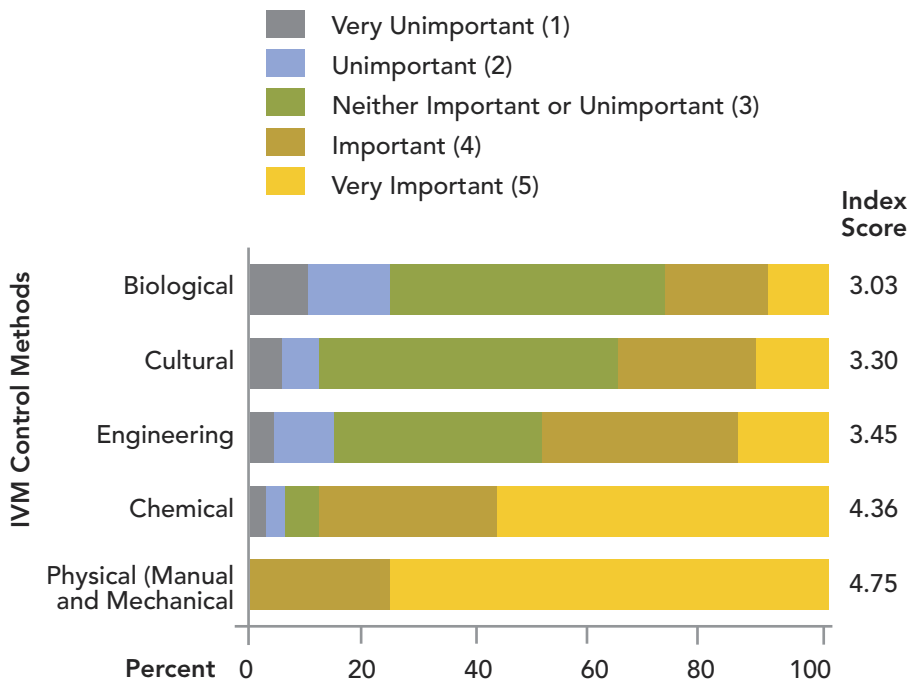


Figure 1. The Importance of IVM Control Methods

There is no doubt that a focus on biological control is challenging and the road is long and winding. Our industry will need to continuously gain knowledge and skills in practices outside of our comfortable repertoire. We will make mistakes and be forced to adapt our strategies as we progress. As Joel Salatin stated so plainly, "If a job's worth doing, it's worth doing poorly first." Now is the time for us to come together to challenge each other to do better. Collectively, we can make the next decade of UVM a revolution from our previous pitfalls. Let's start by recognizing our role as land stewards. We have each been entrusted with the care of the lands that our utility system cross. Let's be careful and responsible in that management. Let's internalize the UAA core value of environmental stewardship. There is a business case, and it's the right thing to do. We have an opportunity to make the world a better place, one utility corridor at a time.

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NYPA and DRG Partnership Drives Innovation in ESG Implementation

*By Jenna Paul,
Technical Writer,
Davey Resource Group, Inc.*

Environmental, social, and governance (ESG) metrics have solidified themselves as ever-present factors, guiding decisions by investors and owners in our industry. In an age of growing concern over companies' efficacy in sustainability, demonstrating good stewardship of people, finances, and natural resources is a marker of success. In order to address these concerns in the utility vegetation management (UVM) industry, Davey Resource Group, Inc. (DRG) has partnered with a utility to develop new methodologies for ESG reporting.

DRG's pilot project with New York Power Authority (NYPA) seeks to provide them with the tools to report on ESG via trend analysis. Through the process of refining key reporting needs, existing data is used as much as possible. As more adopt ESG reporting, the market will reward those who stand out by demonstrating real commitment and results. This partnership hopes to propel NYPA ahead of this trend.

Much of this new ESG initiative is translating rights-of-way (ROW) best management practices (BMPs) and measured attributes into advantages in ESG reporting. The intimate relationship between the energy system and communities highlights the opportunities present in ESG reporting. Consequently, there is a necessity to change the current mindset of ROW as a liability to an asset. To fully enact this transition, educating internal teams and natural resource professionals is vital, along with incremental, data-driven program improvements.

For NYPA, these changes begin with assessing the current external measures being evaluated. For example, two positive ESG indicators include a high percentage of biodiversity and steadily decreasing carbon footprint over the past two decades as a result of implementing integrated vegetation management (IVM). Transmission, the area with the longest history of data, will be used to build the model. Once confidence in ESG reporting is established in that area, it will be expanded to other areas.

To accommodate NYPA's software needs for ESG reporting, DRG is developing an ESG-specific, automated reporting mechanism contained within MyROWKeeper. MyROWKeeper is DRG's back office reporting system, built completely in-house to support utilities, with a geospatial reporting system, data analytics, and a project overview. This custom-built system will include reporting and visualization tools to support NYPA's new initiatives.

ESG will only grow in importance over time, and new approaches are necessary to capitalize on the benefits. This partnership with NYPA, and the resulting methodology and software development, is an exciting way forward for the UVM industry. This will help utilities find ways to analyze and report on the current positives and improve challenge areas.



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