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It’s mid-summer and most tree care companies are working flat out with backlogs of future work hopefully stretching out weeks or even months. So this may seem an odd time to look ahead and start planning how to keep the business functioning during and after a disaster.

Keep in mind that Hurricane Irene hit in August 2011, and Hurricane Sandy, the second-costliest hurricane in United States history, struck in October 2012. In its 2013 Atlantic hurricane season outlook, NOAA’s Climate Prediction Center is forecasting an “active” or “extremely active” season this year.

A crisis can involve more than a weather-related emergency. Start by defining what a crisis is so your company implements the right response for the situation. Your plan should include a detailed set of actions to take for handling each one. Potential crises can include a natural disaster, a fire at your facility, or the death a key staff member.

Are you prepared for a crisis?

Your plan should include a list of responsibilities and assignments for who is in charge of each task, including things that need to happen after normal work hours.

How will you communicate with your customers without power at the office? Outline who your key customers are and your plan for communicating with them.

In a disaster, you will be pulled in many different directions. Your long-term customers will want immediate attention. Potential new customers will be calling with emergencies (and non-emergencies), community groups and nonprofits will be looking for free help, and your staff will probably have emergencies at home themselves. Try to have clear priorities beforehand, so you’re not making constant decisions on the fly.

If the power goes down or your office is destroyed, will your records survive? Finalizing a system for the preservation of records before a crisis ensures an easy transition to normal operations afterward. Whether you use backup tapes or hard copies, consider moving that information off-site before the crisis.

After a crisis, you should document what went right, what went wrong; what worked, and what didn’t work. One way to make sure we don’t repeat our mistakes is to be clear of what they were. Your staff should be trained on the plan annually, and the good and the bad from the last event should be discussed.

In a natural disaster, customers look to you and your staff for leadership as first responders. Planning for a crisis will help cement your relationships with long-term customers, help you win new ones, and reduce the stress that comes from lurching from one tough decision to another.

Now, enjoy the rest of the summer!

Mark Garvin
Publisher
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AUGUST

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ON THE COVER: A Kershaw Sky Trim is an updated version of the 1929 tractor saw pictured (inset), courtesy of Asplundh Tree Experts. Story, page 8.

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By Rick Howland

Without exaggeration, until the Atomic Age right-of-way clearing was done much as it always had been… by hand. Certainly, twentieth century improvements in saws and axes and the bulldozer sped up the process, but not by much. There are some old-timers around who remember those days or know someone who worked that way, even into the early 1950s. Trees and branches were felled manually, then left to decay, or heaped in piles for burning. Sound familiar?

The major changes in right-of-way work have taken place over barely two generations, with the advent of such new-fangled tools such as the chain saw – largely experimental by the start of WWII; hydraulic log loaders, which began replacing the winch method around the mid ’40s; the advent of brush mowers in the mid 1960s; and, improvements in the chipper, invented in Germany in 1884 and popularized via modern mechanization in the U.S. in the 1950s and 60s. (Asplundh’s first portable brush chippers for arboriculture came out in 1948.)

When we think right-of-way clearing techniques these days, we gravitate to the familiar: new tools and equipment plus evolving practices and regulations, such as those precipitated by the 2003 U.S.-Canada blackout. (Let’s not forget that was caused by an under-attended tree in a right of way coming in contact with a transmission line.)

Additionally, right of way has also been re-defined. Seven decades ago when TCIA (then NAA) was new, right-of-way work for tree care consisted of clearing and maintenance for railroads and power and telephone/telegraph paths, and subsequently post-war land clearing for homes to accommodate returning veterans. These
days we include new opportunities such wind and solar generation farms and new miles of gas and shale oil pipelines.

As TCIA celebrates its Diamond Anniversary, we take a look back to see how we got here from back there.

Hyland Johns worked more than 60 years in arboriculture and is a retired senior vice president for Asplundh. In his career, he's "had every job on the ground and climbing. I did it all and even wrote the manuals," Johns says. He attended forestry school after World War II on the GI bill and started with Asplundh in 1950. "Back then, right-of-way clearing was done by hand as it had been in the early days, usually with brush scythes – which could take down material up to an inch in diameter, crosscut saws and axes as needed," Johns recalls. "It was handsaws and two-man saws before World War II."

Power saws didn't become practical, Johns says, until the development of lighter-weight machines such as Disston's two-man power saw, developed in 1939 in Philadelphia, before WWII.

"Before World War II, virtually all clearing in the Northeast, Midwest and central U.S. was hardwoods. These were taken with the brush scythes, crosscut saws and axes and burned. Sometimes they were left fallow," he adds. "It was largely that way until the end of the war. Very few things changed. It was very dangerous work, but it was easy to get labor back in the 1930s and 1940s (America was struggling through The Great Depression and an early post-war economy with lots of unemployed veterans returning to the workforce). There were armies of men doing the work," he says.

Scott D. Packard, chairman and CEO of Wright Tree Service, headquartered in West Des Moines, Iowa, says his company, which recently celebrated its 80th anniversary, has been in line clearing since the 1930s and has seen it grow quickly through the 1940s and 1950s, to a point where it now accounts for about 95 percent of the company's business.

"The big automation has been in the last 20 years," Packard says. "I hear stories and see photos from that time, postwar and into the 1950s, when bucket trucks first became a viable tool. They were still not an off-road vehicle and functioned best on flat surfaces. Back then, the business was all about climbing."

Echoing those historical views is Donald F. Blair, owner of Sierra Moreno Mercantile arborist supply company in Hagerstown, Maryland. Blair has a deep background in commercial arboriculture and a history of helping to develop industry safety regulations. His family has been in the business since 1911.

"If you want to start with World War II a fellow named Ross Ferrens was considered to be the pioneer of right-of-way work and said to be the first to make a million dollars doing it," Blair says. "He had been a sergeant at Anzio (a major, decisive 1944 victory for the Allies in Italy.) A colonel took him back to the states to clear a right of way for power lines to go to Oak Ridge (Tennessee) for the Manhattan Project, the A-bomb."

"Ferrens did it all with hand tools. He enlisted Boy Scouts, chain gangs, any working labor force using grub hoes, axes and saws," Blair recounts. "And because this was such a critical project, he was authorized the use of some of the first chain saws. The stories were told to me by Ross himself."

Blair agrees that, "Equipment began to evolve after World War II, the first being chain saws. Between the 1960s and 1970s, there was a lot of mechanization. That's when many of the other technologies came in – aerial lifts, chippers, more reliable chain saws. Then bush hogs and saws on a boom, like Jarraff, and the Hydro-Axe (and similar forestry mower-mulchers) back in the 1980s."

He also referred to post-clearing work, the maintaining of the right of way using herbicides. "Asplundh and Bartlett did early work using helicopters," Blair recalls.

"In 1978 I went to Nova Scotia to spend time with an arborist who was ahead of his time, putting spray rigs on a tracked amphibious vehicle," Blair says. He adds, "There were civilian versions of the World War II Weasel, which could go into marshy areas and not get stuck. (The M29, nick-named the Weasel, was a small Studebaker-made amphibious tracked assault vehicle.) "This was cutting edge in '78," Blair quips.

"Also, there was a sprayer mounted on an articulated log skidder. This could go just about anywhere. It had a blade on the
front to use as a brake if the machine was coming down too steep a hill,” says Blair.

“It’s a fair bet that millions of dollars in rolling stock was released by the U.S. Government as surplus after World War II, and when it came to arboriculture, you can bet a lot of that equipment found its way into ROW work,” Blair says. “In fact, a friend of mine in California was using (military) half-track (tracks in back for propulsion and wheels in front to steer) with a spray rig on that to spray oak trees in a park. In tough terrain, he’d have been using Jeeps, two-and-a-half-ton trucks and Dodge Power Wagons.”

Similarly, Wright Tree’s Packard says, over his career he’s witnessed much of the evolution of line clearance. “The expanding power grid created a market for more efficient ways of clearing than climbing,” he says. “That was when we began to see equipment like all-terrain bucket trucks and boom assemblies attached to tracked vehicles with larger tires for off road use.”

“I think the big change was the introduction of the flail-type mower with an 8-foot head capable of tearing apart a 20-inch tree and mowing right over it,” Packard says.

“In the early ’90s, we had one or two original, rotary-design machines. They look like a mower, but you did not want to be 300 feet in front of it. When the mower head hit the tree it could achieve a 300-foot throw radius. I heard stories about a mobile home near a right of way that mowed debris passed right through.”

Packard says the company has gone from a single Geo-Boy tractor-powered mulcher mower to now having 30. The next big advancement he sees is to units such as Kershaw’s Sky Trim, or Jarraff’s all-terrain extendable boom and circular saw trimmers. “These units with reaches of up to 74 feet off-road make fast work of side trimming. Just drop the debris and follow with a large mower to reclaim the right of way,” he maintains.

“We also do quite a bit with herbicides and take different approaches. The ’03 Northeast blackout triggered an investigation by the federal government and led to new regulations for utilities to have clear rights of way along the nation’s power grid. Since then, we’ve seen a big resurgence in clearing ROWs and in the use of herbicides, which have become excellent products. Once you get the big vegetation out of the way, you now can use herbicides to maintain the right of way. We do a lot of spray work with back packs. Targeted herbicides actually promote the right vegetation and improve wildlife activity. This is not what people think of from the 1950s. Obviously proper use of herbicides is necessary, and they are now engineered and formulated to be eco-friendly,” Packard maintains.

“The large initiative now, rather than to create bare ground, is to promote and sustain the right kind of growth for a right of way through the proper application of environmentally sensitive products,” he says.

In reflecting on modernization of right-of-way clearing, former Asplundh VP Johns says that by the mid-1940s, “in the Southwest and South, I believe workers were using brush cutters dragged behind tractors. Around World War II, different methods were used in different parts of the country. Of course, that was before herbicides came into use in the 1950,” he says.

“Herbicides were used experimentally after World War II using highly volatile esters, which gave herbicides a bad name,” he recited early pioneer herbicide developers such as Amchem, bought later by Union Carbide, as well as Dow and DuPont.

“In the early 1940s, Amchem developed growth regulators,” Johns says, “but they
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ROW Work In Alaska:
Chippers, Mulchers and Bears...

There is a lot of right-of-way work in Alaska. But it’s different up there. Short seasons. Tough terrain. Tougher weather. And bears!

Kelly Repnow owns Beaver Wood Chipping in Palmer, in south central Alaska. “Up here, right of way clearing is stressful. There is a bigger demand. Jobs are bigger, and we’re always under a time crunch,” says Repnow. “In Alaska the season is very short. And it’s about bogs, bugs and bears,” he says.

“We often start in June with up to a foot of snow still on the ground. One year, by mid-August we had snow already in the high country. Areas are remote, and we have to deal with melting snow and wet conditions all the time. The soil surface turns into what I call an Oreo cookie. The surface may be solid, but underneath the soil is like a milkshake (this can make machines unstable). Water can’t drain because the ground is frozen under the silty topsoil. About the time the ground dries out, we’re into the next winter.”

The arrival 20 to 30 years ago of the Hydro-Axe was, in Repnow’s words, recalling fights by companies to defend the herbicide technologies.

“It was very productive, but also weighs about 26,000 pounds,” he says. “You have to be careful where it goes, but it is also low maintenance, considering the work it does.”

“Now, we are seeing more, smaller tracked machines, and we can do more residential areas because they do not throw so much debris. But that also depends on the operator,” he maintains. “Now we have the option of using smaller machines with a drum-style head like the Fecon. Additionally, the drum-style will get at root systems and can grind small stumps. The advantage is that you end up with a smoother row with no remaining stickups.”

Each style machine has its advantages and disadvantages. Repnow says he works in a sparse frontier area where people leave a lot of junk in open areas, including rights of way. He says the Hydro-Axe is strong enough to actually fling an engine block eight to 10 feet, and throws a lot of debris a long way. If a drum-style mower hits bedsprings and old tarps, “it can be a mess,” but it can get into tighter areas. He also likes the drum style because it leaves behind a mat made of mulch, which helps him get around on those boggy areas, and since it also cuts through to the roots, the ROW cleanup lasts longer.

In this land of extremes, Repnow recalls one season with a late, mucky melt-off followed by above average

(Continued on page 14)
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better wildlife habitat, food and cover, increased small game and no negative effect to song birds, reptiles, amphibians and butterflies sensitive to major negative changes in the environment.”

**Conclusion**

Right-of-way maintenance is one of those activities taken for granted or overlooked by many because ROWs tend to be in remote areas and out of public view. But it is essential for those same reasons. Technological advances have made it easier, but until technology evolves to the point that transmission lines, gas pipelines, railroads and so many other current uses become obsolete, it will continue to be part of many tree care businesses, and tree service operators will continue to seek equipment to make it more efficient and more profitable.
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Morton Arboretum president receives top honor from Garden Association

Dr. Gerard T. Donnelly, president and CEO of The Morton Arboretum in Lisle, Illinois, is the 2013 recipient of the most prestigious honor conferred by the American Public Gardens Association (APGA). The Honorary Life Member Award recognizes his ongoing leadership roles in furthering the mission of the public garden realm, meritorious service to the association, and uncommon devotion to the field of public horticulture.

As president and CEO at Morton, which touts itself as the leading arboretum – or tree-focused public garden – in the world, Donnelly has led the institution in substantial growth since taking on his position in 1990. He has advanced programs in collections, education, science and conservation at the 1,700-acre site, located 25 miles west of Chicago. He has also led regional, national and international collaborations.

Under his direction, the organization has been accredited both as an arboretum and a museum. He oversaw a major site redevelopment featuring a Children’s Garden, Maze Garden, enhanced Visitor Center, new main entrance, environmentally-friendly parking lot and restoration of Meadow Lake. These improvements increased public awareness of and engaged more people in the Arboretum’s mission to save and plant trees.

Donnelly is or has been involved with the Directors of Large Gardens group, the ArbNet professional network of arboreta, the Global Trees Campaign in partnership with Botanic Gardens Conservation International and the International Association of Botanic Gardens.

Donnelly served as president of APGA in 1997-1999, hosted its annual conference in Chicago in 2005 and received the APGA Service Award in 2008. Trained as a botanist and forest ecologist, he earned his Ph.D. from Michigan State University.

Alan Shaw to lead Husqvarna Americas

Effective August 15, 2013, Alan Shaw has been appointed executive vice president, head of business for the Americas, and a member of Husqvarna Group Management. Husqvarna Group, a TCIA associate member company with U.S. Operations based in Charlotte, North Carolina, also does substantial business in North- and Latin America.

Shaw has more than 25 years of global experience from consumer durables, most recently Char-Broil LLC, U.S., where he has been president and CEO since 2005. Before that he was president and CEO of the consumer lawn and garden equipment manufacturer Murray Group, U.S.

“In Alan Shaw we have found a strong leader with a solid track record of managing brand-driven businesses,” says Hans Linnarson, president and CEO of Husqvarna Group.

Send Cutting Edge News items to: editor@tcia.org
Modern tree surgery?

“I took this picture in North Conway New Hampshire,” says Shane Gurney, owner, Northern Roots Tree & Landscape in Eaton Center, New Hampshire. “The work had been recently done on this compromised silver maple, which sits in the middle of a parking lot with a restaurant patio on one side. Not sure what else to say, I think the photo says it all.”

For Tchukki Andersen, CTSP, BCMA, TCIA staff arborist, there was more to say: Really well done old practice. This is a great photo because the craftsmanship was excellent, but (the practitioner’s) knowledge base wasn’t. Actually, the A300 standard for pruning recommends wound treatments not be used except when necessary for disease, insect, mistletoe or sprout control, or for cosmetic reasons, so, in essence, this photo shows an effective wound treatment. But if it is interpreted as cavity filling, then we go to this statement in the A300 pruning standard: “wound treatments that are damaging to tree tissues shall not be used,” which leads us to the argument that concrete and bricks in tree cavities can cause internal scraping as the tree moves in the wind.

Also, ANSI A300 Part 3 Supplemental Support Systems says treatment of cavities by filling shall not be considered to provide support. The question is, does the client know this?

See more letters, page 62.
Alpine Rhino stump wheel system

Alpine Machine’s new Rhino stump grinding wheel system enables faster cutting than comparable wheels, according to the company, and is designed to be smoother and stronger. According to Alpine Machine, in multiple head-to-head tests against comparably powered stump grinders, Rhino wheels were at least 40 percent faster and in many cases, much more. Faster and smoother can mean less wear and tear on your machines, less fuel use and longer machine life. This simple system consists of four components: the tooth, keeper block, threaded insert and bolt. There are no pockets or left/right-side teeth, and components are interchangeable on any size wheel for any machine, so inventory of consumables is reduced considerably. Each tooth can be changed in about one minute. Alpine Machine, a TCIA associate member based in Olympia, Washington, will be exhibiting the Rhino (www.alpinerhino.com) at TCI EXPO in Charlotte, N.C., in November.

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Pro Line PLT7513 Hydraulic Pole Saw

Pro Line Tools’s new PLT7513 is designed as a utility- and arborist-grade hydraulic pole saw for all cutting and trimming for tree branch management. The PLT7513 is light weight and comes standard with an insulated fiberglass pole, automatic chain oiler and dual safety trigger guard. This tool is capable of operating off of hydraulic tool circuits providing 5-8 GPM at 1200-2000 PSI. Only weighing 9 pounds, this tool is one of the lightest in the industry, reducing operator fatigue. This saw is made in the USA and supported factory direct with a huge on-hand inventory. Other features include: insulated fiberglass extension tubes tested to meet OSHA Regulation 1910.269; anti-kickback chain; rugged, high-torque gear motor; optional hose whips; and ¾ NPTF connection.

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Marlow Ropes Raptor lowering line

Raptor lowering line is the next generation of lowering lines from Marlow Ropes. It uses soft and supple double braid with color-coded ArmourCoat for reduced water uptake. The ArmourCoat also provides improved abrasion resistance, by as much as 30 percent, during recent lab testing, according to the company. Raptor lowering line is available in 12mm (blue), 14mm (green), 16mm (red) and 18mm (yellow) diameters for lowering lines and bull ropes. Raptor line is available from Shelter Tree, or direct from Marlow USA via www.marlowropes.com.

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- Jim Zwack, Davey Tree Experts
- Dr. Kevin Smith, USDA-Forest Service
- Dr. Phil Lewis, USDA-APHIS
- Joel Spies, Rainbow Companies – Marketing Tree Injection Services
- Dr. Don Grossman, ARBORjet – panelist
- Dr. Mark Harrell, University of Nebraska – panelist
- Dr. E. Thomas Smiley, Bartlett Tree Research Labs
- Dr. Roger Webb, Tree Tech Microinjection Systems – panelist
- Dr. Chris Williamson, University of Wisconsin
- and more

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Contact: www.isa-arbor.com

August 5, 2013
A300 Tree Care Standards Forum
ISA Annual Conference, Toronto, Ontario, Canada
Contact: dbuell@savatree.com

August 19-21, 2013
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August 30, 2013*
OSHA Local Emphasis Program (LEP) for Tree Trim Ops.
City, Water, Light & Power Mgt. Cts., Springfield, IL
Contact: Peggy Drescher (630) 917-8733; pdrescher@tcia.org

September 14, 2013
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Location: Fernald Hall, UMass
Amherst, MA
Contact: www.umassgreeninfo.org; (413) 545-0895

September 14-November 2, 2013
Openlands Treekeepers Training Program
Eight week-3 hour classes
Morton Arboretum, Chicago, IL
Contact: (630) 719-5768; sclark@mortonarb.org

September 18, 2013
Chipper Operator Specialist Workshop
Alexander Equipment, Inc.
Lisle, IL
Contact: Peggy Drescher (630) 917-8733; PDrescher@TCIA.org

September 19-20, 2013
Shawnee, OK
Contact: www.oklna.org

September 22-25, 2013
Pacific NW Annual Training Conference
Surrey, BC
Contact: www.pnwisa.org

September 24-25, 2013
EHAP Workshop
Long Island Arborist Association
Great River, NY
Contact: info@longislandarborists.org

September 26, 2013
Creating an Ownership Culture webinar – Free
with Jeffrey Scott, noon (EST)
Contact: www1.gotomeeting.com/register/235876049

September 26-27, 2013
MidAtlantic Chapter ISA Annual Conference
Fredericksburg, VA
Contact: www.mac-isa.org

October 2-4, 2013*
Texas Tree Conference
Waco, TX
Contact: www.isatexas.com

October 4-5, 2013
Splicing at Yale Cordage w/New England Chapter ISA
Saco, ME
Contact: www.splicingatyale.eventbrite.com

October 7-9, 2013
Prairie Chapter ISA Annual Meeting
Edmonton, AB, Canada
Contact: www.isaprairie.com

October 14-15, 2013*
MidAtlantic Chapter ISA Annual Conference
Fredericksburg, VA
Contact: www.mac-isa.org

November 12-13, 2013*
Certified Treecare Safety Professional/CTSP Workshop
Charlotte, NC
Contact: 1-800-733-2622; peter@tcia.org

November 14-16, 2013*
2013 TCI EXPO Conference & Trade Show
Pre-conference workshops Nov. 13
Charlotte, NC
Contact: 1-800-733-2622; sboutin@tcia.org; www.expo.tci.org

February 2-6, 2014*
Winter Management Conference 2014
Atlantis Paradise Island, Bahamas
Contact: 1-800-733-2622; sboutin@tcia.org; www.expo.tci.org

* Indicates that TCIA staff will be in attendance

What’s coming in TCI?

Each issue of TCI Magazine contains a variety of articles tailored to the specific needs, concerns and interests arborists. TCI solicits a number of articles from outside writers to keep its editorial content fresh.

Do you have a story for TCI? The editor will be happy to review your idea or manuscript and discuss it with you. Here are some of the upcoming topics for the next two issues:

September
Machinery & Equipment:
Trucks, Chipper
Tools & Supplies:
Fertilization/Soil Amendments
Services:
Maintenance & Repair
Safety:
Aerial Lift Safety
Special Supplement:
TCI Equipment Locator

August
Machinery & Equipment:
Firewood Equipment, Cranes
Tools & Supplies:
Ropes, Cabling & Bracing
Services:
Consulting, Fleet Management
Safety:
Site Set-up, CEU Quiz

Pre-show issue: TCI EXPO 2013, Charlotte, NC
Contact editor@tcia.org

Advertising: Sachin Mohan, mohan@tcia.org

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GET THE FACTS
Contact us for Emerald Ash Borer comparative product studies

The above photo is from a research trial in Hazel Crest, Illinois which evaluated a variety of treatment options for EAB management. This joint project has been conducted and supported by scientists from public and private research institutions including Davey Tree Expert Company and Rainbow Treecare.

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Dying From Emerald Ash Borer
Have you ever done the math to see how many combinations of tree species + insect pests + diseases + abiotic stresses are out there? Me neither. We do not need to see such a large number printed in an article to confirm its substantial size. When you factor in the potential number of cultural practices, products, and application techniques that could be used to address this multitude of issues, I believe that number would soar.

I also believe there is an understandable tendency for arborists to try to simplify all this. After all, we only have so much brain “bandwidth” and keeping all of these options in order probably consumes at least its fair share of it. What are some ways in which we try to simplify? An example might include limiting the selection of products or application techniques in our pest management programs – maybe we choose to utilize only the most broad spectrum or longest lasting materials to handle the greatest number of problems. While this may offer a measure of convenience to us and our business practices, could there be some hidden issues associated with this?

Let me re-phrase – I think there are issues

The new era of pest, disease and abiotic stress management favors less environmental impact such as with closed application systems, also known as tree injection. Shown here are Mauget applicators with Stemix Plus capsules used to stimulate foliar and root growth.

*TCI EXPO 2013 Preview!*

An arborist demonstrates trunk injection with the ArborSystems Direct Inject system using the Wedge.
associated with over-simplifying all this. Ultimately, I believe we need to embrace a fair amount of this complexity if we want our industry to be seen as a group of professionals. After all, how much faith would you put in a medical doctor whose only remedies were aspirin and rest? Our clients are more educated about what trees they have, associated problems, and potential solutions than they ever have been before via any number of websites and Smartphone apps. We need a “broad” selection of solutions to serve the modern client.

Clearly we need a balance between this array of challenges that confront our urban forests and the volume of solutions we can capably provide. This varies by company, and it gets complex because our capabilities are limited in a variety of ways. How well do our arborists identify specific problems? How effective are we at communicating solutions to our clients? Do we have reliable and detail-oriented technicians to carry out this work? And of course, what about the voices of our clients? Do their preferences for how we administer solutions matter?

It’s a changing world in terms of application techniques for plant health care problems. Practices that were once common, such as spraying large trees, are now entering the twilight of their relevance. Like it or not, there are a variety of reasons for this. The new era of pest, disease, and abiotic stress management will continue to head in the direction of more specific products to favor beneficial insects and pollinators, increased scrutiny on environmental fate of products, and closed application systems a.k.a. tree injection.

There are negative aspects to injecting trees. If you want to quickly stir up a heated conversation at the next professional conference you attend, ask a group of arborists their opinion about tree injection! At least in my past experiences it has been a “hot-button” issue. Should it be?

Regardless of whether you drill, gouge, prick, poke, or prod, the concept of tree injection involves creating an opening through which materials are introduced into the tree. These openings can also be called wounds, and our industry has generally determined that wounds are bad. We make significant efforts to prevent unnecessary wounding of trees caused by string trimmers, lawn mowers, car bumpers, nails, staples, hooks, etc. so why should we embrace professional practices that create a different version of all this? Never mind the composition of the materials being put into the tree... some of that can’t be good.

My personal and professional opinion, however, is that tree injection techniques should be part of a professional arborist’s repertoire. Here are four reasons to consider incorporating tree injections into your range of pest management services:

1. **No other options are available.**
   While somewhat uncommon, there are important scenarios in which tree injection is the only available technique. An example of this is protecting elms from the Dutch elm disease (DED) fungus. While insecticides can be applied in various ways to deter the visits of elm bark beetles that carry the DED spores, we do not have a soil applied systemic fungicide that protects trees from DED. The only labeled form of application for the fungicide...
proven to be effective through research is tree injection. Solely managing insects when the problem is actually a fungus will leave the tree vulnerable. Tree injection is a viable tool in this scenario.

2. Speed. When compared to soil applications, tree injections generally get most active ingredients into the canopy of a tree more quickly. There are scenarios in which the tradeoff of creating wounds versus achieving a rapid response may be justifiable. I tend to think of these as emergency applications, in which less invasive procedures are favored in the future. Of course many foliar applications would have the quickest efficacy, but...see below.

3. Exposure. The social acceptance of spraying trees (especially large ones) is diminishing. We live in a litigious society, and the term “chemical trespass” is here to stay. More frequently we encounter clients whose preference is the treatment option that creates the least exposure to their property. This includes exposure to the soil at the base of trees where kids play and family pets conduct their business. For tree problems that need to be managed, injections may be the only option. Many commonly used active ingredients also have restrictions for making applications near water, which favors techniques other than foliar and soil applications.

4. Regulatory. Product labels often have a per acre usage restriction. For example, 0.4 pounds of imidacloprid are legally allowed to be applied to the soil per acre per year. For a pest like emerald ash borer, for which imidacloprid is an effective tool, such restrictions mean applicators may only treat approximately 64 DBH inches at the highest labeled rate per acre per year. In situations where numerous trees are found in a small area, the use of soil applications becomes tricky while maintaining label compliance. To protect many trees in a small area, tree injections again are a viable technique because their labels usually do not carry the per acre restriction.

Not all tree injection techniques or products are equally effective, so the professional arborist still needs to do his/her homework and favor those materials and application techniques that have been proven effective through published research. Granted, such research is not available for every combination of
“Our customers request Imicide because they know it works.”

- Brian Fischer, Vice President, King Tree Service

Seeing is believing.

When trees show signs of insects, disease or nutrient deficiency, customers want to see results fast. That’s when the pros at King Tree Service turn to Mauget. “Speed is the #1 benefit,” explains Brian Fischer, Vice President of King Tree Service, West Palm Beach, Fla. “The greatest thing about Mauget Imicide Hp is how quickly it works, usually within 24 hours.”

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pest/problem/species, nor will it likely be anytime soon, so we must still rely on our best judgment in some situations. A few guiding principles may help inform this thought process:

- Go with what is supported by published research
- Do not inject into trees with basal decay or rot
- Try to avoid annual injections on the same tree where wounding can accumulate
- Get training from the experts on how to best use their injection systems

As with all practices in arboriculture, stay tuned! Our body of knowledge is constantly evolving and what is commonplace today may not be that way tomorrow.

Jim Zwack is director of technical services with Davey Tree Expert Company in Minneapolis, Minnesota. This article is based on the presentation he will make on the same subject at TCI EXPO 2013 this November in Charlotte, North Carolina. For a complete EXPO schedule or to register, visit www.expo.tcia.org or call 1-800-733-2622.

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As arborists, you have a tough job. Any tool or technique that can safely make it easier to ascend, perform the necessary work, handle your equipment, lessen the load and preserve energy would surely be welcome. In the tree care industry, the doubled-rope technique (DdRT) has been and still is very much the favorite of the vast majority of practitioners. While not new to rock climbing, mining, construction applications and firefighting, single-rope technique (SRT) is beginning to enter the mainstream and is now being used by a number of professionals in the tree care industry as a way to more efficiently and effectively perform their job.

Though the pros and cons of SRT will long be discussed and debated, the one constant is that no matter how you ascend, work and descend, your technique is only as good as your gear. Enter kernmantle.

Proper technique, proper tools
In any profession or with any project, the proper tools are essential to completing the task. Trying to fell a tree with a butter knife – or even a steak knife – would likely bloody a knuckle before even disturbing the bark. As an arborist, you would not try to ascend a tree using dental floss (waxed or unwaxed). While not as immediate as the failure of using floss, performing your job with an improperly sized or designed rope can also lead to catastrophic failure. For climbers using SRT systems, the proper equipment, as well as familiarity with its capacity, is crucial.

Kernmantle rope, by definition, is core (kern) encased in a tightly woven exterior sheath (mantle). Specific types of kernmantle construction employ a high-energy-absorbing nylon kern with a tightly-braided polyester mantle. Its properties make it especially well-suited for use with SRT systems. Kernmantle’s strength, dynamic tensile properties, weight-to-diameter ratio, and – with some manufacturers’ versions of kernmantle products – “grip-ability” make it ideally suited for climbers who are looking for a product that meets multiple needs and meets them well. Kernmantle’s durability during use with demanding friction knots is also a key attribute.

SRT 101
SRT systems work exactly as the name implies. Rather than using one rope doubled to ascend and work, looping the closed rope
over an acceptable tree structure, SRT systems use a static line directly anchored to the tree. With proper technique, SRT systems dramatically decrease the amount of energy use during an ascent. With DdRT, the ratio of rope pull to ascent is 2:1. In other words, a climber needs to pull 20 feet of rope for every 10 feet he or she needs to ascend. With SRT ascent systems, that ratio is reduced to 1:1, or 10 feet of rope for every 10 feet, maximizing efficiency.

In fact, SRT ascent systems were made popular by climbing competitions because of SRT’s contribution to speed and minimization of climber fatigue. While taking it to the extreme, climbers who need speed employ SRT ascent systems. They also use the best rope and gear, since speed is no match for equipment failure.

Further, attaching and anchoring the line to a stationary anchor allows for a net reduction in linear feet of rope. Of course as arborists pack their rope bags, there’s a noticeable difference in the weight of the bag due to its contents. When ascending and descending trees all day, every extra ounce of weight counts as it can contribute to avoiding, or at least delaying, day-ending fatigue.

Know your rope

Expanding on the “grip-ability” aspect of some versions of kernmantle, the benefit of that feature goes beyond the obvious enhanced ability to firmly hold onto the rope. As any climber knows, gripping and pulling a rope for hours takes energy. The easier it is to manipulate the rope, the more energy one can save. More energy can lead to safer climbs.

Kernmantle’s impressive strength-to-weight and strength-to-diameter ratios, coupled with the already-reduced length of rope needed for SRT systems, further expands the benefits. For these reasons, matching kernmantle with SRT provides just enough strong and lightweight rope to produce a noticeable benefit.

Kernmantle’s strength is not just a bonus attribute. To many, it is a necessity for SRT systems. Because this technique demands more from less rope, its strength must be superior. In fact, the rope must be able to safely perform without fail, sometimes handling double the weight and break strength as rope typically used with DdRT.

Understanding the rope’s strength properties and behavior under stress, as well as kernmantle’s reaction to various weight loads, is critical to an overall picture of its characteristics. Upon regular use, the rope’s stretch properties are predominantly static with minimal elasticity. This provides a level of control and stability that’s important when a climber is dozens of feet off the ground. The ideal kernmantle’s dynamic properties make it a valuable asset under a shock load situation. If the rope is required to bear weight during a fall, it stretches and flexes enough to cushion descent and absorb energy. This is preferable over an unforgiving rope and the inevitable tight, sudden stop and resulting aggressive jolt.

Convergence of knowledge, equipment and awareness

A topic that is always top of mind for anyone in the tree care industry is safety, and rightly so. Arborists can find themselves in life-threatening trouble if their safety is compromised while on the job. Whether it is less-than-ideal conditions, improper technique, lack of experience or equipment failure, your profession demands unwavering attention to detail in order to avoid negative results.

Even with the use of kernmantle in SRT systems and the properties it has that contribute to safety, questions still remain surrounding the safe use of SRT in general. Although utilized safely for years in other professions and applications, SRT use as it relates to tree care, especially for work positioning, is still considered uncharted territory. Many who implement SRT systems learned them from, or as, rock and ice climbers and/or cavers – all professions that have long-utilized the technique. If you ask a climber who uses an SRT system what the biggest safety hazard is, it will undoubtedly be the fact that it’s only appropriate with training, proper technique and practice. Climbers must obtain the right match of skill, rope and gear. In this way it is no different than...
It is only through the interplay of equipment and skill that a climber can safely accomplish his or her task. A misconception is that SRT is simply a style to be used with any type of equipment and any type of rope. This is untrue, as the notion that one can use single-line positioning on a DdRT setup. The lure of SRT systems based on the time-saving and fatigue-fighting benefits can surely spur less experienced users to take shortcuts and try the technique hastily without laying the groundwork for a successful climb. Making the investment in the proper kernmantle product and equipment, and committing to training and education are critical to using SRT systems successfully.

Another factor to take into consideration with kernmantle, or with any rope for that matter, is proper care. If the rope shows the effects of glazing, it should be discarded immediately. Glazing is an indicator that the rope has been subjected to damaging heat. Though kernmantle’s properties make it a good fit to handle the heat generated during a rapid descent using a friction knot from points over 60 feet, checks for glazing can avoid dangerous consequences.

Visibly compromised strands on the cover, a visible core, and inconsistent diameter are also signs a rope needs to be retired. A good climber knows that they should run every inch of their rope through their hands before and after a climb. Doing so will reveal any of the issues mentioned above.

Storage of kernmantle, as with any rope, is a key contributor to its lifespan. Keeping your rope bag dry maintains a healthy rope.

That is why TCIA is organizing the Single Rope Technique (SRT) Tree Climbing Summit, to be held this November in conjunction with TCI EXPO in Charlotte, North Carolina.

The Summit, November 16, 2013, from 10 a.m.-4 p.m., will engage leaders and subject-matter experts from the arboriculture profession in a facilitated conversation about SRT in tree care.

The goals of the summit are to:
- standardize SRT terminology
- get in front of innovations in gear and methods.
- devise a means to evaluate ideas from other disciplines, including equipment, techniques and practices, and regulation.

Organizers hope the summit will result in informing the development of standards and practices for SRT use in tree care, influence future SRT training and training programs, and provide a platform for an ongoing discussion of the use and practices of SRT in tree care.

For more information on the summit, visit wwwexpo.tciao.org.
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Accident Briefs

Taken from published reports, or reported directly to TCIA staff, as noted.

Trimmer killed in struck-by
A tree-trimmer was killed in Orlando, Florida, June 1, 2013, when he was hit by a branch. The man, who had been hired to trim trees, was transported to a local hospital for treatment of his injuries but later died, according to the Orlando Sentinel report.

Line clearance trimmer shocked
A tree service employee came in contact with a live wire June 5, 2013, in North Codorus Township, Pennsylvania, while trimming trees for power line clearance.

Two trimmers hurt when ladder touches power line
Two tree workers were severely injured June 10, 2013, when their ladder made contact with a high-voltage power line in Kenner, Louisiana. The men, ages 51 and 41, were taken to a local hospital where they were listed in critical condition.

A homeowner apparently tapped the pair of friends to remove two trees from her backyard. Investigators don’t know if the men were contractors or had insurance.

Their aluminum ladder came in contact with power lines estimated to have a possible 13,000 volts. Investigators don’t know whether the men were on the ladder or just touching it when it made contact. Arriving officers found the men suffering from severe burns and other injuries, according to The Times-Picayune report.

Climber rescued after being hurt aloft
A man injured while working in a tree June 16, 2013, in Fairfield, Connecticut, had to be rescued by firefighters and hospitalized for treatment of his injuries. Firefighters responding to a 911 call found the man stranded about 40 feet above the street, where he had suffered what was described as a serious injury while working on the tree. The man, who wearing a harness and linked to climbing ropes, was rescued using a ladder truck, according to the minutemannewscenter.com report.

Man killed felling tree
A man was killed June 17, 2013, in Palm Harbor, Florida, after a tree he was cutting down struck him. Dan Paul Butts, 63, and his girlfriend, Beverly Drew, 50, were clearing trees from their backyard and Butts had cut a tree with a chain saw. After tying a rope to the tree, Drew got into their Ford SUV and began pulling the tree with the vehicle. Drew heard a scream and saw the tree had fallen on Butts and that a branch had impaled him. She called 911 and attempted CPR. EMS responded and Butts was pronounced dead at the scene, according to the Bay News 9 report.

Tree worker dies in fall from tree
A tree trimmer in Anderson County, Kentucky, died June 17, 2013, after he fell 35 feet from a tree. Ramiro Rosario Gomez, 36, of Danville, Ky, was in the backyard of a home when a limb he was standing on broke. Gomez and the limb landed on a chain link fence. Emergency responders tried life saving measures, but he was pronounced dead at a Frankfort hospital, according to LEX 18 television news.
Operator dies after limb strikes bucket
A tree worker was killed June 17, 2013, in Warrenville, South Carolina, after he fell from a cherry picker while cutting down a tree. Joseph Benjamin Lord, 47, of Gloverville, S.C., died from traumatic internal injury.

Lord, an employee of a local tree service, was in the bucket 35 to 50 feet off the ground cutting a tree at a home when a piece of the trunk he’d cut fell back onto the bucket and knocked him and the bucket to the ground. Lord was transported to Georgia Regents Medical Center, where he died in surgery. The homeowner said that the tree had been struck by lightning and that it split while Lord was cutting it, according to the *Aiken Standard* report.

Company owner killed in tree failure
Steve Cirucci, 49, of Monroeville, Pennsylvania, and owner of A Cut Above Tree Removal, LLC in Murrysville, Pa., was killed when a silver maple he was climbing failed below him during a rigging operation June 18, 2013.

Man hurt in fall from tree
A climber was hospitalized June 20, 2013, after he fell about 30 feet from a tree he was working on in Tolland, Connecticut.

A homeowner hired the Ellington, Conn., man to do some tree work. Apparently a branch the man was cutting came down, snagged his climbing rope and pulled him down, causing him to land on a tree already on the ground, according to a *Journal Inquirer* report.

Driver injured by felled tree
A man driving with his wife was critically injured after a tree being cut on the side of the road fell on the their passing car June 20, 2013, in New Hampton, New Hampshire. Thomas Ochs, 69, of Sanbornton, N.H., was driving with his wife, Lillian, when a tree fell on the driver’s side of their 2009 Toyota Camry. The tree cut by David Fernandes, 39, of Danbury, N.H., struck the driver’s side door and front hood at the level of the rear-view mirror, crushing the driver’s side of the car and slightly damaging the passenger side.

The car continued moving for about 100 feet after the tree struck, leaving the road and hitting a rock wall. Police and rescue crews used heavy equipment free Thomas Ochs from the car. He was listed in critical condition at a Lebanon, N.H., hospital. Lillian Ochs was taken to Lakes Region General Hospital with a minor cut to her arm.

Fernandes, owner of a tree business, was hired to cut some trees, ironically, so they wouldn’t fall on a passing car. Fernandes notched the ash, about 12-16 inches wide at its base, to fall in one direction, but the upper part started to dip in the other direction, and it fell that way, according to the *New Hampshire Union Leader* report.
Worker killed in stump grinder accident
A tree service worker was killed June 20, 2013, in an accident involving a stump grinder at a residence in Portsmouth, New Hampshire, according to a report in the New Hampshire Union Leader. The man apparently became caught in the moving wheel of the grinder, suffering traumatic injuries, according to a Seacoastonline.com report. The operator was working alone and there were no witnesses. The machine had been shut off but the wheel was spinning at the time of the incident.

Trimmer shocked by power line
A tree worker, 22, was critically injured when a tool he was using touched a power line June 24, 2013, in Elgin, Illinois. A group of contractors was attempting to remove a large portion of a tree near utility lines when a long pole being used by the victim contacted a wire. The worker collapsed and emergency crews found him not breathing. Responding police officers performed CPR until paramedics arrived. Paramedics re-established a pulse and breathing, then took the man to the hospital.

Operator hurt when trimmer overturns
The operator of a tree trimmer was injured June 25, 2007, in Vicksburg, Mississippi, when the unit tipped. David Lipsey, 32, was injured when his Jarraff tree-trimmer overturned in a wooded area. He was later listed in fair condition at University of Mississippi Medical Center in Jackson, according to The Vicksburg Post.

Operator falls to his death from bucket
A bucket operator died June 25, 2013, in Monticello, in Wayne County, Kentucky, after a cut tree apparently struck the aerial lift’s boom, causing the bucket liner and operator to fall to the ground. Kevin Miller, 29, was alert and talking immediately after falling from 50 to 60 feet. But he later died at the scene, according to a WKYT report.

Climber electrocuted when line hits wire
A man hired to trim trees at a South San Jose, California, home was electrocuted June 26, 2013.
Guadalupe Arteaga, 52, of San Jose, who was working for a tree service and landscaping company, was climbing on branches over an energized power line when a safety rope or throw line fell onto the active line. The rope acted as a conduit, carrying the electrical current to Arteaga. He was pronounced dead at the scene, according to a KPIX 5 CBS and Bay City News Service report, and a San Jose Mercury News report.

Trimmer rescued after pinned by limb
Emergency responders helped rescue a tree trimmer stuck and injured about 40 feet up in a tree on June 27, 2013, in Watertown, North Carolina.
The tree service worker was cutting branches away from a home when a gust of wind caused a branch to pin his arm and leg. The man was alert and responsive when crews rescued him off of the 35-year-old elm tree. The tree trimmer was stuck for about an hour, according to the WGHP FOX8 report.
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for a list of agents in your area, go online to www.arbormax.net
The '70s will be regarded by arborist historians as a pivotal decade in the history of modern North American arboriculture. Within the daily grind of tree work, the first few years of the 1970s were pretty much status quo; one could say that arboriculture was a proud profession with 100 years of tradition unhampered by progress. By the end of the decade, things would change significantly – for better and worse.

The National Arborist Association (now TCIA) had about 150 members in 1971. The vast majority of NAA members were east of the Mississippi with a very few hailing from the West. William “Badger Bill” Johnson, father of Artistic Arborist's Tim Johnson and who had moved his family from Wisconsin to Phoenix in the 1960s, was one of the few western members going into the decade.

In the first half of the decade, manila rope was still the cordage of choice for climbing and rigging. In many markets, more brush was being loaded than chipped. Whether pushing Fanno No. 8 handsaws on the West Coast or pulling Bartlett Manufacturing’s brand new Teflon-coated saws in the East, arborists pruned trees to standards that dictated that “all cuts that cannot be covered with a silver dollar shall be painted.” Bartlett Manufacturing, an NAA associate member company based in Marlette, Michigan, was judged by many to have the best tree paint in the business. Karl Kuehmerling, Inc., associate member from Massillon, Ohio, made what many considered to be the best steel tree-paint cans of the day, although many arborists still preferred to make their own using a Hershey chocolate syrup can with a pry-off plastic lid or, worse, glass mayonnaise jars.

The largest companies, such as Asplundh, Bartlett and Davey, were beginning to use computers in the 1970s, but most tree care businesses still kept “the books” in real books – called ledgers, mailed...
the invoices in envelopes, hand-wrote paychecks, and answered a phone that was attached to a cord — mobility just meant a longer cord. There were no cell phones, websites, Internet, Google or GPS navigation. Jobs were found the old-fashioned way — using a paper map.

Spraying was big business going into the 1970s and DDT was the most popular as well as one of the most famous – or infamous – pesticides in history. Originally created in a lab in 1873, it wasn’t until 1939 that Dr. Paul Muller (Geigy Chemical, Basel, Switzerland) discovered that DDT was an effective insecticide. Just in time for WWII, DDT saved the lives of millions of civilians and soldiers alike from insect-borne diseases such as malaria and typhus. DDT was also so effective that crop production soared by more than 40 percent, saving millions more from starvation as well as greatly reducing the cost of food to the American consumer, an important contributory economic factor to the post-war boom.1

Not without controversy, DDT’s darker side of persistence and effects on beneficial insects led to an intense campaign against DDT by a burgeoning movement of environmental activists. The one issue that dominated the trade magazines, conferences and talk among NAA members concerned pesticides. In the ’70s, until it ceased publication in 1975, almost every edition of Trees Magazine included scientific rebuttals to many of the concerns about pesticides, but to no avail.

Robert Felix, longtime NAA executive secretary, used to say that back in the 1960s when he manned a gun on a spray crew for NAA member company Harder Tree and Landscape Service in Hempstead, New York, he sprayed so much DDT that mosquitoes would bite him and fall over dead. That was one of Bob’s favorite stories and he took delight in telling it.

At least in part due to public pressure over DDT, the Nixon administration on December 2, 1970, created the Environmental Protection Agency. Many heavily used agricultural chemicals were banned by the EPA in the ensuing years, starting with DDT in 1971. In the spring of 1970, a major outbreak of gypsy moth ate its way through 11 states from New England to Florida. Anticipating the coming ban on DDT, NAA member companies and municipalities experimented with alternative methods of control with varying degrees of success.

David C. Shaw, superintendent of the Shade Tree Commission in Monmouth County, New Jersey, reported in the January/February 1971 issue of Trees Magazine on their control results in a post-DDT world. With cooperation and financial assistance from the USDA, and a donation of technical assistance and over $25,000 worth of the first biological pesticide, Bacillus thuringiensis (BT), and sticker from the Hayward-Thompson Chemical Company, Shaw went to war against the gypsy moth. Applied by air via fixed-wing planes, the program experienced one setback after another due to unfavorable weather conditions day after day. With BT not effective under such conditions, Shaw switched to Sevin applied by helicopter. The weather was no more cooperative, but with Sevin, they still managed to kill millions of gypsy moth larvae. Sevin being highly toxic to bees as well as gypsy moth, Shaw had to expend considerable resources to moving hives and notifying beekeepers before an application could be made.

In 1971, an hourly rate to the client of $10 per man hour was considered high. A $100 job was not uncommon. A ground worker for the same company was earning $2.65 an hour, and about the most a skilled climber could expect to earn was $6 an hour.

The association

On February 8, 1971, at the NAA annual meeting in Tampa, Florida, William P. Lanphear was installed as association president and Robert Felix as treasurer. Other officers installed were Glen Burns, (Canton, Ohio) first VP; John A. Shullenberger (Gaithersburg, Maryland), second VP; and W. Roland Shannon (Milford, Pennsylvania) secretary. Thomas A. Morrison (Wilmette, Illinois); Boyd Haney (Franklin Park, Illinois); and Paul Ramsey (Muncie, Indiana) were the directors.

During the meeting it was decided to make the NAA Professional Home Study Program available to persons who were not members of NAA. The executive director at this time was Donald B. Quintero, with NAA offices in Washington, D.C. But without someone as committed to the growth of the association as the long-time leader Paul Tilford had been, the profile (low) and growth (slow) of the NAA in the early ’70s was a concern to the elected officers.

A year later, at the 1972 annual meeting in Tampa, Robert Felix was installed as president of the board of NAA. A drastic restructuring of the NAA fol-

NAA board member George Tyler, right, presents a group of Fanno saws to an instructor at Paul Smith’s College, for the school’s arborist program.
lowlaw in 1974, with Felix selected by the NAA Board to serve as the association’s executive vice president (the chief staff role), a position he would go on to hold with dedication, energy and drive until his untimely passing 22 years later, in 1996. Felix was ably assisted by his wife, Pat, in all his endeavors on behalf of the NAA.

Recently asked to recall the earliest days of the NAA, Pat Felix says that the NAA home office started in their Long Island home, specifically at a desk in the bedroom. It wasn’t long before Bob converted the garage into his office and asked Pat to be his secretary. She acquired a typewriter and made the kitchen table her office. The Felix’s threw themselves into their role and began to attend arborist conferences throughout the country.

Always recruiting, Bob would stop anytime he saw a tree truck parked at a jobsite. Pat says the board was excellent at the time he saw a tree truck parked at a jobsite. What was the NAA doing there? As reported in the September/October 1971 issue of Trees Magazine, California state plant pathologist C.G. Weigle warned that conditions were “ripe” for Dutch elm disease (DED) to establish itself in California. Weigle proved to be prophetic when the first official case of DED was found by arborist Rob Gross in the area of

in 1971. New federal regulators needed a lot of help in understanding tree care and Bob spent a lot of time in Washington, D.C., with the NAA attorney at the time, Steve Semler, providing that assistance.

Pat fondly remembers the help that H. Dennis Ryan (former chair, Z133) provided in updating the Home Study Program.

In their first few years, as the NAA began to grow and get on a firm financial foundation, Bob and Pat did everything themselves. One day a letter came into the office from a member complaining about the lousy job the shipping department did in sending him some material – smeared postage, poor taping, etc. Bob contacted the disgruntled member and informed him that HE was the shipping department and would try to do better in the future.

Scientific advances

As reported in the September/October 1971 issue of Trees Magazine, California state plant pathologist C.G. Weigle warned that conditions were “ripe” for Dutch elm disease (DED) to establish itself in California. Weigle proved to be prophetic when the first official case of DED was found by arborist Rob Gross in the area of

Although this was the first recorded case of DED in California, the disease was first reported in the United States in 1928 (some accounts state 1930). The beetles were believed to have arrived in a shipment of logs from the Netherlands destined for use as veneer in the Cleveland, Ohio, furniture industry. The disease spread eastward first to New Jersey and then north to New England, almost completely destroying the famous elms in the “Elm City” of New Haven, Connecticut. DED hit the Detroit area in 1950, Chicagoland by 1960, and Minneapolis by 1970. (Many of the lost elms were replaced with ash trees, which is another story for a decade yet ahead.)

Dr. Alex L. Shigo’s work was published, possibly for the first time outside of scientific journals, in the September/October 1971 issue of Trees Magazine. Whereas some of the “Old Guard” did not want to be told their cherished practices of painting cuts, draining cavities or filling them, flush cuts and topping were WRONG, Robert Felix embraced Dr. Shigo and his research.

Shigo and Felix collaborated on a series of tests involving the effects the cabling and bracing techniques of the time had on the processes of decay in trees. Their work was published in the October 1977 Journal of Arboriculture under the title, “Rots and Rods.” Many arborists had already been making proper cuts outside the branch bark ridge for decades, but it took Shigo to turn an anecdote into scientific fact and accepted practice. The NAA was instrumental in getting the word out to their membership that industry practice had to change — and it did.

Safety, climbing and the ISA

On April 4, 1968, the ANSI A300 Z133 Committee had been organized to create a safety standard, with the NAA serving as the secretariat. The NAA was undergoing some internal changes at the time and the ISTC (ISA) became the secretariat in November 1969. After four years of dedi-
cated work by NAA and ISA members and representatives of all sectors of tree care, the first “ANSI Z133.1 Safety Requirements for Tree Pruning, Trimming Repairing or Removal” was approved on December 20, 1972, for publication in 1973. The full document was 15 pages long. Since then the Z133 has been in a continuous state of revision, with a new edition published approximately every five years, the latest in 2012.

In 1974, Richard Alvarez, founder of NAA member company Arbor Tree Surgery in Atascadero, California (now in Paso Robles), and Bailey Hudson, arborist with the city of Santa Maria, California, put out the word that they were going to put on a Tree Trimmers Jamboree and Steak BBQ at Lake Atascadero, Calif., open to all comers. Alvarez owned a gas station, so, at a time when lines at most gas stations wrapped around the block due to the ongoing oil embargo, he guaranteed fuel to anyone who could make it down. The Jamboree was a success and plans were made to repeat the event in 1975. By 1977, the California Arborists Association organized what became known as the Northern California TTJ. By the end of the decade, regional events were taking root and branching out all over the country.

Another big boost to the growth and popularity of tree climbing occurred in 1975 at the ISA Conference in Detroit, Michigan. Just two weeks after the disappearance of embattled Teamster’s Union chief James R. Hoffa in the same town, Alvarez and Hudson proposed to the board that ISA host a climbing event at the next annual meeting, scheduled for St. Louis in 1976, which was also the culmination of the build-up to the country’s Bicentennial Celebration. That Detroit meeting represented a sea change for the profession in general and the ISA in particular. In addition to approving a Tree Trimmers Jamboree, the International Shade Tree Conference (founded in 1924) officially changed its name to the International Society of Arboriculture.

At the same meeting, ISTC/ISA (and previously NAA) president John Z. Duling established the Research Trust, which, after several major organizational changes is still going strong as the TREE (Tree Research & Education Endowment) Fund (which came about later through the merger of the ISA’s Research Trust and the NAA’s National Arborist Foundation).

Equipment

With the EPA forcibly changing the pest control side of arboriculture, OSHA was making itself known to tree companies in another arena. A case in point was a 1974 OSHA citation against Asplundh Tree Expert Company for their failure to provide chain saw operators with ballistic nylon leggings, precursors to today’s chain saw chaps. Few arborists had even heard of such a product in 1974.

Asplundh challenged the citation in court and won the case on the grounds that, at the time, chaps were heavy, cumbersome and made it impossible for one to bend one’s knees when properly adjusted. Weighing more than 8 pounds, Asplundh argued that they presented a heat stress problem in high heat/humidity areas such as Florida. In the winter, there was concern that wet, freezing weather would only increase weight and further limit mobility. Although the cost of $30 was not at issue, if one adjusts for inflation, the chaps may have been the equivalent of $240 today. This case was an excellent example of a good idea that technology had not caught up with.

In 1975, McCulloch Corporation was the world’s first manufacturer to include a chain brake in every weight and power class of chain saw. Prior to this, chain brakes had only been available on professional grade saws, usually as an extra cost option. Homelite and McCulloch were still the “Big Two” of chain saws, but Stihl and Husqvarna were making solid inroads into the professional-user markets of logging.
and arboriculture.

The arborist supply business as it exists today was unthinkable prior to the mid 1970s. With Ed Hobbs inventing the Bry-Dan saddle around 1975, and followed soon after by the rigging tools that changed removal forever – the Hobbs Lowering Device and the Hobbs Block, the time was perfect for change, with much of today’s equipment yet to be invented, reassessed, redesigned or innovated.

Conclusion

After almost 40 years, a unique and independent voice of the industry fell silent when Ed Scanlon ceased publication of Trees Magazine in 1975, leaving a huge gap in tree care industry news until 1982 when first Arbor Age magazine began publication followed by Tree Care Industry Magazine in 1990.

By 1979, Robert and Pat Felix had been managing the NAA for five years. In his report to the membership for 1979, Bob stated that 1979 had been the most productive for the association in years. On January 1, 1979, membership was 274 active members and 39 associate. By December 31, although 15 new members had joined, attrition accounted for a net gain of just four, closing the year with 278 active and 40 associate.

Felix was on the road 90 days for NAA that year and traveled over 48,000 miles. He attended 19 meetings of one sort or another and gave 10 speeches and seven lectures at universities. Also in 1979, according to his report, Felix was proud of the inauguration of the NAA’s first Tailgate Safety Program and a four-part Safety Slide Program with cassette taped instruction. Slides and cassettes were state-of-the-art then. To save the association money, Felix did all of the writing and collected all the slides. Back in the day, Felix was always fond of saying that however small the membership was, it represented half the gross dollar volume of the known industry.

What Things Cost in the '70s

The Dow Jones high that year was 842 points with a low of 669.
The Beatles disbanded.
The Supersonic Concorde (700 mph) made its first commercial flight.
A new house cost $23,450, rent was $140, and the average income was $9,400.
A first class postage stamp was 6 cents, and Sports Illustrated was 15 cents at the newsstand.
One gallon of gas cost 36.9 cents and plentiful.
The U.S. population hit 205 million with a density of 85 persons per square mile. Japan was a little more crowded with 1,083 persons per square mile.
A pack of Marlboro cigarettes cost 31 cents in 1970 and skyrocketed to 40 cents by the end of the decade. Cigarette dispensing machines were everywhere.

By 1979 prices, along with so many other things, had changed dramatically:
Inflation had risen to a rate of 11.2 percent/year (and would get a lot worse before it got better).
The new house had more than doubled, to $58,100; rent doubled to $280.

So much of what we take for granted today got its start in the 1970s.
Manila rope went from being the standard of the industry to obsolete within the decade. This was a direct result of the pioneering advances in synthetic arborist ropes by Tubbs Cordage, New England Ropes, and Samson Ocean Systems. These first high-tech ropes that pulled the industry away from manila have been followed by advancements in the following decades that were unimaginable at any time in the 1970s.

With the introduction of TreeGrips in 1978, a collaborative effort between Preformed Line Products and Davey, the proud skill of hand-serving the strand used in cabling trees went the way of handsaw sharpening and the centuries-old skills of splicing manila rope.

The rapid changes and progress in so many aspects that arboriculture has experienced over the past 40 years would not have been possible had the 1970s not laid the rails. Carrying the railroad analogy a little further, with Robert Felix in the cab as the engineer and Pat as his conductor, and with a dedicated Board shoveling the coal, it took a few years to get the association’s train moving.

But with a full head of steam and a clear track, the NAA Express came barreling through 1979 and into the 1980s with a full schedule and plenty of whistle stops along the way to take on passengers.

Resources

2. “Dutch Elm Disease on American Elm Trees, Ulmus Americana Before the Invasion.” David Beaulieu, About.com

Donald F. Blair, CTSP, is founder of Sierra Moreno Mercantile Co., Inc., in Hagerstown, Maryland, and an author and historian, who began his career as a second generation arborist in 1971.
LEGACY.

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By 2050, the United Nations estimates that approximately 70 percent of the world’s anticipated population of 9.2 billion people will live in cities.1 At the same time, cities in the developed world and the developing world are increasingly adopting ambitious urban greening goals such as MillionTreesNYC2 to ensure these cities are livable and that negative environmental consequences are mitigated.

Putting large numbers of people and large numbers of trees in close proximity, competing for space with infrastructure, sunlight, and other resources and resource limitations will cause conflicts. As density and population increase, tree risk assessment will be needed more than ever by public and private clients.

Who are the prospects for these services? Residential owners of single trees and municipalities managing hundreds of thousands of trees; schools, campuses, and houses of worship; business campuses; residential housing communities or complexes; and, recreational facilities such as golf courses, amusement parks, and ropes courses. In short, anyone with one or more trees on their property may at some point need tree risk assessment services.

Who would be your competitors? There are a number of consulting arborists out there and many have been doing it for some time. These are people you would be competing against, and on their turf. You already know about trees and you know how to run a business; but you will need to apply the principals you know well to your new service and give yourself time to learn the ropes.

Many in tree care see consulting arborists and think, “these guys have got it made – they don’t have to work, they just walk around and talk to people about trees and the dollars fly!” This of course is not accurate. It takes a long time to build your practice and your reputation as a consultant. If you are going to consult, you can’t dabble. You need to take the time to learn the craft, as well as how to deal with the information and procurement needs and processes of attorneys, insurance companies, municipalities and other clients.

In addition, as a consultant you have a different legal duty to your client than you do as a contractor. Know which hat you’re wearing and make sure your client knows as well! You’ll need to create some differentiation between your consulting side and your contracting side. How complex this is will vary based on the size of your firm and type of services you offer and clients you have. You should also talk to your insurance carrier about your coverages. As a contractor, you have liability insurance in the event of an incident that impacts persons or property. Consultants normally also carry errors and omissions coverage. This is insurance that covers you in the event you should have disclosed some-
thing to your client that you did not, or if you advised your client in a way you should not have.

Remember – as a consultant, you are, for the most part, paid for what you know, not what you do. As a contractor, you may give “free consultations” in order to sell tree care services. If you do this as a consultant, you will go broke! Your work product is the consultation, not any tree care that results from it. So switching gears to charge for the consultation will take some preparation for you, your staff and your clients.

As a consultant you have a different legal duty to your client than you do as a contractor. Know which hat you’re wearing and make sure your client knows as well!

One of the most important things for you to be aware of is the industry standard for tree risk assessment. “ANSI A300 (Part 9)-2011, Tree Risk Assessment a. Tree Structure Assessment” was published in 2011. It is a bit different from tree risk assessment protocols prior to that time. It is based in part on the models described in the ISO (International Organization for Standardization) “IEC 31010-2009 Risk management – risk assessment techniques” international standard. This international risk assessment standard was produced largely in response to events such as the financial collapse of 2008-2009. But the same principals apply, and the framework is a good one.

It is important to note that “risk treatment” is not part of “risk assessment.” Risk assessment includes: risk identification; risk analysis; and, risk evaluation. According to ANSI A300 Part 9, there are three levels of tree risk assessment: Level 1; Level 2; and, Level 3.

A Level 1 assessment is a limited visual assessment of a tree or trees near specified targets to identify specified conditions or obvious defects. The assessment is performed from a specified perspective such as foot, vehicle or aerial. Examples of Level 1 assessments include: aerial patrol of transmission lines by utility arborists; tree risk assessments performed on trees on a neighboring property from your client’s property when the neighbor will not allow access needed for a Level 2 assessment; a municipal “windshield survey”; and, assessment of a tree based on Google Street View or photographs.

A Level 2 assessment includes a 360-degree, ground-based visual inspection of the crown, trunk, trunk flare, above-ground roots, and site conditions including targets. It may or may not include sounding with a mallet, use of hand tools, and binoculars based on the specification. This is the most common assessment type for many arborists.

A Level 3 is an advanced assessment beyond the scope of a Level 2 and is used when a Level 2 assessment is insufficient to obtain the desired information. Level 3 assessments may include: drilling; climbing; pull testing; sonic tomography; ground penetrating radar; air tool excavation of root systems; etc.

The standard specifies what work products should result from your assessment, and establishes certain duties for the arborist and for the tree owner.

The objective of this article was to help frame tree risk assessment as a business service model for you by briefly discussing the markets, competitors, needs, and requirements. You’ll still need to learn how to put these pieces together in ways that work for your clients.

References

Mike Galvin, is a director with SavATree Consulting Group in Springfield, Virginia. He will be presenting on this same subject at TCI EXPO 2013 in Charlotte, North Carolina. For a complete EXPO schedule or to register, visit www.expotcia.org or call 1-800-733-2622.
By Bill Spiewak

If you asked me about my career goals in 1975, I never would have thought I’d be where I am now, 38 years later. As an arborist, my experiences may be similar to your own. But perhaps I can provide a different perspective. My career in arboriculture has provided me with an interesting, rewarding, and fulfilling journey through life – and it keeps getting better.

My mom wanted me to be an architect, at least after her hopes of me becoming a doctor faded. I did well in school until I entered those late rebellious years as a teenager. I quit college in Boston in 1975 and was caught in a lifestyle with no direction. My next move was California where I engaged in assorted jobs until a friend proposed a partnership in the tree business.

I really had no idea what was involved at the time but soon found myself in a two man operation, owning a small pick-up truck, climbing gear, clean-up tools, and assorted chain saws. In 1977, our yellow page ad, a basic insurance policy, a sign on our truck, and a stack of business cards made us true professionals. Despite the awkwardness of hanging from a tree with a Homelite XL-925 dangling from my saddle, I persevered in my new-found business.

I acquired experience working in trees that involved the technical skills of body thrusting, spiking, topping, drop-crotcheting, lion-tailing, descending and bucking up wood. This was an ideal job for a hard-working young man. But a year later, the partnership failed and I was on my own. I had achieved one year of experience, but no basic knowledge about arboriculture. Yet, I was good at interacting with customers and knew how to leave a property looking tidy. Over three decades later I still observe this minimal business model among many tree companies.

In 1979, I was awarded my first big contract and also experienced my first severe accident. My employee and friend was killed while leaning on a chain-link fence 100 feet away from where a broken power line dropped and made contact. The high tension wire snapped from the pole after the limb I cut was yanked in the wrong direction by a gust of wind. This was a huge tragedy, a devastating setback in life, and an incredible eye-opener; a lesson that I would never forget.

Although safety programs had a low profile during those years, it was at that time that my awareness of risks and safety commenced. With so many programs offered by the Tree Care Industry Association and International Society of Arboriculture, it’s a shame that many tree service owners still don’t practice safe operations until an accident or tragedy occurs. These programs are key to promoting safe work practices for tree workers.

Eight years after my introduction into tree work, I attended my first Western Chapter ISA regional workshop in Santa Barbara while working on a municipal tree reduction (drop crotcheting) contract. I had the privilege of listening to the late John Britton, among other experts, and was inspired by their presentations and passion for trees. I was also encouraged by Dan Condon, our former city arborist and WCISA past president. Thus the turning point in my career materialized in 1987 when I became certified as an arborist.

From that time forth, the seed was planted and my journey through arboriculture began to germinate. Similar to trees, careers grow from the foundation in which they are started, how they are nourished, and the effects of the surrounding environment.

Despite my indifferent attitude as a teenager, my early education and minimal college experience gave me an academic start that I was able to build upon through further education. I nourished that need through publications and workshops, largely ISA founded. This initiated friendships and networks with people in the Western Chapter and internationally. This involvement also led to my chairing the educational program of three annual chapter conferences and several regional meetings.

I entered the speaking circuit on a local and ISA level, offering educational tree related presentations. My next step was joining the American Society of Consulting Arborists (ASCA) and becoming a registered consulting arborist (RCA). Finally in 1997, I took hold of the opportunity to become an ISA Board Certified Master Arborist.

Educational opportunities and involvement in our industry’s professional organizations were encouraging and motivating. They helped me develop self-confidence and significantly contributed to my advancement as an arborist and to greater success in business.

Together since 1977, my wife, Lynda, and I created a loving family unit. We worked hard but provided time with our children while remaining loyal to our commitments and responsibilities. Yet the challenges of running a business and supporting a family create tense situations that test the strength of any relationship. Many couples and business owners are aware that use of communication skills is ongoing and requires constant practice. Complacency or lack of awareness will
stress a relationship and a tree business. I think that communication skills are the most important discipline and challenge in running a business and sustaining good personal relationships.

My teaching position at Santa Barbara City College followed my earning an associate degree at the same college several years earlier. I started as a guest presenter in the Environmental Horticulture program that soon developed into a one unit, 18-hour course. Over the past 17 years, my course has evolved into a full-semester, three unit class.

Becoming an instructor of arboriculture at Santa Barbara City College helped me develop a skill to communicate many complicated concepts to students and clients. My involvement in education with adults facilitated my ability to teach green industry professionals and other people who were interested in trees. This additional bonus helped to strengthen my profile in the community as an expert in my field.

While my children were growing up, I discovered the joy of working with them and their classmates in school. Short programs in the classroom that introduced trees in a simple manner were always a hit among the kids and well appreciated by the parents. These experiences also built a high profile in the community and certainly created many new relationships. An arborist’s involvement in the community is hugely fulfilling and one of the best marketing tools that I have experienced. Arborists who miss out on community involvement miss out on a tremendous opportunity.

After I survived a stroke in 2000, I recovered with a vengeance and became a certified spin instructor at the local health club (spin is a group fitness cycling class). I found this supplemental income generator to keep me focused on fitness, build leadership skills, and diversify my interests. It also encouraged me to participate in six Tour des Trees (annual 500-mile cycling events) since my stroke. Aside from friendships, fitness and experiences, the Tour des Trees provided an opportunity to give back to the industry by raising money for the TREE Fund and increasing awareness of trees in communities throughout the United States and Canada. I encourage recreational athletes who share this desire to give back to the industry and are looking to fulfill a fitness goal to participate in the Tour des Trees.

In 2005, my tree service became the second TCIA accredited company in California. This marked a significant advancement toward the next biggest turning point in my journey. As my career grew, so did my passion toward the science and art of consulting. After the Bartlett Tree Experts purchased my company in 2007, I established a full-time consulting practice. This bold but scary change in my career came with a whole new set of challenges, some of which I am experiencing today.

I think that many young people in this industry define a consulting practice as the place where arborists go to die. Although I can hardly agree, I do see my consulting practice as the next logical step that gets me...
closer to retirement. The working energy definitely changes over the years. No doubt that Albert Einstein was correct when he said, “Energy cannot be created or destroyed, it can only be changed from one form to another.” Besides it being a scientific law, it is also a philosophical statement.

In my past six years as a full-time consulting arborist, my practice has been interesting and extremely fulfilling. I think you will find a similar opinion among consultants who are members of, or registered through, ASCA. We may also be in agreement that a decline in income during the formative years of establishing a consulting practice can create quite an obstacle. I was fortunate to sell my tree service the year before the recession. But like so many other people, I also experienced reduced income and increased debt.

While struggling through some tough financial times, I found ways to deal with negative feelings and worked at turning them into positive experiences. I used the hours when work slowed as an opportunity to create and begin to implement a business plan. This would hopefully lead me to my goal, that of building up a successful consulting practice and my eventual retirement.

Initially, the goal was to develop a plan for the purpose of Accreditation and a line of credit from my bank. But after 25 years of owning and operating this business, I have just begun to see the light and what I have been missing all of the past years.

My plan started with some soul searching and finally a mission statement [posted at www.sbarborist.com]. I acknowledged that I wanted to make a difference in my community through education of other tree workers, the public and myself, while creating a highly credible business. This would happen through my teaching, presentations, and working with individual tree workers, children, teachers and local organizations. I created my “Treemendous Blog” that offers an educational and philosophical approach to disseminating information. I also developed a database application (hired a professional) that allows me to efficiently run and market my business.

In summary, I am pleased to report that my business has finally resumed to a comfortable level and my plans are leading to some exciting improvements. A successful career is built on a solid foundation of education. It grows by the nourishment that feeds it including communication skills, continued learning, commitment, credibility, integrity, community and marketing.

It’s been 36 years since I first picked up a chain saw. As I age, I continue to grow and remain excited by new information, new experiences, and new relationships. My career so far has been a journey that is rewarding, fulfilling and nothing less than amazing. Stay tuned, but don’t hold your breath – it may be a while, for the last segment of this article.

Bill Spiewak is president of Bill Spiewak and Associates Consulting Arborists in Santa Barbara, California. This article was based on his presentation, “Evolution of an Arborist,” at TCI EXPO 2012 in Baltimore. To listen to the audio recording of that presentation, go to the digital version of this issue of TCI Magazine online at tcia.org/publications/tci-magazine/archives and click here.
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When a catastrophic weather event hits, tree care companies will travel sometimes hundreds of miles to service areas with extensive tree damage. While “storm chasing” can be very lucrative, there are many inherent risks involved. It is critical to prepare sufficiently before deploying crews and equipment. The simple act of mobilizing can be costly, and interstate travel for large vehicles is regulated and enforced by state and local authorities. In short, the act of deploying to a storm struck area requires a tremendous amount of know-how and experience. The following is a list of some, but not all, of the things you need to consider before departing.

**Making the decision to chase storm work**

Mobilizing your company, housing your crews and spending an extended period of time away from home can be an expensive undertaking. It is important that you have financial liquidity to support such an effort. Yes, the rewards can be great but in the event that you are not able to generate a good volume of work, you may find yourself out of pocket. A multi-week deployment for two to three crews with equipment can cost as much as $200,000. It is important that you realize the risks and feel confident that you will make more than you will spend.

You also need to evaluate whether you are losing business at home due to your absence. Long-range deployments are higher risk and you should limit the time and travel distance based on your resources, work load at home and debt tolerance. A successful deployment is dependent on knowing whether there is work to be had. Just because a hurricane hit does not mean you can assume there is enough work to “feed” out-of-state crews. Gather intelligence before you depart.

**Managing costs**

Loading crews and equipment and getting on the road without planning can be unnecessarily expensive and impact the success of the deployment. It may be prudent to deploy estimators first – they can secure accommodations, locate dump sites and, most importantly, determine and report back if there is a high volume of work that justifies the deployment. It is much cheaper to send an estimator or two in a light vehicle than rolling multiple crews and heavy equipment without knowing if there is even work waiting. Having an expeditionary force locate lodging, parking for equipment and other required services necessary for a successful deployment is also more efficient than driving around at night with a caravan of men and equipment looking for a place to bed down.

**Finding work**

Seeking work in an unfamiliar area that has been hit by a storm can be harder than you think. Many factors may make sourc-
ing work difficult: people are afraid of out-of-area vendors; there is an abundance of “storm chasers” competing for work; it is hard to get around due to blocked streets; local regulations require you to register as a general contractor before you can work, etc. It is advisable to create a relationship with an insurance company, local tree company, local restoration company or roofer, or a contractor network before making the decision to travel. Having an established resource for job flow can be the difference between success and failure.

Bring your back office with you

Many companies do incredible work when they are deployed, but do not effectively manage the business side of the deployment. It is important to have an office administrator, with computer, Internet connection and printer, who travels with your crews. Your crews should also be equipped with cameras, proof of insurance, copies of requisite licenses and estimate sheets, and cell phones that are associated with multiple carriers in case one carrier is down. It is important that you photograph the damage, document your work, get the claim number and insurance adjuster contacts for each job and, in general, keep excellent records on all of your work. The odds are that you will not get paid on many jobs upon completion and therefore you will be paid only when the insurance checks are cut. We recommend taking a credit card number as security.

Complying with rules and regulations

Make sure you understand what the rules of engagement are locally – do not assume that FEMA rules apply and that you can stack wood at the curb. Stacking wood in some cities will result in a fine. Do not assume that sales tax for out-of-state first responders has been waived – if it has not been, you do not want the tax authorities to file a claim against you. Make sure you know what the dumping regulations are – some areas have very strict rules on dumping organic materials. State DOT and licensing rules for your heavy equipment can vary – make sure your equipment is correctly weighted and permitted. Carrying weapons – make sure you know the rules governing carry concealed firearms – some states have a one year mandatory prison sentence.

Protect yourself against accusations of price gouging

There is often a bias against out-of-state vendors. Your pricing is most likely going to be higher due to the travel overhead involved, so be transparent with the homeowner about that. You are there and ready to help, and it is legitimate that your pricing is higher, but explain this to the homeowner. Highlight the fact that you are ISA certified, a TCIA member, insured, licensed, etc. – someone with a large tree on their home will be willing to work with an out-of-state professional, but it is amazing how quickly people forget the facts after the tree is removed. Having these conversations up front, and even getting the insurance company to agree to your price, may be the difference between success and a collection issue or even worse – a complaint to the attorney general’s office about price gouging.

Different places, different issues

Each area has its own culture. People living in hurricane-prone areas “know the drill” and are used to working with out-of-state vendors doing emergency response work. However, when Sandy hit New Jersey there was a tremendous amount of panic and emotion due to the fact that that area is not used to dealing with large storms. It is important to be aware of your surroundings, local customs and culture. Even local law enforcement may not be familiar with the rules that are invoked in a state of emergency; in Sandy, New Jersey police ticketed tree care companies who stacked at the curb – even though this was allowed.

How to withdraw without leaving behind complaints

Having complaints trail you after you leave a city can lead to collection and legal
issues. In Sandy, one of the biggest complaints was leaving debris at the curb. Many tree care companies did this assuming that FEMA would remove the debris, but in New Jersey FEMA did limited debris removal. Property owners then demanded that the tree care companies return to remove the debris.

It is important to be very clear what your scope of work is, i.e. are you hauling the debris, grinding the stumps, etc. It is also recommended that you get the customer to sign a statement that you completed the work to their satisfaction. Also, clearly list potential damage you might cause and include a waiver, i.e. driveway waiver for cracked driveways. Communications are key to avoiding complaints – be clear about the scope of work and confirm that the homeowner agrees that it has been completed.

Getting paid
Make sure that you get your work authorizations signed and get emails, phone numbers and accurate addresses from homeowners in order to assist you in communicating with homeowners after you withdraw from the area. Issue invoices as soon as possible after the completion of work and be clear regarding payment terms, i.e. payment due within 14 days of the date of the invoice. Do not let too much time pass before reaching out to homeowners for payment. Use certified mail to deliver collection letters.

Dealing with collection issues from out of state
You may be familiar with collection methods in your home town, but you may not know what tools you have available to you out of state. Knowing what the rules are regarding time limitations to file a mechanical lien, or how large a claim you can file in small claims court are examples of information you need to know to enforce collections. Furthermore, certain states have laws prohibiting predatory collection methods and it is important to ensure compliance when taking action against a delinquent homeowner. Making a relationship with a collection agency in the area you deploy to may be helpful – ask them what documents they need from you in order to collect.

Doug Malawsky is chief operating officer for HMI, a TCIA associate member company and PACT sponsor that manages a national network of tree care companies providing emergency response and consultative services to the insurance industry. This article is based on the presentation he will make on the same subject at TCI EXPO 2013 this November in Charlotte, North Carolina. For a complete EXPO schedule or to register, visit www.expotcia.org or call 1-800-733-2622.
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By Tamsin Venn

On Monday morning, June 24, Randy Owen, president of Owen Tree Service in Attica, Michigan, was in for a surprise. A Michigan OSHA inspector walked in the door of the company and announced he was there for a safety inspection. After two days of investigation, the only citation issued was for an expired fire extinguisher, which Owen replaced by the next day.

“The first day, he went through our records and office and OSHA 300 forms, and then he checked on employee training, talked to some of the employees, saw one of our mechanics – we have three full-time mechanics. He wanted to see two tree crews. Nobody was local, so we gave him addresses, and he went and saw them and inspected their trucks. That took him about an hour on the crews. That was fine.

“Next day, he wanted to talk to an applicator and see an applicator truck and a tree trimming crew with climbers, and that was about the end of it,” says Owen.

Owen credits passing his surprise inspection with flying colors to several factors. Those include TCIA Accreditation, use of CTSPs (Certified Treecare Safety Professionals), and the communication TCIA provides to help his 70-employee company be safer and more professional.

To Owen, safety at his company has always been important. He worked in the field, on utility line clearance, before starting Owen Tree Service.

“Coming out of that background, operationally I understood how the crews work and are efficient, and to me safety is an important thing. Are we perfect? No, but we try awfully hard, and we still have to be productive.”

One key operational tool is granting his crews a right of refusal to do a job they have been assigned.

“They can leave the site, they’re not questioned, they’re not intimidated, and we try to find out why they felt uncomfortable – if the job was hazardous, beyond their skill levels. I had a crew last week, they wanted off the job. We took them out and put in another crew. We don’t question the men on that. That’s unusual for a company to do,” says Owen.

Another key tool is the “near miss” Monday meeting, a safety discussion on what went wrong (or right) in the field the week before.

“The reality is you’re going to have the near misses in every job, but you don’t want to call them that. I can have my top guy make a mistake, and he’ll actually talk about it… that took three or four months to get the crew to do that, and that’s a major step. Now I think they share that among themselves. ‘Oh that’s a good one for Monday morning,’ they’ll say. I think they’re embarrassed about it, but at least they’re sharing it. Then people don’t make the same mistake twice.”

Another tool that helped make him “OSHA ready,” according to Owen, was a session, “Safety as a Profit Center,” he attended at TCI EXPO.

“I understood what they were saying. I took that to heart and we implemented the suggestions. Safety glasses, hearing protection – saves you in insurance. Our company makes safety gear readily available including poison ivy wipes on the counter,” he says.

He also went through the TCIA Accreditation process. “We did all the things that were necessary, we just didn’t have it documented, so it wasn’t all that hard to get in order,” says Owen.

Also, participation with TCIA membership and in the association is critical. After one year in business, Owen became a member of TCIA. They were tree workers, but needed help with the business side of it, he explains.

“Other members will help you out, provided they’re not in direct competition. The sharing is very good with the membership,” he says.

“We just do everything we can, the right to refusal, to avoid getting the job done at all costs. We don’t have cowboys. Cowboys may be high-production workers, but they’re not team players; they’re prone to accidents and property damage and some of these people put up with it,” he says.

“It’s not one thing but a lot of different things that make safety work. We have to work on it constantly. I’m the first one to say that. I don’t think you can ever have perfection in that,” Owen adds.

“There are a number of things that led to his success with OSHA,” says Peter Gerstenberger, senior advisor for safety, compliance & standards at TCIA. “One is the process of Accreditation.”

Owen Tree was accredited by TCIA in 2004, becoming the first company in Michigan and the second in the nation to do so. Re-accreditation is required every three years, so OTS has reaccredited twice and is coming up on its third re-accreditation.

“The whole process culminating in the on-site audit and applying the safety standards by our industry and applicable OSHA standards and scrutinizing a company from that standpoint, would uncover any compliance weakness the company could have. The Accreditation process is the best thing he could have done to prepare himself for that,” says Gerstenberger.

“He has a couple of CTSPs, one primary one who oversees the safety in the company. Randy has a major vested interest in maintaining the quality of his people. He
has delegated a lot of responsibility to his CTSP, so that person is qualified to address that kind of thing,” says Gerstenberger.

“Randy’s and his company’s willingness to network, to stay connected in the industry, to learn from mentoring, to learn from peers and colleagues, that helps to fine tune the business and make sure it is as safe and professional as it can be. Randy and his people are very plugged in, very participative in our industry. That goes above and beyond the Accreditation process,” he adds.

Gerstenberger explains OSHA’s relationship to the tree industry: The job of Michigan OSHA’s compliance, education and training division is to be a liaison to industries and to act in a consulting role, to help the business correct problems.

“Randy’s visit from OSHA was from enforcement. They’re on a witch hunt. The philosophy and mindset is that the employer is guilty until he proves himself innocent, so that it’s their job to find things wrong. To go through that thorough investigation and to come out with nothing more than expired fire extinguishers is pretty significant,” says Gerstenberger.

The TCIA Accreditation process is a program where the company follows a 63-point checklist, according to Bob Rouse, TCIA’s chief program officer and staff liaison to the Accreditation Council. Currently about 165 TCIA members are accredited.

“There’s a lot of redundancy built into it, so a company that is accredited, when OSHA shows up, it would be expected that all those ducks are in a row that day, and OSHA will be looking for that documentation as well. We can’t cover every single thing that a company might come across, but we concentrate on the big things in arboriculture. The 63-point checklist is a blueprint for a model tree care company,” he says.

Robert Good, president of Good’s Tree Care Inc., Harrisburg, Pennsylvania, is a member of the TCIA Accreditation Council, a five-member board that meets twice a year to review the standards. We asked, does Accreditation make a company OSHA ready?

“Absolutely. Because the checklist is based on what you need to pass OSHA standards. You have to really pay attention to that checklist,” says Good. The Council makes changes according to new OSHA standards, such as recent new ones for crane use.

“One of the big safety standards is how we enter a tree with a crane. The importance of that is these regulations change, it’s an ongoing document. Accreditation really helps the smaller company keep up with the practices of the bigger companies.

“It’s a huge commitment. It really sets the companies apart that are accredited from those who are not,” he adds. Good’s company of 31 employees was accredited in 2005 after Good made a decision to be brought up to the same standards as his bigger competition.

“That was really important to me,” he says.

“It’s very unsettling to go through a surprise OSHA inspection. The fact that Owen had no violations is unheard of in the industry,” Good says.
We all know that workplace injuries not only cause pain for the injured worker, but also the business. Knowing how a workplace injury impacts the financial well-being of your company is a critical skill that a successful business owner must possess. You must take the time to prepare for an injury before it occurs, so you know exactly what to do and how to lessen the monetary impact of the injury.

The magnitude of the financial pain caused by injuries for a tree service can be the difference between a thriving business and a struggling one. While it is difficult to calculate the exact economic influence of the injury, you should know the fundamental areas that are affected and make a concerted effort to be ready for these before an injury occurs.

Marc, a Certified Arborist, has been working for you for the past six years. He is an excellent climber and a large asset to your team. One day you receive a call at the office that Marc has sliced his thumb with his hand saw, and the crew is taking Marc to the emergency room. Concerned for Marc, you drop what you are doing and rush to the hospital. On your way you begin to feel the pain of this injury in a much different way than Marc. How much will this hurt your bottom line?

There are three basic categories of costs endured by a business after a workplace injury: Compliance Fines and Penalties, Increased Workers’ Compensation Costs, and Indirect Costs. It may help to use the iceberg analogy to picture how these expenses affect your business. The first two, compliance fines and penalties and increased workers’ compensation costs, make up the visible part of the iceberg.
above the water line; both are easy to understand and calculate as you have to pay for these. The last one, indirect costs, make up the iceberg below the waterline. Because you are not writing a physical check to pay for these, it is difficult to estimate the crippling impact that indirect costs have. Let’s examine each one of these more in depth.

**Compliance fines and penalties**

For the vast majority of workplace injuries that occur, including Marc’s injury, an automatic OSHA (Occupational Safety & Health Administration) visit is not initiated, and there will be no fines or penalties associated with them. However, the possibility exists that any injury could be serious enough that OSHA could be called on site and fines or penalties could be assessed. OSHA has a minimum fine of $7,000 per serious violation, and in life-threatening situations OSHA fines can reach seven figures. Even though a business may be successful at reducing fines and penalties by correcting the infraction, they can add up and severely affect the operation of the business. Fines and penalties must be considered a threat to the profitability of your business.

**Workers’ compensation costs**

After you visit Marc in the hospital, you call your insurance agent to explain what happened and file a workers’ comp claim. Your agent explains that the workers’ compensation system was created to provide for workers who were hurt on the job and establish a funding mechanism for the employers to finance the cost of the injuries. He stresses that it is important to understand that the premium you pay for your workers’ comp insurance is directly affected by the injury history of your business and the entire tree care industry.

An injury will affect your business for three years by raising your Experience Modification (also known as the Mod, X-Mod, E-Mod, Modifier) and therefore the premium. Because your current workers’ comp policy premium is $25,000 per year, if the total medical bills and time lost for Marc’s injury total $20,000, your Experience Modification will increase by 14 percent. That will equate to an additional $3,500 per year for three years that you have to pay because of the injury. As the business owner you do have some control over your cost of workers’ comp, since frequency has a greater impact on the Experience Modification calculation than severity. Businesses that have a lot of little claims will typically have higher Mods than those that just have one large claim.

**Indirect costs**

The largest part of the cost of the injury and the most difficult to quantify are the indirect costs or soft costs. The time you spend making sure Marc is okay and resolving issues that develop without Marc working on his crew, will add up fast. Any injury is counterproductive, stalling your operation from focusing on production and profitability. It is estimated that the indirect costs associated with a workplace injury can be four to 10 times the cost of the medical bills for that injury! Other examples of indirect costs you may incur with a workplace injury are lowered productivity from a crew that is short-handed, time spent rearranging job assignments or hiring and training of a new employee, your time and resources that are devoted to reducing a compliance fine, and the time it takes to complete the proper paperwork to comply with your workers’ compensation policy and the reporting to the state agencies.

Understanding how a workplace injury will inflict financial pain on your business is vitally important to the success of your organization. Being prepared to avoid the injury iceberg or knowing how to navigate around it will determine if your business will sink or swim.

Eric Petersen is a licensed insurance agent and founder of ArboRisk Insurance & Risk Management, who works with his clients to lower their workers’ comp costs by helping them be prepared before an injury happens. This article was based on the presentation he will make on the same subject at TCI EXPO 2013 this November in Charlotte, North Carolina. For a complete EXPO schedule or to register, visit www.expo.tcia.org or call 1-800-733-2622.
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Photo courtesy of McClenahan Tree Service, circa 1938, yes, it is cool!
Different take on origin of insulated aerial lift

I am certainly enjoying the old-timey photos in TCI Magazine as the TCIA celebrates its 75th anniversary. Asplundh Tree Expert Co. is celebrating its 85th anniversary this year, so I’ve been looking at a lot of our old photos lately, too! After researching and writing about Asplundh for more than 25 years, I’d like to weigh in on the development of the first non-conductive aerial lift booms that were discussed on page 46 of the July 2013 issue.

Always searching for a faster, easier and safer way to get up into the trees, Asplundh tried many ideas including a hand-cranked platform designed by Lester Asplundh (one of the three founding brothers) in 1929. It was not very satisfactory, so ladders and ropes remained the standard for Asplundh crews until the late 1940s when trucks were equipped with wooden ladders mounted on a revolving turret. Then came the first hydraulically-powered (but poorly insulated) lift trucks in the early-to-mid-1950s.

Lester saw an opportunity to improve the safety of these early aerial lifts when a salesman introduced him to “spiralloy,” a cylinder of spun glass fiber and epoxy resin (fiberglass). Its strength and non-conductive qualities made for a perfect lift boom for tree pruning adjacent to power lines. By the spring of 1958, Lester had developed a fiberglass upper boom for Asplundh’s own “Trimmer Lift.” Early models were demonstrated for utility representatives here in the Philadelphia area in the summer of 1958 and Lester applied for a patent in August of 1959. The U.S. Patent Office issued patent #3,108,656 in October 1963.

Over the next 34 years, the Asplundh Manufacturing Division established plants in several different states, selling both forestry and line lifts to utilities and municipalities, as well as chippers. In the 1980s and 90s, product liability insurance requirements changed dramatically and manufacturers began to consolidate. In July 1992 an agreement was completed to sell the Asplundh Manufacturing Division to Altec Industries, Inc. This marked the end of an engineering era started by Lester Asplundh back in the late 1920s.

Today, Asplundh purchases its aerial lifts from a variety of manufacturers, including the Terex Hi-Ranger, which also had its origins in the late 1950s. It seems that the space-age development of fiberglass was not only vital to rocket science, but also to the safety and efficiency of tree workers around the world! Asplundh is proud to have played a part in this advancement for the arboricultural industry.

Kristin Wild, writer/editor
Corporate Communications
Asplundh Tree Expert Co.
Willow Grove, Pennsylvania

Estimate? Ask a consultant

This letter is in response to the very well written and well thought out letter in your July edition of TCI Magazine by Timothy L. Brooks. This letter discussed the process of free estimates and/or consulting that many tree contractors have been doing for

(Continued on page 65)
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Prickly holly adapt genetics to environmental change

Prickly holly is aptly named for its prickly leaves. Yet, look closer at a holly tree and while some leaves are prickly, others are not. Scientists writing in the *Botanical Journal of the Linnean Society* believe variations within a single tree are the combined result of herbivore activity and molecular responses to environmental change.

“The ability of an organism to change its characteristics in response to environmental variations is known as phenotypic plasticity and it is a key driving factor in the evolution of a species,” said Carlos Herrera, Ph.D., from National Research Council of Spain (CSIC) in Seville. “In plants this is often seen in eye-catching changes to leaves and flowers related to variable growing conditions. Every gardener knows that leaves produced in deep shade and under full sun are often very different in size and shape.”

However, this variation of leaf forms can also take place within a single tree of many different species, and it is known as heterophylly. Herrera partnered with Pilar Bazaga, also from CSIC, to explore this phenomenon in European holly (*Ilex aquifolium*) a pioneer species, with a strong ability to accommodate to changing conditions.

“Heterophylly is often witnessed in holly trees, where some leaves are prickly, a defense against herbivores, while others are non-prickly, with smooth margins and no defense,” said Herrera. “We wanted to find out if this variation was a response to environmental changes and if this took place without wider genetic change, that is, without alteration of the organism’s DNA sequence.”

Such change is known as epigenetics and to explore the biological mechanics behind this process the scientists turned to methylation, a chemical modification of DNA that does not alter the DNA sequence of an organism, but can have decisive consequences. DNA methylation profiles, heterophylly and herbivory were studied in 40 holly trees from a forest in South Eastern Spain. Thirty-nine were found to be heterophyllous, with branches displaying prickly and non-prickly leaves in neighboring positions.

The team then explored the feeding activity of browsing deer and goats to see if this was the environmental factor driving this genetic diversity. The team found a significant relationship between recent feeding and the growth of prickly leaves, noting that under the height of 2.5 meters, the average reach of an adult red deer, leaves were consistently pricklier.

The results revealed a clear link herbivore activity, phenotypic plasticity and epigenetic changes.

“An increasing number of studies support the idea that the presence of spines and prickles in plants is a response to herbivore activity, and our research suggests this is the case with holly,” concluded Herrera. “The ability of plants to respond to environmental changes through quick epigenetic modifications also makes one to feel a bit more optimistic about plant survival in a quickly changing world.”

This study is published in the *Botanical Journal of the Linnean Society*. 
my main purpose for writing this letter is to offer a solution to Mr. Brooks and other tree service companies for this problem. It is very simple. Refer inquiring potential new customers to a consulting arborist in your area to walk the property and make maintenance recommendations. This is a niche that I and numerous others fill on a regular basis, and it is a win-win-win for everybody. The tree service contractor gets rid of the “shoppers” and sends the serious clients to a professional. They will also get a list of just what the customer needs and if they are getting bids (likely from legitimate contractors) they will all be bidding on the same thing. The client gets independent opinions on just what their trees and shrubs need from a pro who is not selling anything other than opinions and advice. And, of course, the consultant gets the fee for an easy gig. When I do these assignments, I tell the client that they have unlimited free telephone consultations and no one has ever abused this service. Yes, a win-win-win!

I perform these services on a regular basis in the Washington, D.C., area and I really enjoy them. They are easy, quick and low pressure assignments and almost everyone is pleased with the outcome.

To find consulting arborists in any area, go to www.asca-consultants.org.

Lew Bloch, ASCA Registered Consulting Arborist
Potomac, Maryland

Letters & Emails
(Continued from page 62)
By Robin Wellmaker

This situation happened to me the first year on my current job. To say the least I was still VERY wet behind the ears. I was working on the Pacific Gas & Electric (PG&E) contract, inspecting the distribution power lines for compliance issues, out here in beautiful California in the foothills of the Sierra Mountain Range.

I was working in a pretty rural area in mountainous terrain, like so many of us do. It was winter, not a bad day, but we’d had a few storms recently, so you had to be aware of the usual hazards.

So, first of all I’m sitting in my office (on the tailgate of my truck) and this lady walks up to me with her dog and begins to yell at me about how I had not called her back. I had no idea what she was talking about, so I asked her who she was. She said, “I’m the one you left the door hanger for.”

I explained I had not left any door hangers yet in this area, but I would be more than happy to do some research to find out who it was and have them contact her. She then told me she knew it was me and she was tired of taking my sh*t, and she wanted my supervisor’s phone number. I told her his name and said, “Let me go in my truck to get his 800 number.” She responded, “That’s not necessary.” She knew who he was and “would be talking to him about how unprofessional I was.”

I replied, “OK,” wrote my name down for her and told her to have a nice day. She turned to me and said, “I don’t like your attitude. You’re being very rude.” I said, “I’m sorry you feel that way, and like I said, have a great day.”

At this point, as she was walking away, she turned and yelled at me at the top of her lungs, “SHUT UP!” as she pulled her dog along faster than he could walk. I thought, “Oh, boy, what did I get myself into taking this job?”

After that it was time to start patrolling. So, there I am hiking along checking out trees as I’m walking my line. I was heading downhill through some pretty thick terrain when I came across a large tree that was downed and I needed to get past it, so I decided to hop over it. I put my one leg over it and as I hopped, I needed to sort of jump, bringing my other leg off the ground. As I did this, the whole tree shifted downhill, toward me, and this massive giant very gently knocked me to the ground, pinning my foot between it and the ground.

My first thought was, “Oh, SH- T, is it going to continue rolling, crushing me as it goes?” Luckily it stayed put. But my foot wouldn’t budge, it was not moving. So, I proceeded to start freaking out. My foot wouldn’t move, it wasn’t long until dark, and there were only vacation homes nearby, with nobody on vacation!

So, I thought, “of course my trusted phone.” I pulled that out and, you guessed it, no cell service! Then it came to me: “I’m going to die here; the wolves will eat me alive (as if California has a huge wolf population). But every terrible, bloody and maybe a little farfetched scenario was going through my head. I laid my head down on my pillow of leaves and ants and (at least in my mind) every single type of bug in the whole world.

Then suddenly, like God himself was speaking to me, a voice in my head said, “Take your shoe off, dummy!”

I’ve never unlaced my boot so quickly, and wouldn’t you know it, my foot came right out, no problem; and I was able to then wiggle my boot out and I was on my way.

Moral of the story: Please take your foot and push on the tree before you jump over it... Oh, and get this. I make it back to my truck and I HAD A FLAT TIRE! So, holding back the tears (cause you know, big girls don’t cry), I get out the trusty jack and, of course, the part to loosen the lug bolts is missing... Ah, it don’t get any better than that, does it? So, I said, “I think I deserve a tow in this case.”

Yes sir, a day in the life. But I wouldn’t trade it for an office job, even on a day like that.

Robin Wellmaker is an ISA Certified Arborist working on a Public Safety & System Reliability contract for PG&E in Northern California. She is employed with ACRT, Inc., an independent vegetation management company – and a TCIA associate member company, based in Akron, Ohio.
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