Tree Risk Assessment has grown in importance over the last decade or two as incidents of tree failures have taken prominence in the media. Although injuries and fatalities associated with tree failures are extremely rare when compared to other risks in urban and suburban environments, they tend to capture the attention and concern of society. In some cases, the law has sought to determine whether there is liability to be placed. The essential question usually comes down to, “Was the failure foreseeable?”

To judge whether tree failure was foreseeable is difficult. Until recently, in most parts of the world, there was no standard of practice for tree risk assessment. Many approaches have been adopted over the years and around the world, but there has been little clarity about what a visual assessment entails. Germany has been a leader in passing laws and requirements, and in the United Kingdom, tree risk management is certainly a rapidly evolving area of practice. But standardization of practices and expectations is still lacking in most parts of the world.

In the United States, the ANSI A300 Standards Committee developed a national standard for tree risk assessment, which, among other things, defined three levels of assessment. Establishing these levels was a significant step forward because it recognized different circumstances of assessment, and it clarified expectations for what is included in each level of assessment.

Laying the Track for TRAQ

By Sharon Lilly
ISA published the *Tree Risk Assessment Best Management Practices* (BMP) booklet at the end of 2011, expanding upon the standards and establishing a new methodology for assessing the risk of tree failure. The BMP recognized that there are many valid and acceptable approaches to risk assessment—both quantitative and qualitative—each having its own advantages and limitations. The authors consulted several sources, including a risk scientist, the ISO 31010 Risk Assessment Standard, and many scholarly papers to compare and contrast various approaches. In the process of researching methodologies, it became clear that there were some significant flaws and/or limitations in many of the most commonly used systems. Based on extensive review of research, and in consultation with the risk scientist, the authors developed a new methodology for inclusion in the BMP. The BMP development and review process took more than four years, included the review of more than 75 experts from around the globe, and underwent several major revisions prior to reaching consensus.

Meanwhile, in British Columbia, Canada, in 2000, a tree failure lead to a fatality, leading WorkSafeBC, the regional worker’s compensation board, to focus its attention on safety on golf courses and in urban areas. The ISA Pacific Northwest Chapter (PNW) coordinated with WorkSafeBC to explore ways to design and implement a training course for the assessment of trees in urban areas and in the urban/rural interface. These discussions resulted in a project lead by Dr. Julian Dunster to develop the Tree Risk Assessment Course and Examination (TRACE).

As demand for TRACE grew, PNW-ISA began talks with ISA to adapt and expand the TRACE program into an international qualification. An international panel was formed and a needs assessment was undertaken. The needs assessment showed that there was not strong interest in more certifications, but that a need was seen for advanced certificate-based programs, and moreover, tree risk assessment was identified as the greatest need.

**Why a Qualification?**

Before we can address the reason for developing a qualification, the first question to answer is, “What’s the difference between a ‘certification’ and a ‘qualification’?”

**Certification** is a voluntary process by which a non-governmental body grants the time-limited recognition and use of a credential to individuals who have demonstrated that they have met predetermined and standardized criteria for required knowledge, skills, or competencies. Learning event(s) are not typically provided by the certifying body. Instead, the certifying body verifies education or training and experience obtained elsewhere through an application process and administers a *standardized assessment* of current proficiency or competency. Also, certifications have requirements—such as acquiring continuing education units—to maintain the credential.

**Qualification** is an essential link between the certificate issuer, and there is an *essential link* between them. The primary focus of a qualification is the provision of education/training, with assessment(s) being used to confirm that participants have achieved the intended learning outcomes. Qualifications do not have ongoing maintenance or renewal requirements and, therefore, cannot be revoked, though they can expire.

Because of the specific body of knowledge involved, the new methodology established in the BMP, and the clear direction provided by the needs assessment, ISA decided to develop Tree Risk Assessment as a qualification. The ISA Certification Board adopted ASTM International’s E2659 – 09 Standard Practice for Certificate-Based Programs as the standard for development and administration.

**Purpose**

The ISA Tree Risk Assessment Qualification (TRAQ) program provides an opportunity for individuals in the arboriculture industry to expand their knowledge through education and training in the fundamentals of tree risk assessment. This qualification promotes the safety of people and property, and provides tree owners and risk managers with the necessary information to make informed decisions to enhance tree benefits, health, and longevity.

**Course Objectives**

Through education and training, arborists will learn strategies to systematically identify and assess tree risk. The qualified professional will:

- be proficient with the fundamentals of limited-visual and basic tree risk assessment, as defined in ISA Best Management Practices: Tree Risk Assessment;
- understand the principles of advanced diagnostic techniques for assessing tree risk;
- gather and synthesize information needed to assess tree risk; and
- make reasoned judgments and recommendations for mitigating identified risk.

**The Format and Scope of TRAQ**

The ISA Tree Risk Assessment Qualification consists of a two-day course followed by a half-day examination.
The course’s instructional design is based on best practices for adult education. Learning activities include interactive lectures, discussions, small-group activities, applied case studies, an instructional game, and field labs. These activities cater to various learning styles and foster adult learning and application.

The examination consists of two parts: a 100-question, multiple-choice, written exam, and an outdoor, performance-based exam. Participants are required to pass both parts of the exam to earn the qualification. The passing score for the written exam is 75 percent, and the passing score for the field assessment is 80 percent.

The course content is based on the new *Tree Risk Assessment Manual*, and is divided into nine modules:

1. Introduction to Tree Risk Assessment
2. Levels of Assessment
3. Target Assessment
4. Site Assessment
5. Tree Biology and Mechanics
6. Tree Inspection and Assessment
7. Risk Assessment and Categorization
8. Mitigation
9. Reporting

All course registrants will receive a copy of the *Tree Risk Assessment Manual* and a course workbook.

**Eligibility**

Success and competency in practicing tree risk assessment depend on a strong foundation in arboriculture education and experience. The TRAQ qualification focuses on systematic tree assessment and application of risk assessment methodology. Educational requirements have been established to maximize learning potential and promote effective participation in TRAQ learning activities. These core competencies include:

- a basic knowledge and comprehension of tree biology, especially as it relates to basic tree anatomy, wood structure and function, and wood decay;
- the ability to identify the major tree species in the local area;
- a fundamental knowledge of arboricultural practices, including pruning and tree support systems;
- the ability to assess tree health and diagnose biotic and abiotic disorders common to trees in the local area; and
- a basic understanding of soil science and local soil conditions.

A credential or program of study that can be shown to include at least four of the five previously listed core competencies shall be considered sufficient for an individual to meet the TRAQ program’s educational prerequisites. The following credentials have been deemed sufficient:

- ISA Certified Arborist
- ISA Board Certified Master Arborist
- European Tree Worker
- European Tree Technician
- Fachagrarwirt Baumpflege
- AHCI30810 Certificate III in Arboriculture (Australia)
- NZ National Certificate in Horticulture (Arboriculture) (Level 4)
- Connecticut Arborist License
- Louisiana Arborist License
- Maryland Tree Expert
- Massachusetts Certified Arborist
- New Hampshire Arborists Association Certified Arborist
- New Jersey Certified Tree Expert
- Rhode Island Arborist License
- SAF Certified Forester
- UK: A minimum of a QCF level 2 certificate or diploma in arboriculture (RFS Certificate, Technician’s Certificate, or National Diploma in Arboriculture)
- An arboriculture or urban forestry degree that is part of a national qualifications framework or is from an accredited college or university.

The qualified professional will be proficient with the fundamentals of limited-visual and basic tree risk assessment, as defined in ISA Best Management Practices: Tree Risk Assessment.
ISA would like to thank all of the people who worked on this project, including the many who offered their time and expertise in technical reviews of the BMP. We extend special thanks to the TRAQ Panel that worked four years in the development of the qualification course:
Terry Flanagan, chair
Julian Dunster
Norm Easey
Skip Kincaid
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Ian McDermott
Dwayne Neustaeter
Frank Rinn
Doug Sharp
Tom Smiley
Luana Vargas

Consult the ISA website (www.isa-arbor.com) for more information about the TRAQ program. Keep an eye out for your local ISA Chapter newsletter and website for upcoming TRAQ courses in your area.

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Another key objective of the TRAQ program is to enable successful candidates to make reasoned judgments and recommendations for mitigating identified risk.