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Volume 16

Number 2

UTILITY ARBORIST NEWSLINE

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Learn how crews able to identify both incompatible and compatible vegetation provide a more balanced approach to treatment decisions on **page 20**.

Read about the unwavering commitment of Renée Bissett on **page 24**.



Learn how the tree care industry can provide the skills and expertise to help maintain healthy trees before a storm on **page 34**.

This is a list of common industry terms and acronyms frequently used in this magazine.

Artificial Intelligence (AI)
Best Management Practices (BMPs)
Environmental, Social, and Governance (ESG)
Integrated Vegetation Management (IVM)
Geographic Information System (GIS)

Light Detection and Ranging (LiDAR)
Occupational Safety and Health Administration (OSHA)
Personal Protective Equipment (PPE)
Rights-of-Way (ROW)

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Utility Vegetation Management (UVM)
Vegetation Management (VM)

PRESIDENT'S MESSAGE



Matt Goff

In my experience, vegetation management professionals must be able to communicate or explain their plans to a diverse group of stakeholders. You may hear of acres, miles, cost, units, or other metrics used to explain strategies. However, how do VM professionals communicate or demonstrate how their plans promote environmental stewardship?

As VM professionals, we know environmental stewardship encompasses a deep understanding of the ecological impacts of our work and our commitment to minimizing those impacts. *Integrated vegetation management* emphasizes a holistic approach to managing vegetation, considering ecological factors alongside practical needs. Please consider the following thoughts or questions, intended to help VM professionals strengthen their position relative to environmental stewardship.

Objectives

It is common to present the scale of a plan in units of work or cost, such as acres, miles, or dollars. VM professionals can incorporate environmental stewardship metrics into VM plans by leveraging their local knowledge of the specific ecosystems in which they work. This may allow them to proactively state the environmental benefits of their plans as objectives of the plan itself. We can include plant and animal species, soil types, and water resources as environmental stewardship considerations in addition to standard success productivity metrics described above.

Evaluation

Our VM plans include inputs and expected outputs. In other words, the VM professional understands how the asset, or corridor, will respond. How can we make this better? We champion investing in robust monitoring systems—tools to assist VM professionals in identifying potential vegetation problems early on. This allows for less drastic, more environmentally friendly interventions. Do you have habitat characteristics as measurable objectives? Are they incorporated into your contract specifications?

Action Thresholds

What are the local habitat characteristics produced by your management plan? What is the habitat quality of your assets? Do present habitats increase or decrease your compliance risk? Can you define the lowest-risk habitat type in your footprint? Understanding the importance of biodiversity and striving to maintain or enhance it through VM practices is a substantial benefit of an IVM program. Our management strategies can protect and create habitats which satisfy the interests of numerous stakeholders.

Control Methods

Sustainable practices can produce low-risk habitats. Stewardship utilizes all available management practices, and the VM professional can promote a local habitat which minimizes risk and maximizes enjoyment of the asset. IVM strives to balance cost, environmental quality, public benefits, and regulatory compliance. Control methods are:

- **Biological:** Which species compete best locally to provide the desired habitat?
- **Mechanical:** Methods like mowing or hand-cutting can be tools used to manage vegetation.
- **Chemical:** Precise application techniques to minimize the impact on non-target species and the surrounding environment.
- **Cultural:** Consider land use conversion as a VM strategy.
- **Erosion:** Understand how tactics

impact soils and work to minimize soil disturbance.

Implementation

Vegetation management plans are investments in the performance of the corridor. Corridor performance includes safety, reliability, and habitat performance. Keep up-to-date on the latest research and best practices in environmentally sound VM. Encourage your VM professionals to seek out training and certifications related to environmental stewardship and sustainable practices. Invest in workforce training that empowers each person to understand their role in the success of each plan.

Monitor

Vegetation management professionals must review plan efficacy. Investors and external stakeholders could see more value and improved affordability if VM professionals explain to them how your management strategy improves, sustains, and increases beneficial habitat.

In essence, environmental stewardship for today's VM professional means:

- **Plan:** Consider long-term ecological consequences
- **Balance:** Optimize VM objectives while minimizing take
- **Defined Thresholds:** Act responsibly to protect and enhance the natural world
- **Process:** Monitor continuously, evaluation and response
- **Implement:** Regularly assess environmental impact of IVM practices
- **Adapt:** Adjust strategies based on results over time

At the UAA, we have a network of subject matter experts and a library of information you can leverage to help—we can assist you in achieving your environmental stewardship objectives. By embracing environmental stewardship, VM professionals can contribute to a more sustainable future. Please let us know how we can assist you to realize your VM goals. 🌿

Matt Goff



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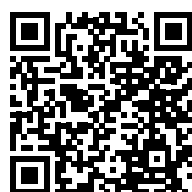
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EXECUTIVE DIRECTOR MESSAGE



Dennis Fallon

The last major expansion of the U.S. power grid and many of our transportation corridors occurred in the 1950s and 1960s. The expansion was a result of the desire to increase commerce and develop rural areas. At that time, there were no significant environmental protection regulations around construction activities. Some of the earliest protection acts came in the mid-1960s with the Wilderness Act in 1964. This act is to preserve wild areas from development and has very little impact on UVM, because most of these areas lacked utility infrastructure or plans to develop infrastructure there. In 1968, the Scenic Wild River Act came along and more overtly overlapped with infrastructure siting, operation, and maintenance.

The early 1970s brought sweeping environmental policy to the U.S. The year 1970 brought the Clean Air Act and the National Environmental Policy Act (NEPA). In 1972, the Clean Water Act arrived, followed by the Endangered Species Act (ESA) in 1973. All these environmental protection acts include language that can impact UVM programs and will affect the grid expansion now occurring, and estimated to continue for the next twenty years. So why the history discussion now?

On December 10, 2024, the U.S. Fish and Wildlife Service (USFWS) announced a public comment period on the topic of listing the monarch butterfly within the ambit of the ESA. The comment period closes March 12, 2025, and seeks

public input on the idea of listing the species as “threatened” versus “endangered.” The difference between these classifications is significant. A classification of threatened allows the USFWS to create “species-specific protections and flexibilities to encourage conservation” under section 4(d) of the ESA. Allowing for and encouraging conservation likely would include encouraging activities that increase the habitat required by the monarch butterfly. UVM programs designed and implemented to increase pollinator species habitat can have demonstrated and measurable results of increased habitat.

Management of corridors used to transmit energy and even transportation requires clear sightlines, compatible vegetation communities, and routine interventions to ensure non-compatible vegetation is kept at bay. Species-specific habitat needs of many pollinating insects are quite compatible with the goals of a UVM program, and there are many resources available to the UVM community to assist in program development, implementation, and monitoring for desired outcomes.

Understanding the ESA is important to demonstrate how a UVM program creates conservation outcomes.

The butterfly is the monarch, Danaus Plexippus, the flower it is on is blazing star, Liatris scariosa. Photo was taken on the native plant seed farm in Minnesota.

Should a species be listed, the ESA brings prohibitions on “take.” The ESA definition section reads, “the term ‘take’ means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” Program managers are responsible for take, intended or incidental, and the definition of take includes some potentially ambiguous terms.

As we embark on the next phase of grid expansion, the intersection of infrastructure development and environmental stewardship will become even more critical. With the potential listing of the monarch butterfly and other species under the ESA, the role of UVM programs in fostering conservation is more significant than ever. These programs cannot only contribute to biodiversity but also must ensure compliance with evolving regulations, and avoid unintended impacts on vulnerable species. Stay informed, engage with the ongoing discussions, and actively participate in public comment periods. Remember, resources are available through networks like the UAA and industry conferences to help you navigate this evolving landscape. ♡

Dennis Fallon





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EVENTS COMMITTEE UPDATE



Lucas Beane

By Lucas Beane, COO, Lucas Tree Experts

Happy Spring, UAA Members! We have a lot to report from the Events Committee, and we are excited to be working on a remarkable schedule of events in 2025!

Before outlining our schedule of events this year, we'd like to review some personnel changes for the committee. First and foremost, we'd like to thank Kevin Puls for his leadership and enthusiasm as the committee's champion over the past several years. Kevin was the steady force that kept our committee in alignment with strategic planning of the UAA and on track to deliver quality regional meetings year after year. Thank you for your time and energy, Kevin!

Not to be outdone, Brandon Hughson has taken on the role as the new champion of the Events Committee and, with that, has already been introducing new ideas and perspectives to the group. And like Kevin, he too is advocating the big picture initiatives to align us with the strategic goals of the UAA.

To align with this year's strategic goals, we are making a targeted effort to reach individuals in ancillary industries and markets that share common goals, challenges, and practices. These include vegetation managers in the gas and railroad industries, municipal foresters, and students in related fields. As we plan our events, we are researching contacts in all these areas to invite them to speak or attend these

regional meetings and expand our networks.

Currently we are busy getting meetings confirmed and in the books. If you are local to any of the following areas, mark your calendars and don't miss these confirmed events for 2025:

- **Texas Regional:** Fort Worth Botanical Gardens, Fort Worth, Texas—June 2025
- **CA Safety Summit:** San Ramon, California—July 2025
- **Gettysburg Regional:** Wyndham Gettysburg, Gettysburg, Pennsylvania—July 15–16, 2025
- **New York Regional:** Courtyard Marriott, Saratoga Springs, New York—October 14–15, 2025
- **Ohio Regional:** Arborwear, Chagrin, Ohio—October 3, 2025
- **Western Regional:** The Dana, San Diego, California—November 10–12, 2025

The Events Committee's goal is to bring the industry six regional meetings along with four safety summits annually. At the time of this writing, we have a way to go, but we've had a tremendously active and successful couple of months putting the list above together. Information was captured in a 2024 UAA member survey on desired regional meeting locations that we will use to identify the

location of the sixth regional meeting in 2025. Also, we are open to ideas and suggestions for additional 2025 safety summits. We are currently working on a few ideas which may be firmed up by the time of this publishing.

Although our Events Committee is not involved with the planning of it, we want to mention a unique event titled the Biodiversity + Nature in Energy and Transportation (BNEAT) conference scheduled for August 12–14, 2025, in Chesterton, Indiana, which the UAA is collaborating on. This is an exciting opportunity and helps the UAA continue to meet its goal to branch out and reach new individuals in similar industries.

For the latest updates on meetings scheduled for 2025, feel free to check out the UAA Events Calendar on the member portal. We will be sure to keep this updated as the year rolls along as we anticipate this event schedule to expand in the coming months.

Lastly, we would like to thank all the committee members—both on the Events Committee and on the individual regional meeting and safety summit committees—that make this all possible. They give back so much to this community to make these events happen, and we appreciate all that they do year in and year out. 🙏



2024 Western Regional Meeting's Brains4Drones presentation in Springfield, Oregon



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OUTREACH COMMITTEE UPDATE



By Michelle Lejins, UAA Outreach Committee Chair

The Outreach Committee remains committed to our mission to broaden the industry's adoption of utility vegetation management best practices by actively engaging, exchanging information, and educating peer groups within the broader vegetation management community. The committee had a successful 2024 and is pleased to report the key achievements, challenges, and goals for 2025.

Member Engagement

This past year, the committee engaged the UAA membership by providing two presentations on UAA resources and events to UAA group members, reaching more than 600 participants. The committee's Member Survey Task Force successfully helped create and share a UAA member survey that focused on UAA member benefits and the industry's priorities. Results from the survey, along with identified trends from a 2021 member survey, will be published in an upcoming *Utility Arborist Newsline*.

Partnerships and Collaboration

The Canadian Task Force continued to enhance collaboration and learning by inviting guest speakers to their committee meetings, including Pat Perry who works on behalf of the PVMA/UVMA to pursue trade designation in Alberta for utility tree workers. The task force identified three subgroups for 2025 that will focus on collaborating with Canadian organizations, recruiting and retaining talent, and outreach.

The Outreach Committee established and strengthened partnerships with organizations and leaders in affiliated

industries by interviewing organization leaders and publishing the interviews in the UAN. Over the past year, the committee has conducted interviews with the executive director of the Urban and Community Forestry Society (UCFS), the Centre for Energy Advancement through Technological Innovation (CEATI), an energy coordinator with the U.S. Forest Service, and the president of the American Railway Engineering and Maintenance-of-Way Association (AREMA).

2025 Goals

The committee added two new task forces for 2025 that focus on Hispanic outreach and UAA member mentorship. Our standing task forces that target cooperative utilities, college educator and student outreach, and Canadian outreach continue their efforts in 2025.

The committee is excited to announce that we're creating a UAA Mentoring Program in 2025, designed to grow future leadership within the UAA and UVM industry. The program will contribute to the professional development of the mentors and mentees, allowing mentors to enhance their leadership skills and mentees to broaden their understanding of the UVM industry.

Acknowledgement

The Outreach Committee added five new members in 2024, and we are grateful for their support and the dedication of all the committee members. We continue to build on our progress and look forward to making an even greater impact in 2025. 🌳

CELEBRATING 15 YEARS!



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SAFETY TOOLS



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Why Intentional Leadership Matters in Tree Care

By Josh Caudill, President, Safety Leadership Innovators

There is nothing quite like being up in a tree, alone with your thoughts, and enjoying all that nature has to offer.

People who are not in the tree care industry may not understand just how amazing this profession can be. Being able to work outside, in all conditions, with a dizzying array of distractions requires a special skill set. The number of decisions arborists must make each day can be overwhelming. Providing a space in your culture for intentional leadership is crucial for employee development and achieving excellence within your organization.

When I began brainstorming ideas for this article, I went through a laundry list of topics that could be important to the tree care community. There are so many crucial and beneficial topics that it became necessary for me to try to pair the ideas down to something that would not only be beneficial for the reader but also provide a perspective that creates challenging thoughts for the industry. While the topic of leadership is at the front of many of our minds, the idea of intentional leadership is something that we may need to dig into deeper to understand.

My perspective of this article comes from my experience of 20+ years in this industry. I have the honor of being able to say that I have worked with some incredible leaders, people who have changed the way I think and teach about leadership. In my opinion, there is a huge difference between a *boss* and a *leader*. A boss is in charge

based on a role within an organization. People follow their boss's instructions because of the chain of command in the organization. A leader is someone who people follow because they believe in their principles, vision, and ideology. Being a leader does not necessarily mean that you are the loudest voice in the room, because some of the best leaders I know are more reserved.

Intentional leadership is the idea of having clear purpose and values and maintaining an established pathway to achieving goals. Intentional leaders can communicate their purpose and values through their actions and words. When training young safety professionals to understand the complexity of tree care operations, I explain how I can tell whether a crew is safe or not within the first 30 seconds. There is always a sense of calm and process with tree crews that I find work in a more efficient and safe manner. This feeling of being a "safe" crew is tied directly to the leadership characteristics of the entire crew.

So, let's dig a little deeper into the idea of why intentional leadership matters with arborists in the industry. If you work with trees, you understand that each tree is an independent and complex part of our ecosystem. Just like people and personalities, there are no two identical trees. Trees and people are both shaped over time and are subject to the environment in which they live and grow up. Leaders must understand these attributes as they provide information



BOARD NOMINATIONS & ELECTIONS

We will be seeking qualified nominees for positions on the UAA Board.

The Board of Directors is responsible for the sustainable operation of the UAA, including the strategic direction, policies, and budget of the Association. The Board includes annual progressive roles of Vice President, President-Elect, President, and ending as Past President. In addition to these four board roles, there is a Treasurer and 4-6 Directors. The Treasurer and Directors are elected to serve for three years. The immediate Past President participates on the Board during his/her fourth year.

We will be soliciting nominees for board positions to be filled effective September 1, 2025. Elected positions sought for 2025 include Vice President and two Directors.

To nominate a candidate for the UAA Board of Directors, an email will be sent to all active UAA Members on May 1, 2025. In this email, a link will be supplied for you to submit your nomination(s).

Board nominees who will be considered must meet the following criteria:

1. Be a current UAA Member in good standing
2. An individual who displays commitment to the UAA mission and goal, who thinks strategically and communicates effectively
3. Committed to serving the designated term in various capacities, ranging from committee champion, attendance at meetings, financial insights, as well as attend the UAA Annual Meeting, Trees & Utilities Conference, and the UAA Utility System Managers Summit

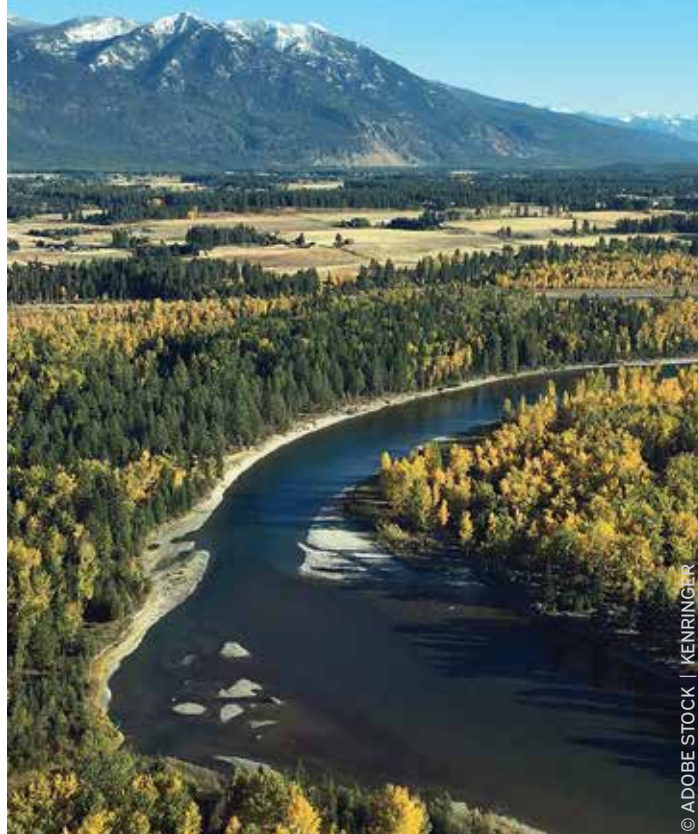
The UAA Nominating Committee will review all nominations submitted and discuss the job responsibilities and commitments with the potential candidate, prior to developing a final slate of nominations for voting by UAA Members.

Nominations are set to run from May 1-May 23, 2025. Elections are scheduled from July 7-July 25, 2025. ☸

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SAFETY TOOLS

and guidance to those who work in this amazing industry.

Because tree care is complex, and arborists are exposed to many different types of conditions and hazards, it becomes increasingly important to establish a set of protocols and processes that are standardized across all and throughout all operational processes. Each crew should work under the same established purpose and values. If each crew works under different expectations, it can be increasingly difficult to establish a culture of safety excellence. An example of this is setting up a jobsite. Crews that use an established process for setting up their work area, including traffic control provisions, set the tone for the entire job. Intentional leaders will provide crew members with a clear purpose and will not deviate from their values to cut corners or save time. If deviation becomes the norm, then that deviation becomes your new set of values.

If a company owner tells employees that they must wear certain PPE when working but they themselves show up with a different PPE, it becomes clear to the employees that this portion of safety is not a value, rather a priority that can be changed given the circumstances. Unclear values and purpose create chaos and conflict within tree care crews. This is why it is so important to provide intentional leadership at all levels of an organization.

One book I always recommend is *The Power of Habit* by Charles Duhigg. My favorite passage in his book is:

"It's easier to adopt a new behavior if there is something familiar at the beginning and end. This is the Golden Rule of habit change: to change a habit, you must keep the old cue, and deliver the old reward, but insert a new routine.... For habits to permanently change, people must believe that change is feasible. Belief grows out of a communal experience, even if that community is only as large as two people."

This is the same for arborists. We must realize that when we hire someone to perform a job, we inherit that worker's unique work history and personality traits. To develop the best leaders in our industry, companies should provide an environment of leadership development that aligns with the company's purpose and values.

How do you know if you and your team provide intentional leadership? The answer does not have to be complex and should be relatively simple. If you were to ask any of your employees what the company values are, could they answer? If you were to ask any of your employees what the company purpose is, could they answer? On the crew level, is there a purpose and set of values that aligns with the organization?

The answers to these questions can be either pleasant or a gut punch. Either way, understanding the baseline of these answers is key to moving forward with intentional leadership. Cultivating leadership within your organization depends on how dedicated you become to aligning with the purpose and values. Doing what you say you will do—even if no one is watching—matters deeply to people.

Arborists are exposed to conditions and hazards that many of us take for granted. They are exposed to a variety of weather conditions, different types of wildlife, insects, electrical hazards, members of the public, as well as performing work that pressures the body and mind. Given all that they must deal with and manage, it would be amazing if they could lean on the purpose and values of an organization when making tough field decisions. Are they willing to perform a function safely, even if that means sacrificing a bit of their ego to ask for help? Implementing a culture of intentional leadership can help shape the future of your organization. This can be the day that you begin this amazing journey. 🌳

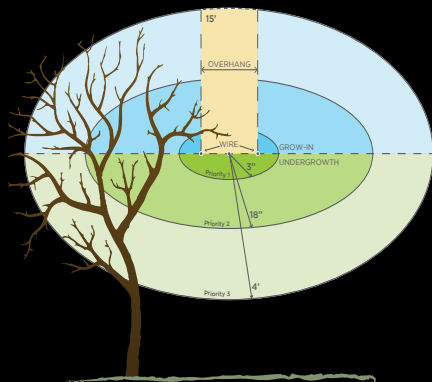


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UVM AND THE LAW

Environmental Stewardship of Pollinators: It's Better to Voluntarily

By Corin Nguyen-Toups, Juris Doctor Student, Tulane University Law School

The World Commission on Environment and Development published "Our Common Future" in 1987, which helped propel the concept of environmental stewardship. From that point forward, proper development of infrastructure needed to consider not only the needs of today but also had to avoid compromising the ability of future generations to meet their own needs.

Following the 2003 Northeast Blackout, FERC and NERC adopted FAC-003, which set a vegetation management standard that—almost as a byproduct—created pollinator highways along utility right-of-way corridors. Watchful utility arborists developed principles of integrated vegetation management as a result, and increasingly utilities are switching over from mowing ROWs to IVM-conformance. This brings many advantages, including biodiversity gains, lowered operational hazards, lowered carbon emissions, improved customer relations, and lowered costs. Adoption of IVM is voluntary, which allows utilities to make the change at an organized pace tailored to each utility's needs.

There's even more good news: federal grants and partnerships with conservation organizations can lower the expenses of implementing IVM. Studies have shown that upfront costs are easily offset by long-term savings from reduced mowing cycles and fewer VM interventions. Adopting IVM strengthens companies' Environmental, Social, and Governance credentials, which in turn improves shareholder value. The alignment of corporate operations with environmental stewardship goals fosters trust among stakeholders, attracts eco-conscious investors, and improves customer relations. Several utilities have reported that IVM practices can reduce wildfire risk, and IVM is also posited to have significant potential to reduce train derailment risks and associated environmental impact.

However, global conditions for pollinators are in significant decline. And since two-thirds of our food supply is tied to the work of pollinators, saving ourselves from extinction is tied to saving pollinators. The U.S. Fish and Wildlife Service (USFWS) created the Office of Pollinator Conservation, which partners with businesses through Candidate Conservation Agreements with Assurances (CCAAs) to encourage volunteers to help

species in decline from requiring federal protection under the Endangered Species Act (ESA). The Monarch CCAA was developed several years ago to keep the monarch butterfly from requiring ESA protection. Several utilities already involved in IVM entered the Monarch CCAA and reported significant gains, but there is more work to be done considering the USFWS recently announced it intends to list the monarch as a threatened species under the ESA.

If listed, these butterflies will be entitled to protection under federal law. Taking these butterflies will result in fines and penalties—but utilities that have Monarch CCAAs will largely be immune from penalties linked to accidental and incidental takings.

Criminal penalties for violating the ESA include fines of up to \$50,000 per violation and/or up to a year in jail. Additionally, vehicles, equipment, or tools utilized in connection with the violation may be forfeited to the government. Also, civil penalties can be applied ranging up to \$25,000 for each knowing violation. The USFWS may consider each individual monarch that is taken to be a violation—for example, the mowing of a field with monarchs could result in thousands of individual takings and violations leading to millions in fines and significant jail time, including the confiscation of all tools and equipment involved.

In the 2018 case of *Weyerhaeuser Co. v. U.S. Fish & Wildlife Service*, the Supreme Court determined the USFWS had the power to determine that land was critical habitat for ESA-protected species. Given the proven success of the Monarch CCAA on IVM-compliant utility ROWs in propagating monarchs, it is likely the USFWS will identify utility ROWs as critical monarch habitat. When that occurs, utilities without Monarch CCAAs will be mandated to adhere to utility vegetation management practices specified by the USFWS or face significant penalties for damaging critical habitat—but Monarch CCAA-enrolled utilities will be allowed to maintain voluntary compliance. A sharp divide between enrolled and non-enrolled Monarch CCAA utilities may develop, with non-enrolled utilities facing significant risk of ESA fines and penalties along with the negative press that will almost certainly come, even from accidental takings of a flagship



eer than to Be Compelled

species like the monarch butterfly.

Currently, enrollment in the Monarch CCAA is voluntary because protection of the monarch is not yet compulsory. But if the monarch is listed as threatened under the ESA, the opportunity to voluntarily join the Monarch CCAA will be closed, along with the advantages that come with enrollment. Utilities that miss the deadline are likely to regret such failure. Utility arborists are already advocating for IVM practices but should bolster their efforts now to encourage their utilities to enroll in the Monarch CCAA before it's too late.

A significant effort by the utility industry now to enroll ROWs into the Monarch CCAA has the potential to generate goodwill both for the individually engaged utilities and the industry as a whole. If enough land is enrolled (or scheduled to be enrolled), it is possible the monarch listing under the ESA could be delayed, giving these efforts a chance of success—and more time for others to join, too.

If your efforts at enrollment in the Monarch CCAA are rejected on the basis there's insufficient time for utility executives to make such complicated decisions, inform them a Bee CCAA is being developed, and it may be time to start considering enrollment.

ABOUT THE AUTHOR

Corin Nguyen-Toups earned her BA in communications, with a minor in law policy, from the University of Houston in 2022, and will earn her JD with a concentration in environmental law from Tulane University Law School in 2025. She was a 2023 UVMi Scholar and has presented her research on UVM at several conferences, including ISA Texas Trees and a midstream-sponsored program in New Orleans. She is a student attorney at Tulane's Environmental Law Clinic, a senior editor of Tulane's Environmental Law Journal, the first student to have won back-to-back scholarships to attend the Texas Environmental Superconference, and has prior work experience in Houston's seismic exploration industry and the City of Dallas' Office of Environmental Quality and Sustainability. 🌱



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Lewis Celebrates Recipient of the Fleet Stewardship Award

One of Lewis Services' most anticipated and prestigious annual awards is the **Fleet Stewardship Award**. Initiated in 2022

by Chad Fay, Lewis' Senior Vice President of Operations Support, the Fleet Stewardship Award was created to inspire exceptional stewardship of Lewis fleets and recognize those who have achieved industry excellence.

"Being selected as the recipient of Fleet Stewardship Award is not an easy feat," explained Fay. "From a quantitative standpoint, we have established rigorous metrics related to compliance scores, inspections, utilization rates, and driver qualifications." Fay continued, "But it's not just about numbers. Recipients of this award are leading by example. They're constantly innovating. And they consistently lead with a 'WE, not me' approach."

With this ambitious criteria in mind, Lewis is pleased to announce the recipient of the **2024 Lewis Fleet Stewardship Award: Mark Giannetto**. With nearly 40 years of experience in the industry, Giannetto is highly regarded as a respected leader, motivated manager, and effective communicator who is dedicated to customer and employee success. Since joining Lewis in 2003, Giannetto has risen through the ranks of Operations and now serves as a division manager.

A natural teacher, Giannetto exemplifies the traits of a Fleet Steward and teaches others how to be more effective stewards as well. Fay explained that Mark's impact at Lewis is felt and appreciated across the organization.

"Mark's dedication is evident, not just in fleet stewardship but in all he does as a Lewis leader. He is a big thinker who has the uncanny ability to distill complex situations into positive, actionable steps. Thanks to Mark's leadership, he has transformed his fleet, continuously improved processes, provided valuable education, and ensured accountability that ultimately resulted in a best-in-class fleet." 🌱



(Left to right) Eric Newman (2022 recipient), Mark Giannetto (2024 recipient), Chad Fay (Senior VP, Operations Support), and Brian Fuegen (2023 recipient)

WOMEN IN VM

JESSI POLLARD

Educating and Uplifting Women in Utility Vegetation Management

By Jessi Pollard, Utility Arborist Supervisor, Georgia Power Company

I stumbled into the utility arboriculture industry as a junior at the University of Georgia's Warnell School of Forestry and Natural Resources. Having just changed my major to forestry—a field I was totally unfamiliar with—I was late to the game getting a summer internship. However, I lucked out when Georgia Power came at the end of the semester to conduct interviews for their Forestry and Right-of-Way department. Bringing no experience or real knowledge to the table, I thought my chances were slim. But as luck would have it, I won the position. I spent that summer and the next learning all that I could from the utility arborists across the state. This time as an intern built a foundation and instilled in me a passion for utility vegetation management.

I would be remiss not to mention the peers and leaders who have helped and encouraged me in my almost seven years in the industry. From my days as an intern to my current role as a leader, I have been lucky to find a safe place amongst my peers to ask those silly questions that helped build my knowledge and experience. Now, as a leader in our group, I'm able to use my experience and passion for teaching to help mold the next generation of utility arborists.

This passion for teaching is what led me to pursue opportunities to connect with my peers and discover outlets to educate the public about utility arboriculture. I've been lucky to sit on the board of the Georgia Arborist

Association and am currently serving as the President of the Georgia Tree Council—all while representing Georgia Power. Through both organizations, I've had the pleasure of meeting numerous people of all backgrounds in the tree industry. These connections have allowed me to build a strong network of peers that I can call on for advice. I have also been afforded many opportunities to give utility arboriculture a voice by speaking on webinars and at educational meetings.

As a woman in utility arboriculture, I'm proud to represent the industry, both at Georgia Power and within these industry organizations. My hope is to provide encouragement to other young women who are beginning their careers and may be unsure of where to start or what their potential is. I hope to continue to provide education about utility arboriculture and be a voice for the industry. Education and visibility are so important.

Overall, my ultimate desire is that my passion for the industry is evident in all my interactions. Whether I'm speaking with a Georgia Power customer about the importance of the vegetation clearance taking place on their property or speaking on a webinar about the basics of utility arboriculture, my goal is the same. My charge to all utility arborists is this: make sure that you're doing what you can to educate people on the importance of utility arboriculture and why we do what we do. A little goes a long way! 🌳



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Friend or Foe? Training Crews to Identify Compatible Vegetation

By Jason Grossman, Manager–Vegetation Management, Liberty Utilities; Lindsey Wall, Program Manager–Boots Department, Grow With Trees; and Mike Stein, Training and Communications Specialist, Grow With Trees

When vegetation management focuses solely on identifying incompatible plants, the risk is crews may assume every unfamiliar plant poses a threat, leading to over-treatment and unnecessary removal. Only knowing how to identify incompatible vegetation is not enough. When crews can identify both incompatible and compatible plants, it allows a more balanced approach. The focus shifts from elimination to conservation, allowing crews to make informed, selective treatment decisions.

We know what you're thinking: another training program that's going to cost money. While it's true there is an initial investment in training, the return on that investment can be substantial. To understand the benefits of identifying compatible species, we need to first talk about biological control. The ultimate goal of integrated vegetation management is to create communities of compatible, low-growing species that naturally compete with incompatible plants. It's about working with nature instead of against it.

The only way to substantially reduce your maintenance costs over the long term is through biological control—and the only way you'll achieve biological control is if your crews know how to identify compatible species and allow them to remain on your right-of-way.

In addition to reducing maintenance costs, training crews to identify compatible species may also increase safety. If crews are doing less maintenance work and are more selective in what they're treating, there's less opportunity for accidents. They're also likely to be more cautious around the plants they see. Leaving more compatible plants on your ROW also supports the environment and wildlife habitat, which can bring about

aesthetic and community benefits. For example, a VM crew at Columbia Gas shared an encounter with a community member painting a picture of the pollinator habitat on a gas pipeline ROW.

But how do you help crews identify plants? It starts with looking at the stem and bark. Is it woody or herbaceous? Smooth or rough? What color is it? Then take a look at the leaves. How are they arranged on the stem? Are they smooth, lobed, or toothed? What shape and color are they? If the plant is in bloom, check out the flowers. What color and shape are they? Similarly, you might look for fruit. Fruit can often be a giveaway for certain types of plants. Finally, consider where it's growing. Is it near water? What is the elevation? What region are you in? These features can help you narrow down your options.

Sounds like a lot to remember, doesn't it? Fortunately, there is a shortcut: learning plant families. Plant families are groups of plants that share similar characteristics. For example, Asters usually have an alternate or whorled leaf arrangement, simple or compound leaves, and composite flower heads. Think about a sunflower—it looks like one big flower but each small offshoot in the middle produces a seed, indicating it's composite. On the other hand, the mint family has an opposite leaf arrangement, toothed or lobed margins, aromatic foliage, and square stems.

While the benefits of training crews in compatible plant identification are clear, several obstacles can hinder effective implementation. Utility vegetation management operates under tight schedules and deadlines, often driven by regulatory requirements and seasonal growth patterns. Finding dedicated time for training within these constraints can be challenging. High turnover rates, particularly among contracted crews, can disrupt consistent training efforts. New workers may need to be brought

Can you identify whether this plant is an Aster or a mint? How confident are you that your crews could identify it?



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up to speed quickly, making in-depth training difficult. Some crew members may view compatible plant identification as an extra burden, particularly if they are used to a more traditional “cut-it-all-down” approach. Shifting this mindset and emphasizing the value of this skill is crucial. Developing comprehensive training programs requires investment, and limited budgets can restrict the scope and quality of training materials.

To overcome these challenges and implement successful training programs, utility companies can adopt several strategies. First, it's important to get buy-in from the boardroom. Highlighting the long-term cost savings and the ability to report habitat can be a powerful motivator.

There's been an industry-wide trend toward environmental sustainability and stewardship, so training crews in compatible vegetation can help keep customers and shareholders happy. If your utility is interested in Right-of-Way Stewardship Council Accreditation, training can also help fulfill one of the requirements demonstrating the competency of IVM practitioners.

Once you've got the boardroom on board, it's time to work on the boots on the ground. Several ways to motivate your crews and get them to care about compatible species include emphasizing how understanding compatible vegetation directly relates to their daily tasks and the overall success of the VM program. Offer incentives for completing training and demonstrating proficiency in plant identification, such as bonuses, promotions, or recognition programs. Investing in training shows a commitment to employee development, which can increase job satisfaction and reduce turnover. Empower crews by providing them with valuable skills and knowledge that enhance their professional development.

Before you get your crews ready to preserve compatible species, it's important to update your contractor specifications. Clearly communicate expectations for compatible plant identification training in contracts with VM vendors. Ensure that your specifications allow for the flexibility and autonomy crews need to manage for compatibles. Contractors will be less likely to preserve compatible species if they're punished with rework or fail to meet contract specifications, so align your IVM goals with your specifications.

Liberty's electric utility, operating in Arkansas, Kansas, Missouri, and Oklahoma, has done an excellent job of motivating its crews to identify compatible species, and is already seeing the benefits. Liberty faced the challenge of onboarding new crew members each season and decided to invest in an online training solution. This ensured that any new crew member would have a solid foundation in IVM and understand the basics of plant identification. The company also brought in naturalists to do in-person training on the ROW, helping crews practice identifying plants with real-time feedback.

To encourage crews to buy into the training, Liberty tied the training certificate to a raise, motivating crews to take accountability and empowering them to become experts in IVM principles and plant identification. They also developed plant ID field guides to help crews identify compatible plants in the field, even without cellular signals. Liberty worked with Grow With Trees to develop a custom mobile app that allows crews to snap pictures of plants and see information specific to their service territory. They also hold contests for crews to share pictures of compatible plants they find in the field, with chances to win gift certificates and other prizes.

Liberty's investment in training has increased awareness of compatible vegetation and improved decision-making in the field. By preserving compatible vegetation, the company has reduced the need for costly removal and retreatment, leading to cost savings in their VM program. Liberty has strengthened its commitment to environmental stewardship by promoting biodiversity and minimizing the impact of its operations on local ecosystems.

Training crews to identify compatible vegetation is no longer optional; it's an integral part of modern, sustainable vegetation management. By investing in comprehensive training programs and utilizing effective tools and resources, utility companies can empower their crews to make informed decisions that benefit both the company and the environment. Liberty's success story serves as a compelling example of how prioritizing compatible plant identification can lead to safer, more cost-effective, and environmentally responsible vegetation management practices. 🌱



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UVM Cycles, Environmental Stewardship, and Wildlife: Bats and Regulations

By Jessica Miller, Ecological Consultant, Environmental Consulting and Technology; Anand Persad (PhD, BCE), Director of Research, Tetra Energy Sciences Research & Consulting; and Dave Bienemann, Director of Urban and Utility Forestry, City of Hamilton, Ohio

Bats are an important wildlife species, beneficial to many ecosystems and contributing to biodiversity which may boost ecological value of managed corridors. Many bat species roost and forage within tree stands, and these range far and wide—geographically, bats are almost universal in North America. As we program our utility corridors for climate resiliency, prepare policy, direct vegetation, and support construction efforts, we always are mindful of wildlife regulatory aspects and, even more so, matters of environmental concern.

In recent years, as we face the nuances of climate change, our UVM programs are subject to constant revisions as change occurs—so too do the rare protected and endangered species become more and more important and, for many, a major objective on our docket as we manage for safety and reliability. The United States Fish and Wildlife Service provides guidance for activities in and around corridor edge and urban trees that may also be bat habitat or adjacent trees.

Numerous bats in the United States are protected under the Endangered Species Act from direct and indirect take. This includes impacts to both the bat itself and applicable occupied habitat. However, although regulated, adequate provisions exist to provide planned or reactive UVM activities. These provisions can provide an opportunity for the utility if a guidance policy exists that incorporates due diligence and some measure of proactivity.

Maintenance activities revolving around safety of infrastructure and personnel can be included under some exemptions. Furthermore, Memorandum of Agreements, voluntary conservation measures, and best management practices coordinated with federal and state wildlife agencies are usually incorporated into a long-term UVM plan.

Bats, such as the Indiana bat (*Myotis sodalists*) and northern long-eared bat (*Myotis septentrionalis*), are federally endangered. These bats tend to roost in both live and dead or dying trees with loose bark, cracks, crevices, or

hollows. These trees are also associated with hazardous tree conditions, which can impact safety and reliability of infrastructure along transmission ROW—this can present a conflict with conservation.

There is not a one-size-fits-all rule when trying to determine conservation measures for listed bats. However, most regulators and biologists agree that removal of roosting habitat can drastically affect a bat population due to their affinity to return to their seasonal roosts year after year. Seasonal tree clearing restrictions when resident bat populations will not be adversely impacted;

habitat assessments to determine where summer roosting and winter hibernacula may be located; and restrictions on herbicide and insecticide use are all potential mitigation measures that can be taken to limit impacts. Generally, summer tree clearing restrictions in the range of the Indiana bat and northern long-eared bat are between April 1–November 1 to limit the possibility of “take.” However, in areas of the country where only the northern long-eared bat might be present, this timeframe might be reduced to the pup season, which is generally May 1–July 31. This varies from state to state and depends

on whether potential roosting trees have been identified.

There is a bat, however, that is now proposed for federal listing: the tricolored bat (*Perimyotis subflavus*). This bat’s range covers most of the United States east of the Rocky Mountains. And because the tricolored bat has more generic habitat characteristics than the northern long-eared and Indiana bats, and is present year-round in trees in the southeast and southwestern portion of the country, tree clearing timeframes are not clearly defined. Instead, using a combination of desktop database searches, such as forest composition aerial map analysis and active zone maps, along with agency coordination and negotiation is necessary to ensure that the activities proposed will not rise to a level of “take” under the ESA.





GeoSpatial Innovations, Inc.

Vegetation Management and Responsible Environmental Stewardship

A magnifying glass, now more than ever, is focused on the efforts of utilities and their responsibility to be an exemplary steward for the communities in which they provide services. Effective utilization of advancing technologies allows utilities to focus on key performance indicators—both at the requirement of regulatory bodies and public opinion—to provide an avenue for utility vegetation management efforts to be reflected in a positive light.

Risk mitigation serves as a core target goal for all UVM professionals. Lowered risk is realized utilizing best practices for both risk identification and solution planning/execution. Advancing technologies provide utilities with tools to make well-informed decisions aimed towards minimizing their impact on native biodiversity.

GSI Forester, developed in partnership with utility vegetation managers, helps utilities maximize both the reliability of their network as well as realize the benefits of a proactive environmental stewardship program. Forester supports the efforts of a utility to protect any sensitive areas, generate efficient work plans, and minimize the environmental footprint related to their highly important utility reliability work processes.

GSI is a private, woman-owned company providing software and services to electric and natural gas companies across North America. Talk with our team to understand how Forester can further improve your reliability and environmental stewardship. Learn more about GSI Forester at <https://www.gsiforester.com>. 🌱



The following restrictions and recommendations can be incorporated into a UVM plan annually:

- **Tree Cutting Restrictions:** Prohibit tree felling between April 1–November 1.
- **Known Roost Trees:** Leave known roost trees uncut where possible.
- **Snags and Cavity Trees:** Leave snags and cavity trees uncut unless their removal is necessary for human life or property protection.
- **Selective Pruning:** Prioritize pruning branches that could potentially have contact with transmission lines, while leaving the majority of the roost tree intact.
- **Hazardous Trees:** The removal of hazardous trees for the protection of human life and property is not prohibited.
- **Tree Preservation Orders (TPOs):** Anyone can apply for a TPO, which will be considered as part of the decision process for planning applications.
- **Bat Expert Inspection:** Before any work begins, it's advised to have any features with bat potential inspected by a bat expert. Bat biologists can also negotiate with state and federal agencies and provide options for additional ways to ensure bat-friendly tree management practices, from replanting specific tree species, selective pruning and removal practices, and even installing additional artificial roosting options.

In the utility arborist industry, prioritizing the protection of bat habitats not only ensures compliance with regulations but also contributes to the long-term health and biodiversity of our ecosystems. By staying informed and educated, we can balance infrastructure needs with ecological responsibility.

The UAA Research Committee developed this article as part of its ongoing efforts to share valuable knowledge and foster professional growth within our community. 🌱

Scan here for the full document of the USFWS' rule under section 4(d) of the ESA, which explains in-depth the decision to provide conservation of the northern long-eared bat.





A Pure Illustration of Devotion: Celebrating Renée Bissett and Her Unwavering Commitment

By Craig Kelly, UAA Editorial Committee Champion



Whenever I think or talk about commitment, tenacity, selflessness, or ownership I think of my dear friend and colleague Renée Bissett, our departing UAA Editorial Committee Chair. Renée has been the rebar in the foundation of the *Utility Arborist Newsline* for many years, making significant contributions to the UAA Editorial Committee and its goal of publishing six bi-monthly issues every year. After a productive decade+ as a committee member, and then committee chair, Renée requested we pass the committee chair torch to someone who has shown leadership and dedication on the committee. Although reluctant at first, since with change comes uncertainty, I quickly recognized Renée had developed and fostered many great relationships on the committee—so finding the perfect replacement would be easy. Here we are in early 2025 with two new, qualified co-chairs, Frank Keenan and Elizabeth

Murray, and we bid our long-time chair au revoir, saying, “Until next time, and the next issue, Renée!” Renée is a professional who is dedicated in making anything she touches better, and she leaves a great legacy with the UAA and the *Newsline*.

Early in Renée’s tenure on the committee, she was one of the lucky ones having been mentored and coached by the late Nelsen Money, who at the time was the Editorial Committee Chair. That long-lasting mentorship led Nelsen to advocate and encourage Renée to take on the role of the committee chair. I remember talking with Renée shortly after Nelsen tapped her, saying she didn’t think she had it in her, that she could never fill Nelsen’s boots—boy, was she furthest from the truth. As Renée always does, she accepted the challenge and ran with it.

Nelsen and Renée continued their alliance on the committee for a few years, but in 2020, Renée was left to

lead and guide the Editorial Committee on her own, without her mentor; Nelsen had passed away that May. I was fortunate to witness Renée take the bull by the horns, knowing she would never disappoint her friend and mentor, and began fostering great partnerships with other UAA committees and engaging other groups and teams to participate in ideation sessions, with the intent of providing continuous improvement to the *Newsline*. With her tenacity, her true understanding of what she committed to, and her strong personal belief to pay it forward, today’s magazine shows her success in taking the challenge head-on. Nelsen would be extremely proud. Nicely done, Renée, and well executed!

Since I assumed the role of the UAA Board Champion to the Editorial Committee back in 2021, I’ve witnessed the *Newsline* get better and better, and I attribute a large portion of the success to Renée and her leadership style, as well as her ability to guide others in



ideas and suggestions. We've seen the inclusion of recurring spotlights, including Safety Tools, A Road Less Traveled (focused on colleagues' unique paths into UVM work), Busting the Myths (what a day in our industry is really like), Women in UVM, UVM and the Law, and many more throughout the years.

These inclusions and others in the *Newsline* were braced and fostered by Renée and her editorial volunteer team. And a significant biproduct of the teams' focus and devotion to the our cause: the *Newsline*, previously a newsletter, became an official copyrighted magazine—a huge success, one that deserves celebration and a hat tip to Renée for leading the charge.

A note to our friend and fearless chair:

Little did you know, Renée, that you leading the Editorial Committee was all in Nelsen's plan from the onset. He noticed you early, believed in you and your skills, and knew you were the right fit for the

Newsline to soar further into the future—which it clearly has. He also recognized you were someone who would pay it forward by mentoring others towards its success, and you have certainly done that, leaving the Editorial Committee in good hands with a clear direction. Most importantly, the *Newsline* is what it is today because of your unwavering commitment to its cause. And your ownership in excellence and superiority has not only made a significant impact on what the magazine has become but has also inspired countless others to step up and contribute in many ways.

So, on behalf of the UAA Editorial Committee, the UAA, and it's 6,000+ members, we express our deepest gratitude for your remarkable devotion to the organization and the *Newsline*. Your dedication is a testament to the power of one person making a significant difference. We are all truly fortunate to have had you as part of our team. Good luck with your future endeavors, Renée! 🌱



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All applications and supporting material of qualifying companies are reviewed and selected by the PinE Committee.

We want to take this time to congratulate and thank our 2023 PinE Award Recipients.

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Elements of Hazard Tree Programs

By Ventsi Korichkov, Manager–Vegetation Reliability Planning, Eversource

The purpose of this article is to explore the ways hazard trees pose a threat to electric service and how utilities can address this threat. The article is based on the discussions of the same topic presented at the 2024 System Utility Vegetation Managers Summit in Glenwood Springs, Colorado.

Trees are a vital part of the earth's ecosystem, and they provide key benefits to the human population, like improving air quality, reducing water runoff, reducing energy needs, and many more. As much as we enjoy the benefits trees provide, for many utilities trees are the leading cause of power outages. While under certain conditions, even healthy trees fail; under similar conditions, trees with compromised health and/or structural integrity fail at a higher rate. Unlike man-made infrastructure assets, each tree has unique biomechanics and a unique response to external biotic and abiotic factors. As electrification increases, so does the demand for more reliable and resilient electrical service. All of this necessitates utilities to develop and maintain Hazard Tree Programs (HTPs) to address the risk imposed by hazard trees.

Definitions and Program Overview

To avoid any confusion, let's first define *hazard trees*: assessed trees likely to fail and cause an unacceptable degree of damage or disruption to electric service supply. Hazard trees are a subset of the broader group of *risk trees*: trees which, due to size and location, can potentially fall on overhead lines. Continuing with definitions, *tree risk management* refers to the application of policies, procedures, and practices to identify, evaluate, mitigate, monitor, and communicate tree risk. *Tree risk* is defined as the likelihood of a conflict (contact) or tree failure occurring and affecting a target and the severity of the associated consequences (e.g., utility assets, disruption).

There are two ways in which hazard trees cause electric service interruptions: (1) by failing structurally such that the tree strikes electrical infrastructure (*mechanical failure*); and (2) by providing the electrical conductor with an unintended ground or fault pathway to another conductor (*electrical failure*).

Strong correlation exists between hazard tree failures and weather conditions. Vegetation managers and grid operators alike are accustomed to using three weather-defined operating modes, from normal operating conditions (blue sky), to weather events (gray sky), to severe weather. The risk of hazard tree failures increases in the same order. Due to resource constraints, restoration time increases in the same order.

For most utilities, HTPs are driven not by compliance but by reliability requirements. Exception to this are California utilities where the state has regulatory provisions for the management of dead, rotten, or diseased trees.

Program Planning

Most utilities administer HTPs in two major ways:

1. **As part of tree maintenance programs.** Hazard tree inspections and mitigations are performed alongside vegetation maintenance programs. This approach works for either cycle- or condition-based maintenance programs, and it provides cost-saving opportunities. Risk-based prioritization is key to maximizing reliability benefits.
2. **Outside maintenance programs.** A reliability-centered approach targeting specific sections of the grid.

The reliability-centered approach is more common, and planning is usually done on either circuit or zone (device protection zone) level:

- **Worst-performing circuits selected annually on a state/jurisdiction level.** This approach is generally based on all-in/non-storm reliability performance. Some states, like

Massachusetts, have penalties for circuits that remain in the top 10 list for three years in a row.

- **Worst-performing device protection zones.** Selection can be based on overall or tree-related reliability performance.
- **Cost benefits analysis (CBA).** This approach uses unit cost and System Average Interruption Frequency Index (SAIFI)/Customer Average Interruption Duration Index (CAIDI) reduction for each work type to identify the most cost-efficient solution, in terms of cost per saved CI/CMI, for each circuit/zone. The solution can be a combination of engineering upgrades and/or VM work.

In either scenario, prioritization is based on SAIFI, CAIDI, or a combination of both.

Local conditions may necessitate the development of species-specific removal programs, which are driven primarily by two major factors:

1. **Historical performance of some species** (palm, poplar, eucalyptus, eastern white pine, silver maple, etc.)
2. **Increased mortality driven by environmental factors like drought and/or pest infestation outbreaks** (Asian longhorned beetle, emerald ash borer, spongy moth, etc.)

Hazard tree inspections, consisting of individual tree risk assessments, are performed by in-house/contracted arborists or both. The cost of the inspections is driven by several factors: accessibility (backyard vs. roadside), inspection details (level 1 vs. level 2), permission activities, and available inspection tools (paper vs. mobile application).

When it comes to cost recovery, utilities have three mechanisms at their disposal:

1. **Capital**—cost is treated as a capital work by some utilities in some states
2. **Non-Tracked**—cost is recoverable through general rate case (GRC)
3. **Tracked**—cost is recoverable through regulatory- or state-specific recovery mechanisms

The more common inspection approach, level 2 hazard tree assessment, requires specialized knowledge generally obtained through experience and/or education. Certifications (e.g., ISA Arborist, ISA TRAQ) and internal training programs utilizing ISA BMPs for utility tree risk assessments are necessary to assure consistent quality of those assessments.

There are two approaches to tree risk assessment: qualitative and quantitative. For either approach, the goal of the tree risk

Make Way for Pollinators!

Pollinators like honeybees, butterflies, birds, and bats play an integral role in ecosystem function. Unfortunately, habitat loss, disease, parasites, and environmental pressures are contributing to the decline of many pollinator species, such as the monarch butterfly. Concern over the decline of this pollinator species spurred the creation of the Rights-of-Way as Habitat Working Group and other conservation efforts. In 2020, the group finalized the Nationwide Candidate Conservation Agreement for Monarch Butterfly on Energy and Transportation Lands (Monarch CCAA), a voluntary conservation agreement between the U.S. Fish and Wildlife Service and more than 200 organizations in the energy and transportation sectors.

Pollinators and Machine Learning Tech

As a Rights-of-Way as Habitat Working Group partner, Davey has provided guidance on maintenance, planting, and monitoring to aid utility partners in meeting their compliance and environmental stewardship goals. Adam Baker (the Davey Institute) and Greg Emerick (POLLi) recently collaborated



on a pilot program using drones and machine learning to quantify milkweed and other floral resources in rights-of-way. In June 2023, they flew drones over distribution utility ROW in two locations in the Twin Cities area, photographing the pollinator plants. Once the data was collected, POLLi processed it through its algorithms, creating a heat map showing the number of milkweed stems and floral resources in the ROW. The institute compared this data to traditional boots-on-the-ground assessments and found that POLLi took significantly less time and was able to capture around 85 percent of the milkweed stems observed during ground surveys.

The Davey Institute and POLLi plan to conduct a larger study in June 2025 that looks at pollinator plants on other utility ROW, such as transmission and natural gas lines. Once the study is complete, another cost-effective option to gather compliance data more efficiently could be in the future. 🌱

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assessment is to estimate the level of risk posed by a tree over a specified time period. This is determined by:

1. Evaluating the tree condition that may lead to failure to determine the **likelihood of failure**
2. Evaluating the **likelihood of impact** a tree/branch could strike energized infrastructure
3. Assessing the target value and potential damage to estimate the **consequences of failure**

The qualitative approach uses risk matrixes (see Table 1) to combine ratings of likelihood of impact and consequences of failure to determine the level of tree risk. The quantitative risk assessment assigns numeric values for the probabilities and

Likelihood of Failure	Likelihood of Impact			
	Very Low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Likelihood of Failure & Impact	Consequences of Failure			
	Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low

TABLE 1. Qualitative Approach to Tree Risk Management

consequences of events and produces a numeric value for the level of risk (see Table 2).

Of the two, the qualitative approach is more commonly used, while the quantitative is helpful when we want to compare tree risk to other types of risk.

The consequences of tree failure are unique to each utility, and in general they are grouped into two categories:

1. **Direct consequences**
(physical damage to overhead infrastructure, like wire, pole, hardware, etc.)
2. **Indirect consequences**
(negative impact on reliability metrics, power restoration cost, worker safety, public safety risk, bad publicity, wildfire risk, etc.)

In summary, comprehensive HTPs are a proven tool for mitigating hazard tree risk. These programs bring uniformity in applying the same tree risk assessment and work prioritization methodologies over the entire service territory of each electric utility. ♻️

Risk Factors	Score
1. LIKELIHOOD OF FAILURE	70
Overall Tree Condition	50
No defects	1
Minor defects	10
Moderate defects	31
Major defects	50
Emergent tree	P1
Tree Lean	10
Negative lean	-10
No lean	0
Positive lean	10
Slope	10
Upslope	10
No slope	0
Downslope	-10
2. CONSEQUENCE OF FAILURE	30
Customers at risk Backbone	20
1-350	1
651-500	5
501-700	10

TABLE 2. Quantitative Approach to Tree Risk Management

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A ROAD LESS TRAVELED

My Path from Staff Sergeant to Environmental Steward

By Russ Evans, Vegetation Management and Forestry Specialist, Southern California Edison

After growing up in a small town in the White Mountains of Eastern Arizona, at the age of 21, I decided to make a big change in my life—so I joined the United States Marine Corps. For the next 13+ years, I thrived as an Infantry Marine. After five overseas deployments (four of them combat deployments to Iraq), over a dozen countries visited, multiple billets held, multiple commendations and awards, I had reached the rank of Staff Sergeant (E-6).

As I was preparing for my next promotion, an injury I received in Iraq grew worse, reaching the point where I could no longer continue my service in the Marine Corps. After being Honorably Medically Discharged, I was lost, with no new career picked out. But I knew I wanted—and needed—to do something fun for a while. So during the interim, I became a bicycle mechanic at a local bike shop where I was living in the Palm Springs area of Southern California. I spent five years as a bicycle mechanic, realizing that although it was a fun and enjoyable experience, it wasn't going to give me the life I wanted.

For a time, I worked managing a friend's warehouse while trying to find where the next chapter of my life was going to take me—but one thing I knew was that I wanted to work outside and do something with the environment. So as I was managing the warehouse, I went back to school to get a Bachelor of Science degree in environmental science. During this time, I started applying to different job openings



Russ Evans

in my area, with my only requirement being to work outside doing something to help the environment. After dozens of applications were sent out, one company finally responded and gave me the opportunity I needed.

My life changed in May of 2019, when at the age of 42, CN Utility Consulting (now Eocene of the West) gave me a job. I had never heard of “utility vegetation management” before. And even though I grew up in the middle of one of the biggest Ponderosa Pine forests in the world, it never occurred to me that trees and vegetation around the powerlines needed to be pruned.

My lack of industry knowledge and experience did not stop CNUC from hiring me and giving me a chance to learn what UVM is and the importance of it. They took me under their wing, and after absorbing an entirely new curriculum in UVM, I had found the career I had been looking for since getting out of the military.

Now, five-and-a-half years later, I work for Southern California Edison (SCE, one of the biggest electric utilities in the nation) as a Vegetation Management and Forestry Specialist, helping ensure SCE's UVM program is first in class. Since working in the UVM industry, I have also accomplished becoming an ISA Certified Arborist, Utility Specialist, and TRAQ Certified, as well as a TCIA Certified Treecare Safety Professional (CTSP). This industry gave me new direction, a new team to belong to, and the opportunity to impact the environment for the better. 🌱





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Tree Care and Storm-Based Restoration

By Joe Anderson, Vegetation Management Specialist, JEA



All photos courtesy of Joe Anderson.

Joe Anderson

Lazy days of summer are not always lazy. The Atlantic and Gulf coasts of southern states are energetic with an active tropical storm and hurricane season (June through November). Healthy and properly maintained trees can help weather storms.

Utility arboriculture is heavily involved with system reliability and the shared space between trees and utilities within municipal rights-of-way. In truth, the stewardship of an urban tree canopy is not limited to the municipality or the utility. Private property owners have a large part to play in storm preparation, system reliability, and the stewardship of a resilient urban tree canopy. Property owners are encouraged to schedule proper tree care *today*—before the storm. It's often too late to wait.

Damaged trees, tree parts, and debris are often a major contributor to storm-related damage and service disruptions. Healthy and properly maintained trees can help. During major catastrophic storms, tree damage cannot be avoided, but it can be minimized. Restoration efforts can be enhanced if dead trees and branches, declining stems, and structural defects are removed before a storm is formed out in the Atlantic. The tree care industry can provide the skills, expertise, and tools required for safe, responsible, and preventative tree care maintenance.

Once the height of a storm passes and weather conditions permit, utility and municipal crews are in the thick of it—responding, assessing, prioritizing, repairing, and restoring critical facilities and services as quickly and safely as possible. Whether damage is isolated to a particular area or widespread, the world has been turned upside down for those most affected by the storm. Daily routines, activities, livelihoods, and common familiarities are disrupted—and in many cases uprooted. Whole neighborhoods and numerous communities may be in turmoil and chaos. Fortunately, the restoration process and response are not haphazard or chaotic. Restoration efforts are preplanned, strategic, methodical, and in most cases rehearsed.

Urgency and availability of response crews may not necessarily be aimed at the need and desire of individual requests for utility or tree-related services. Priorities are often first centered around public safety, with service restoration aimed at local hospitals, shelters, police and fire stations, transportation hubs, and the backbone of public services.

Once core public safety repairs are complete, response crews will expand restoration efforts to areas and projects that will provide services to the greatest number of customers, to include various commercial zones and businesses. Having commercial zones and businesses up and running

is crucial while the restoration process is underway. Grocery, hardware, retail stores, restaurants, and financial institutions provide communities with the products, services, and alternatives needed to make repairs and sustain a temporary level of comfort until life can return to an acceptable level of normalcy.

Utility arborists, foresters, vegetation management specialists, and tree crews are fast to respond and are often in place before a storm hits, but they are not looking for a quick fix. They are components of utility providers that are not performing patchwork repairs to damaged infrastructure—they are rebuilding for long-term resiliency. Remote communities, outlying neighborhoods, individual property owners, and residents may feel they are on their own, neglected to fend for themselves. For a short period, this may be true—especially if proper tree care, outside utility corridors and municipal rights-of-ways, was neglected.

Damage to the urban tree canopy is inevitable. Storms will create acute stress that can overwhelm a tree's natural defense against wind, rain, and flooding. Many of the tree-related issues could have been resolved with proper tree care prior to a storm event and prior to storm season. The sense of neglect, inattention, and abandonment by individuals in the wake of a storm are often of their own making.

Many of the tree-related solutions for tree hazards and liabilities lie outside the scope of the utility service provider. Yet the utility arborist is not free from stewardship responsibilities. They have an obligation to connect customers with the right



resource for tree care and ensure customers are informed about their utility and arboricultural practices. Utility arborists have an eye for trouble and can guide property owners, and perhaps private tree care professionals, to the best (or alternative) solutions.

Once the storm is in the forecast, and soon after it passes, utilities, municipalities, and private tree care professionals are inundated with calls and requests to prune trees. Sound advice for property owners is to avoid the gridlock and bottleneck associated with the high volume and demand for services by scheduling tree work well in advance of an approaching storm, and well in advance of the summer storm season. Once the storm is in the forecast, municipalities and utilities enter “storm mode” and “storm-ready” preparations. Tree-related crews and resources are immediately directed to pre-planned priorities, tasks, schedules, and locations associated with critical infrastructure and essential emergency services. Response for individual pleas and isolated requests may be delayed, gridlocked, and caught in the bottleneck of the high volume of calls received by call centers and storm response centers.

So don't delay. Property owners have a large part to play in environmental stewardship and storm resiliency. The lazy days of summer are not to be lazy when it comes to proper and timely tree care. Time is of the essence—schedule proper tree care today! 🌳



SPOTLIGHT ON THE ENVIRONMENT

Protecting and Conserving Bird Populations Affected by Utility Infrastructure

By Caitlin Morrison, PHI Project Manager, Davey Resource Group

A few years back I was participating in an annual pollinator study, collecting data from multiple transects underneath transmission lines in an area where the Pine Barrens meet coastal habitats of New Jersey. During my field monitoring, I observed a red-headed woodpecker (*Melanerpes erythrocephalus*) active in the area. Red-headed woodpeckers prefer forested areas with sparse undergrowth for food sources. They're also one of four North American woodpeckers known to store their food. I was aware that the red-headed woodpecker is a threatened species in New Jersey, so observing one in the wild was very exciting.

Birds play a vital role in our ecosystems: they contribute to seed dispersal, pollination, pest control, and nutrient cycling. They are bioindicators of healthy habitats—and when bird populations drop and species become threatened or endangered, there often is a connection with human intervention. Deforestation and the removal of old-growth forests have had significant impacts on bird populations, especially those of the woodpecker species. Whether agriculture or urban expansion, deforestation is a disturbance to the local ecology and has ripple effects among the biological communities. Even the maintenance or creation of utility infrastructure can lead to habitat loss and decline.

The National Audubon Society and Pheasants Forever are two examples of organizations that promote conservation efforts and awareness of species and habitat in decline. This act of environmental stewardship allows professionals, citizen scientists, and nature lovers like birders to volunteer and advocate to preserve, create, and increase bird habitat. By partnering with these or other environmental stewardship organizations, utility companies can enhance their rights-of-way and create more positive environmental impacts.

The utility ROW I was observing acted as an edge habitat, which was attractive for the red-headed woodpecker's survival. The

diet of red-headed woodpeckers includes beetles, cicadas, honeybees, and grasshoppers—all species we identified in the field during our pollinator survey. The continuous goal of this survey, in partnership with the utility company, is designed to monitor pollinator presence and density in ROW areas managed with integrated vegetation management. Getting the opportunity to see this threatened woodpecker during our monitoring was the perfect complement to a day out in the field.

Monitoring and managing ROW to create positive impacts on local ecology and species diversity is in the best interest of utility companies and the communities they serve. Utilities are more commonly looking for projects and data that will help them meet their broader sustainability goals. Environmental, Social, and Governance reporting has become a standard for investor-owned utility (IOU) companies and their shareholders, and thus motivates IOUs to implement more environmentally sustainable policies. Many public utilities and cooperatives are also committed to environmental stewardship, and publish the results of their efforts in their annual sustainability reports or similar.

Extensive research shows that implementing IVM principles and practices can positively affect the ecology of ROW and the surrounding area, whether it's a new construction project or an ongoing maintenance program. Most utilities work with partnering organizations to perform environmental surveys, wetland delineation, stormwater runoff surveys, and more, but there are ways to go above and beyond the status quo. Leading utilities can be exemplars by highlighting their efforts and accomplishments to sustainably manage ecosystem health along their ROW by programmatically implementing and monitoring sustainable IVM, habitat conservation, and wildlife protection practices. Moving in this direction, focused on constant improvement, reinforces the importance of environmental stewardship and can help



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motivate other utilities to adopt more sustainable programs and practices nationwide.

For example, utilities in the Northeast are leading the charge in avian protection. Enacted avian programs monitor utility infrastructure-related bird mortalities and safeguard active nests during breeding season. They also study avian activity to prevent nesting on utility structures. If an active nest interferes with utility work plans, all activities are halted until the offspring have left. The utilities value bird life and avoid risking chick abandonment.

Until January 2025, bald eagles and ospreys were on New Jersey's Endangered Species list for 40 years—a conservation milestone. Avian protection programs likely contributed to this success. Such environmental victories are celebrated by stakeholders and customers alike. Satisfied customers are a significant advantage for utilities, in addition to aligning with ESG goals. These utilities are able to highlight and reinforce their eagle protection efforts through industry presentations, social media, and ESG/sustainability reporting.

Environmental stewardship does not need to be a lonely road; caring for the environment is a cumulative passion to protect our landscapes, wildlife, and livelihoods now and for future generations. Many passionate organizations and experts are leading the way to the path of sustainability. Utilities are making a meaningful impact by exploring avian protection and other conservation initiatives, which are steps in the right direction towards environmental stewardship. 🌱

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A RECIPROCAL COMMITMENT

How Liberty's Habitat Management Training Program Benefits the Utility and Its Contractors

By Jason Grossman, Manager of Vegetation Management, Liberty Utilities, and Joshawa Arnold, General Foreperson, Wright Tree Service

Utility vegetation management plays a crucial role in maintaining safety, reliability, and environmental stewardship in powerline corridors. As the industry evolves, training field employees to manage these spaces effectively and sustainably is becoming more important than ever. Recognizing this need, we launched a habitat management training program aimed at enhancing our workforce's skills, fostering better communication with the public, and ensuring compliance with evolving regulatory requirements, such as those related to the Nationwide Candidate Conservation Agreement for Monarch Butterfly (Monarch CCAA). This initiative, developed in collaboration with Grow With Trees, has not only improved employee retention but also bolstered buy-in for our vegetation management program.

A Workforce-Centered Approach to Training

The concept for this training arose during a challenging period marked by the COVID-19 pandemic. With employee retention under strain, we realized that offering continuing education opportunities could provide much-needed motivation and growth for our field crews. We wanted to create a program that would not only strengthen technical expertise but also foster pride in the work our employees do every day.



Grow With Trees brought their naturalists on board to design and deliver the training, ensuring it would be both engaging and educational. Their team's approach combined deep ecological knowledge with an understanding of the day-to-day challenges faced by field employees. This partnership allowed us to develop a program that resonated with our crews, teaching them practical skills while also expanding their understanding of the ecological impact of their work.

Key Components of the Training

The habitat management training covered a range of topics tailored to the needs of our workforce and the demands of UVM. Key areas included:

1. **Understanding Habitat and Biodiversity**—Employees learned about the significance of creating and preserving habitat for pollinators, birds, and other wildlife within utility corridors.
2. **Regulatory Awareness**—The training prepared employees for changes in environmental regulations, such as the potential implications of the Monarch CCAA, ensuring they understand the importance of compliance.
3. **Communication Skills**—Recognizing that field employees often interact with the public, the program emphasized clear, effective communication to explain the purpose and benefits of VM activities.
4. **Practical Skills**—Crews gained hands-on experience with tools and techniques that promote sustainable

VM, such as selective trimming and integrated IVM strategies.

5. **Safety and Efficiency**—Ensuring the safety of both employees and the public remained a top priority, with focused training on hazard assessment and mitigation in field operations.

Employee Feedback: A Catalyst for Growth

One of the most rewarding aspects of this program has been the overwhelmingly positive feedback from employees and contractors. Many crew members expressed that the training both deepened their understanding of their work and gave them a renewed sense of purpose and engagement. While the training is not required, it does give everyone the opportunity to learn and participate in the VM program.

We are witnessing employee growth in real time. As we move forward with education and training, it becomes very evident that our employees better understand the importance of their role within our larger industry. As we collaborate and invest in our crews, we are helping to cultivate a stronger workforce for our industry.

Others noted how the communication skills training helped them address public concerns more confidently. This has been particularly beneficial in areas where residents are highly engaged with local environmental issues. "The training gave me the tools to explain why our work is important," shared another crew member. "People seem to appreciate it when we take the time to share what we're doing and why."

Advanced Opportunities for High Performers

Recognizing that some employees excelled during the initial training sessions, we developed an advanced course for those looking to deepen their expertise further. This advanced training dives into more complex ecological concepts, data collection methods for habitat monitoring, and leadership skills for mentoring others. Graduates of this



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program often become champions of habitat management within their teams, helping to spread best practices across the organization.

The advanced course has also served as an incentive for employees to strive for excellence in their roles. By offering a clear pathway for growth and professional development, we've seen an increase in employee engagement and retention. This is particularly significant given the challenges of retaining a skilled workforce in the wake of COVID-19.

Incentivizing Participation

To encourage participation, we linked the training program to our pay raise structure. Employees who complete the training are eligible for raises, recognizing their commitment to professional development. This approach has not only increased enrollment but also reinforced the value of the program within our workforce.

The Role of Collaboration

A significant factor in the program's success has been the expertise and enthusiasm of the Grow With Trees team. Their naturalists brought a unique energy to the sessions, using hands-on activities and storytelling to make complex ecological concepts accessible and engaging. Crews consistently remarked on how much they enjoyed the interactive elements of the training, from identifying native plants to understanding wildlife behavior.

One field supervisor noted, "Grow With Trees made the learning fun. You could see everyone was really into it, which isn't always the case with training programs. Their naturalists did a great job of connecting what we do every day to the

bigger picture."

Preparing for Future Challenges

Utility vegetation management is a field that requires constant adaptation. From climate change to new regulatory pressures, our industry faces a host of challenges that demand innovative solutions. This training program is part of our proactive approach to preparing our workforce for the future.

For example, as the Monarch CCAA continues to gain traction, our crews are now better equipped to implement practices that support this initiative. By integrating habitat management principles into their daily operations, they are helping us stay ahead of potential regulatory changes while also enhancing the ecological value of our corridors.

A Model for the Industry

Our habitat management training program has become a model for how utilities can invest in their workforce while advancing environmental stewardship. By prioritizing employee education and engagement, we've created a win-win scenario: better-trained crews who take pride in their work and utility corridors that provide critical habitat for wildlife.

The program's success has also highlighted the importance of partnerships. Collaborating with Grow With Trees allowed us to tap into their expertise and deliver a training experience that resonated with our employees. This partnership underscores the value of working with organizations that share our commitment to sustainability and workforce development.

Looking Ahead

As we continue to refine and expand the program, we're exploring additional ways to enhance its impact. Future plans include incorporating more technology into the training, such as virtual reality simulations for habitat assessment, and expanding the advanced course to include topics like community engagement and advanced data analysis.

In the meantime, the program remains a testament to what can be achieved when utilities invest in their

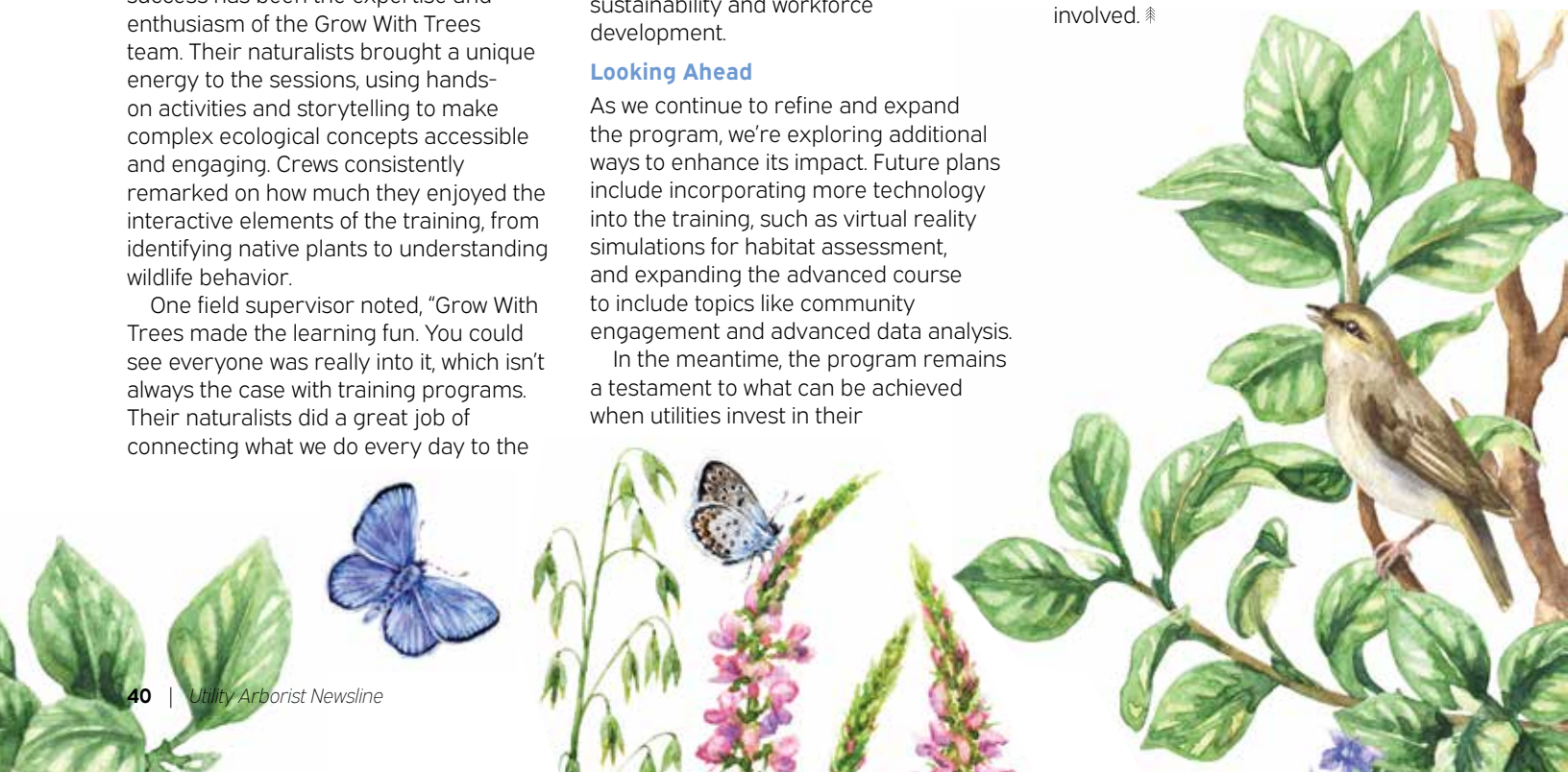
people. By equipping our workforce with the skills and knowledge they need to succeed, we're not only improving our VM program but also contributing to the broader goal of environmental sustainability.

Conclusion

Training programs like this one demonstrate the power of education to transform both individuals and organizations. For our field employees, the habitat management training has been a source of pride and empowerment. For our utility, it has strengthened our commitment to safety, reliability, and environmental stewardship. And for the communities we serve, it has reinforced the importance of utility vegetation management as a force for good.



As we look to the future, we're confident that this program will continue to yield benefits for our workforce, our company, and the environment. By staying true to our values and investing in our people, we're ensuring a brighter, more sustainable future for everyone involved. 🌱



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Strengthening Wildfire Resilience through Legal Reform and Innovative Strategies

By Robert Warwick, Senior Contract Specialist, Pacific Gas and Electric Company

Photos by Robert Warwick

As wildfires become more frequent and destructive, it is imperative to reevaluate and enhance the legal and regulatory frameworks that govern wildfire mitigation. The evolving threat demands proactive measures that prioritize community safety, environmental sustainability, and technological innovation. Exploring key strategies, such as enhanced building and fire codes, expanded mutual aid networks, community preparedness, cutting-edge tools, and proposed legislative changes to bolster wildfire resilience is key to mitigating future wildfire disasters.

Understanding how homes ignite in a fire is important in understanding how to mitigate risk. While there are a variety of causes of wildfires and property fires, buildings ignite as a result of direct flames, radiant heat, or as a result of embers falling directly on the building or on vegetation and objects surrounding the building. Studies have shown that ember exposure can account for up to 90 percent of all structural fires in a wildfire disaster, including a study that showed two out of every three homes destroyed in the 2007 Witch Creek Fire in San Diego County, California, were ignited by embers.

Building codes are among the most effective tools for mitigating wildfire risks. Current regulations often fall short of addressing the reality of wildfires in fire-prone areas. Strengthening these codes is essential for reducing structural vulnerability and ensuring community safety. One critical reform involves mandating the use of fire-resistant materials, such as Class A roofing and fire-resistant siding, which can significantly reduce the risk of ignition from embers. Additionally, local ordinances should enforce defensible space zones around structures, with clear guidelines on vegetation management practices, like removing dead trees and creating firebreaks. Finding a qualified ISA Certified Arborist with wildfire mitigation experience can be critical in assessing an individual property's risk and how to best mitigate the individual risk from a wildfire. Incorporating Wildland-Urban Interface (WUI) standards into state and local codes can further mitigate risks by addressing building setbacks, access routes for emergency responders,

and water supply availability for firefighting.

Wildfires do not adhere to jurisdictional boundaries, making mutual aid agreements between agencies and states critical for effective response. While many states participate in mutual aid systems, there is room for improvement in coordination and resource allocation. Federal funding should be allocated to support interstate and intrastate mutual aid programs, ensuring that resources such as personnel, equipment, and aircraft are readily available. Communication protocols must also be streamlined through standardized systems that enhance situational awareness and response times. Additionally, legislation should mandate and fund the strategic pre-positioning of firefighting assets in high-risk areas during peak fire seasons, enabling quicker and more effective responses. Additionally, fire recovery and the costs related to recovery should not be politicized for any reason. Real human beings, families, business owners, neighbors, are struggling, not because of their own actions but because of our collective actions.

Community preparedness is another cornerstone of wildfire resilience. However, public awareness and participation often lag behind the need for proactive measures. Education and engagement programs can empower residents to take meaningful actions to protect their homes and neighborhoods. Federal and state governments should invest in comprehensive public education initiatives to disseminate information about wildfire risks and preparedness strategies. Homeowners who invest in fire-resistant upgrades or create defensible spaces should be incentivized through tax credits or deductions, encouraging widespread adoption of these practices. Neighborhood-based programs, such as local Fire Safe Councils, should also be supported to foster community collaboration on wildfire mitigation efforts, with funding allocated for training, equipment, and community drills.

Emerging technologies are revolutionizing wildfire detection and prevention. Companies like Pano AI and Overstory are at the forefront of this transformation. Pano AI's advanced camera systems and artificial intelligence algorithms provide real-time

Photo of destruction in Paradise, California, after the Camp Fire in 2018.





Honey Run Bridge, the oldest covered bridge in the West, was destroyed during the Camp Fire in 2018.

wildfire detection, enabling faster response times. Similarly, Overstory uses satellite imagery and AI to monitor vegetation and assess wildfire risks, offering valuable insights to vegetation mitigation efforts. To maximize the potential of these innovations, federal grants and tax incentives should support the adoption of advanced detection systems by utility companies, local governments, and fire departments. Legislators should also require that data collected by these systems be shared across agencies and jurisdictions to enhance collaborative efforts. Furthermore, state laws should mandate the integration of AI-based detection systems into wildfire response strategies, ensuring these tools are leveraged to their full potential.

To achieve meaningful change, legislative reforms must address systemic gaps in wildfire mitigation. A comprehensive approach would establish a national wildfire mitigation fund to provide financial resources for implementing enhanced building codes, expanding mutual aid networks, and adopting advanced technologies. A federal wildfire mitigation task force should be created to oversee coordination between federal, state, and local governments, ensuring alignment of policies and resource allocation. States should also be mandated to conduct regular assessments of wildfire risks, incorporating climate projections, population growth, and infrastructure vulnerabilities. Importantly, policies must address the needs of underserved communities, which often lack the resources to implement mitigation measures. Grants and subsidies should prioritize these populations to ensure equitable resilience efforts.

Wildfires pose an escalating threat to communities across the globe, but proactive legal and regulatory changes can make a significant difference. By strengthening building and fire codes, expanding mutual aid networks, fostering community preparedness, and leveraging cutting-edge technologies, policymakers can create a robust framework for wildfire resilience. Implementing these strategies will not only protect lives and property but also promote sustainable and equitable solutions for a fire-prone future.

ABOUT THE AUTHOR

Robert Warwick is a California-licensed attorney with a unique blend of legal expertise and extensive experience in vegetation management. Prior to earning their law license, he served as a Senior Vegetation Program Manager at PG&E, where they specialized in utility risk mitigation and environmental stewardship. As an ISA Board Certified Master Arborist, Warwick possesses a diverse background that brings a multifaceted perspective to his work, combining legal acumen with practical field experience. 🌲



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Trees & Lines Shines a Spotlight on Environmental Stewardship

Studies from Sweden and the UK have shown that 40–50% of the biodiversity associated with trees is on the dead parts of trees,” Vikki Bengtsson explained on the *Trees & Lines* podcast. “That really is important for us to take into account when we’re managing our tree populations and the associated species.”

It’s not just the living parts of trees that help ecosystems thrive—the dead parts are exceptionally beneficial too. That was one of many fascinating takeaways from our conversation with Bengtsson, who is a senior ecologist at Pro Natura. Her discussion with *Trees & Lines* hosts Phil Charlton (UVM veteran) and Tej Singh (Iapetus Infrastructure Services COO) also touched on vegetation management in Sweden, veteranisation, and alternatives to removing old trees.

It’s one of many *Trees & Lines* episodes where environmental stewardship has been at the forefront. Industry thought leaders like Katie Fernholz (Dovetail Partners, Inc. President and CEO), Caroline Hernandez (Assistant Program Director of Sustainable Landscapes at the University of Illinois–Chicago’s Energy Resources Center), and Amy Newkirk (Vegetation Manager for Solar Generation at Invenergy) have provided the podcast with fresh perspectives on utility vegetation management by sharing astute ideas on sustainability, renewable energy, and the environment as a whole.

From pollinator habitats to the Right-of-Way Stewardship Council, we’ve explored environmental stewardship from a variety of angles and are excited to continue the conversation. Of course, we discuss other UVM topics too: safety, technology, and wildfire mitigation, just to name a few.

If you’re passionate about this industry, we want you to join the *Trees & Lines* conversation—head on over to treesandlines.com to see what we’re all about! 🌲



Scan here to watch our episodes on YouTube.



Utility Corridors as Opportunities for Environmental Restoration

By Michael Marefka, Restoration Ecologist and Vegetation Services Operations Manager, EnviroScience

Utility corridors, the cleared strips of land cast beneath powerlines like well-manicured shadows, are a ubiquitous feature of our landscape. Transmission towers run through the outskirts of major metropolitan areas as regularly as they do through endless acres of farmland and densely forested mountain ranges. They are evidence of human interconnectivity, the reliable provision of energy to cities and towns, regardless of physical size or population. However, these corridors do not have to be limited in their function or benefit. A parallel system—the groundwork already long established—is ready for activation. Through the employment of efficient and effective restorative vegetation management, these spaces known as utility rights-of-ways offer a prime opportunity to establish not only human interconnectedness but ecological connectivity as well.

It may come as a surprise to utility vegetation managers and conservation land managers alike that hundreds if not thousands of acres of land in their region are poised for ecological restoration. *Yet, it is a fact.* ROW are not going anywhere, and neither are the strips of land serving as their foundation. These readily accessible community investment opportunities are mutually beneficial, providing various stakeholders with an untapped resource for environmental restoration.

Environmental restoration includes the improvement of natural resources for the benefit of plant and animal life, as well as human populations by providing opportunities for education, transportation, and recreation. This article focuses on engineering systems that support plant life while balancing the regulatory considerations of ROW. The successful establishment of vibrant, diverse plant communities can and should be seen as

the first step in the process towards environmental restoration, with functions flowing downstream to both animal and human benefactors.

Many utility vegetation managers might consider the introduction of native plant communities into ROW as an unnecessary increase of risk in the system—that does not have to be the case. The very nature of utility vegetation management is based on the suppression or complete eradication of vegetative communities to keep utilities safe and operating efficiently. However, not all vegetative communities are created equal when analyzed in the context of nuisance. Before moving on to the secondary benefits of environmental restoration, those listed above that do not directly affect the daily practice of utility vegetation managers, it is worth considering what the introduction of native vegetation will mean for practitioners. The answer lies in the control of invasive vegetation.

Invasive vegetation is hardy, aggressive, fast-growing, resilient, and overall “weedy.” Invasive woody species, those that pose the greatest threat to ROW, are colonizing and, if left untreated, quickly form dense, impenetrable thickets. Control methodologies, such as mowing, when not partnered with immediate herbicide application, can increase the density of these thickets, adding to the overall problem of control over time. Additionally, certain invasive woody species like buckthorn (*Rhamnus spp.*) even secrete emodin, an organic compound that prevents other plants from growing. Tree-of-heaven (*Ailanthus altissima*), a species that derives its name from its fast-growing nature, is one of many invasive woody species that spreads through resprouting and root suckering. Root suckering is indicative of a hardy, aggressive, and resilient species that

establishes itself as a single entity within an area. These species characteristics pose major problems for utility vegetation managers as they are likely to increase the time and resources necessary for their effective control. Restorative VM offers a long-term solution.

Invasive vegetation is a central problem for restorative vegetation managers, those tasked with reestablishing native habitats in areas degraded by human activity. While invasive VM methodologies still and will always include the likes of mowing, burning, and herbicide application, the long-term strategy introduces an additional control mechanism: native vegetation installation. Effective vegetation control is ultimately a question of competition, and the only true competition for invasive vegetation is native vegetation. Many ROW are most likely suffering invasive vegetation infestations from their initial construction and clearance when the disturbed ground provided the perfect opportunity for colonization. Therefore, the fight between competing plant species was never fair. Utility vegetative managers can now reintroduce competition, which will lower costs over time by establishing a more manageable and desirable habitat.

It is important to correctly adhere to the regulatory framework of managing ROW. Violations are a primary concern. This article focuses on the introduction of native herbaceous habitat, plant species not classified as woody, to present a risk-averse strategy for the native revegetation of ROW.

There are many considerations when evaluating ROW for environmental restoration. Firstly, the restoration area needs to be identified. This area can encompass the entirety of the ROW or a more limited approach with overall ROW limits. Limiting factors can be environmental, such as high densities of desirable, native vegetation already on site, or managerial, such as budgetary considerations. Restoration designs are usually made with consideration for both factors. Secondly, the proposed habitat objectives need to be determined. Habitats greatly depend on the identification of upland, mesic, and wetland areas. Utility vegetation managers need to determine what will grow where, and can enlist the services of wetland delineators and restoration ecologists to better inform decision-making. Lastly, state, local, and federal permits might be required based on the identified restoration area and corresponding habitats. A thorough review of permitting needs should be conducted before performing any fieldwork.

The first step for active management is developing a strategy for site preparation. Site preparation is necessary to ensure the long-term success of the restoration area. Primary considerations include the control of invasive and undesirable vegetation, and soil modification. Vegetation control usually involves the use of herbicides to eradicate target species. There are myriad herbicides available for application, most if not all of which depend on proper species and habitat identification for correct use. An herbicide application regimen, which includes scheduled treatments and application methodologies, needs to be developed to effectively manage the restoration area. Following the control of target species, the soil on site may or may not need to be modified to prepare for native seeding. Soil modification can include plowing, disking, or other general forms of scarification. The purpose of soil modification is to engineer seed-to-soil contact, a critical step in successful native

habitat creation. However, site conditions such as sparse existing vegetation might render soil modification unnecessary.

Though this blank-slate approach might seem eerily similar to the immediate post-construction conditions of the ROW's initial construction, the key is to install the restoration area with native seed mix, not just a combination of cover crop and turf grass seed mixes. Native seed mixes are specific to habitats and should be further informed by the overall goal of the restoration area. Mixes, just as a few examples, can be calibrated for showy wildflowers that service pollinators, dense grasslands, or low-growth erosion control. Seed can either be drilled or broadcast throughout the restoration area at varying densities of pounds per acre. Seed mixes can be purchased from accredited nurseries and calibrated to prioritize specific species. Such customization allows for project goals that can accommodate the concerns of various stakeholders.

Lastly, restoration areas will require maintenance. Although the establishment of native vegetation mitigates the presence of nuisance species, it is not a one-time solution. However, with a higher ratio of desirable to undesirable vegetation, the areas in need of costly treatment will decrease. This is an opportunity for new partnerships with local environmental stakeholders. As is the case when any new, valued natural resource is established, there are always those willing to assist in its stewardship. Again, the benefits are multiplied.

The function of ROW and their potential to provide ecological function do not have to be treated as separate entities. In fact, combining the two functions can further establish ROW as essential and welcome infrastructure in a region. This multiuse approach can be employed to maintain healthy and vibrant relationships with adjacent communities, especially as it relates to alleviating concerns about disturbance to natural areas. Furthermore, the environmentally restored ROW themselves can become destinations, nexus points for trails like "Hike and Bikes," which continue to grow in popularity as a means of sustainable transportation and recreation.

Not all ROW will be eligible for environmental restoration, and even for those that are, not all areas within the corridor might make sense for native revegetation. However, the benefits are worth the investigation.

ABOUT THE AUTHOR

Michael Marefka is an Ohio Department of Agriculture Certified Commercial Applicator in the Categories of 3A-General Aquatic Pest Control, 4A-Forest Pest Control, 5-Industrial Vegetation Control, and Commercial CORE. He provides project management and technical expertise for the vegetation components of environmental restoration projects.

The diverse nature of his work demands proficiency with issues related to the conservation of sensitive natural areas, ecosystem identification, herbicide application, and spatial analysis. He holds an M.A. in environmental studies from Cleveland State University, and previously worked at the Cleveland Museum of Natural History, Natural Areas Division, as a conservationist. 🌿



Michael Marefka

RestorixSM Regenerative Right-of-Way (ROW) Management



Revitalize Rights-of-Way with RestorixSM Regenerative Right-of-Way Management System

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OPINION EDITORIAL

UVM's Legacy of Environmental Stewardship

By Randall H. Miller, Director of Research and Development, Eocene Environmental Group

Environmental stewardship is a core value of the Utility Arborist Association. As such, this annual environmental stewardship issue of the *Utility Arborist Newsline* reflects that value. This issue also reminds us that managing utility corridors through components of environmental stewardship has been integral to utility arboriculture for decades. For example, the concept of biological control through cover type conversion is central to environmentally-sound integrated vegetation management and an important best management practice (Miller, 2021). Cover type conversion in utility corridors was first developed in the early 1950s by ecologists such as William Niering and Frank Egler (Niering and Egler, 1953; Niering, 1958; Egler, 1975), who demonstrated that electrical rights-of-way could be maintained by establishing stable, tree-resistant, low-growing plant communities. The technique promoted targeted use of selective phenoxy herbicides, which were newly developed at the time. Just as importantly, it took advantage of rights-of-way as areas of opportunity to promote early successional habitat that had (and still has) been dwindling due to development, agriculture, and our preference for trees.

Rachel Carson's seminal book *Silent Spring* (1962) was an indictment against overuse of pesticides (including herbicides), and inspired the environmental movement. Yet, she was a close associate of Dr. Frank Egler. In *Silent Spring* she offered an eloquent early description and endorsement of what we now

call chemically facilitated biological control. She wrote:

The treatment is directed only to trees and any exceptionally tall shrubs that must be eliminated. The integrity of the environment is thereby preserved, the enormous value of the wildlife habitat remains intact, and the beauty of shrub and fern and wildflower has not been sacrificed (Carson, 1962, p. 74).

She went on to observe that one of the many advantages of the technique is it minimizes the amount of herbicide applied to the landscape, not only acknowledging an important environmental benefit of the approach but also recognizing its cost-effectiveness.

The Legacy Continues

Decades of research has proven the efficacy of cover type conversion. A prominent example is the celebrated Game Lands 33 Demonstration project in Pennsylvania, which also dates from the early 1950s. Conservationists were concerned that a utility's use of herbicides on a transmission corridor was harming wildlife on State Game Land. Two wildlife biologists, W.C. Bramble and W.R. Byrnes (then at Pennsylvania State University and later at Purdue), created a study to figure out whether chemical treatments negatively affected plants and wildlife. They compared targeted use of selective herbicides to mowing (mastication) and hand cutting woody plants. In 1985, they introduced Niering's wire zone-border zone concept to the project (Bramble, Byrnes, and Hutnik, 1985). The results consistently showed

that targeted use of herbicides to facilitate cover type conversion not only created tree-resistant plant communities but also resulted in a greater richness and abundance of early successional insects and animals, like pollinators, reptiles, small mammals, and ground-nesting songbirds.

The Game Lands 33 Demonstration study is still underway, now directed by Carolyn Mahan. The project's over 70-year legacy continues to show that IVM promotes compatible native plant dominance of the right-of-way through natural plant establishment, typically without planting. Those native plant communities in turn provide nesting and escape cover, insect food, and results in sustainable avian nesting success for songbirds. Mahan and her team have also focused on pollinators. They found more than 156 unique taxa of bees, including rare, specialist, and vulnerable species, and one species that had yet to be described to science. She points out that there are millions of acres of utility and transportation rights-of-way in the United States, and these corridors offer an area of opportunity to promote native flowering plants, nesting habitat, and habitat connectivity (Mahan, 2022).

Cost Effectiveness

It turns out that IVM not only makes environmental contributions but is also less expensive in the long run. In an investigation of the cost-efficiency of IVM, John Goodfellow determined, "A vegetation management strategy based on the use of IVM, which includes integration of mechanical



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OPINION EDITORIAL

and herbicide-based prescriptions, is consistently and convincingly less costly than repeated treatments using only manual and mechanical techniques" (Goodfellow, 2018, p. 4). He found that while IVM is initially a higher-cost approach, after four years, the cost of mechanical methods alone is more expensive than IVM. However, after 20 years, IVM is less than half the cost of mechanical methods (Goodfellow, 2018).

Summary

The UAA's dedication to environmental stewardship is sensible. It uses utility rights-of-way as areas of opportunity to create habitat for early successional plant and animal populations, that have been declining. At the same time, it creates stable, tree-resistant plant communities that are compatible with safe, reliable power delivery. Those tree-resistant plant communities are also demonstrably cost-effective. So, it strikes a balance in simultaneously serving the needs of society for critical infrastructure and a healthy environment.

This issue of the *Utility Arborist Newsline* offers articles that contribute to UVM's history of environmental stewardship. They include those that focus on enhancing utility corridors for ecological value, habitat management field training programs, identifying compatible and incompatible species, and many others. They advance UVM's legacy of environmental stewardship while enabling safe, reliable power delivery. Environmental stewardship is among UVM's finest accomplishments—we can be proud of our contribution to that achievement.

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