Writing Tree Risk Assessment Reports Expectations and Standard of Care Reviews















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Tree risk assessment has developed and matured into established practice since the initial TRACE courses in 2005, and the transition to the

International Society of Arboriculture (ISA) TRAQ credential (Tree Risk Assessment Qualification) in 2013. Reporting on tree risk assessment is now routine. Tree risk assessors need to be careful about how risk assessment reports are written. There is a liability associated with poorly written reports that do not correctly inform the client of all the relevant issues. There is also a possibility that reports submitted as part of a permit approval process will be rejected if they do not contain relevant and clearly understandable information.

First of all, a warning. Passing the TRAQ exam is a beginning, not the end point. If you cannot write good reports then you may want to avoid risk assessment. In the event of a claim, which is typically for personal injury or property damage, but may also include negligent misrepresentation, every available piece of information of relevance will be requested and examined. That will include field notes and the risk assessment report. There are now several cases I have seen where mistakes in the field and / or the report, have been very expensive. All have involved pre-trial settlements, and all have been very costly for the arborists involved.

Tree risk assessment Legal reviews focus on whether or not the has developed arborist met the standard of care expected. and matured into The questions to be answered include:

- Did the risk assessor do what they ought to have done in the field?
- Did the risk assessment report clearly and fully inform the client in a clear, timely, and unambiguous way?
- Was the report complete and technically correct?
- Was the report comprehensive enough to ensure the client could fully understand all of the issues discussed, and the implications of the risk ratings and mitigation options?

Reports submitted for permits need to fully inform the decision maker by showing a clear pattern of evidence, clear analysis of the issues of concern, and conclusions that make sense. In all cases the report must tell the reader what was seen, why it was important, how the evidence observed was analysed, and how the risk and mitigation options were developed and justified.

In the summer 2016 issue of *Pacific Northwest Trees* I wrote about the many reasons why the TRAQ form, by itself, was not a good basis for risk reporting, and why requiring a copy of it in reports was a misuse of the form. Nothing has changed in the intervening six years, and requiring or supplying copies of the TRAQ form or field data is still poor practice. The TRAQ form is a compilation of field notes. It is not the report but simply the basis for a report. The data collected on the form need to be presented in a well written report. When I am reviewing standard of care issues with insurance companies and lawyers, it is very clear that the quality of risk assessment reports still leaves a lot to be desired. Some of the TRAQ forms I review clearly suggest the assessor had no idea about what they were doing, either because they were sloppy or because they did not know.

Risk assessment reports, and the evidence used to support them, are a critical part of any review. The risk assessor has a duty of care to ensure that they undertake the assessment thoroughly on site. That may be very straightforward requiring only a few minutes, or it may be more complicated and take much longer. Either way, the assessor must record the data and evidence used in order to arrive at the risk assessment. That may be done with the TRAQ form or, it may be done with field notes and photographs. There is no requirement that you have to use the TRAQ form, and that is very explicitly stated in the training course.

Remember that the TRAQ form is primarily a checklist designed to help the user think about the factors to check on site. Not every box needs checking, and in some cases, there are no boxes available for things noted on site. In the TRAQ course we teach you which parts do need to be filled in, so if you use the TRAQ form, use it correctly. Failure to do so shows up in a standard of care review (your documents get subpoenaed, and you have to supply copies of them). If the reviewer can see that you did not fill in the correct parts at the base of page 1 – Figure 1 below, or you had incorrect answers derived from the matrices on page 2, it suggests you were careless, incompetent, or clueless, none of which is desirable. In the example below the entire section on the trunk is blank. The reader would not know if you simply forgot to fill it in or, if you forgot to check trunk above the cavity in the root collar.

- Crown and Branches -		
Unbalanced crown □ LCR%	C	racks Lightning damage
Broken/Hangers Number Max. dia		
Over-extended branches \Box	V	veak attachments Cavity/Nest hole% circ.
Pruning history	P	
Crown cleaned Thinned Rai	sed D	
Flush cuts D Other	n-talled L C	esponse growth
Main concern(s) none		
Load on defect N/A 🗹 🔄 Minor	□ Moderate □	Significant
Likelihood of failure Improbable V Possible Probable IIImminent II		
— Trunk —		— Roots and Root Collar —
Dead/Missing bark Abnormal bark	k texture/color 🛛	Collar buried/Not visible 🛛 Depth Stem girdling 🗆
Codominant stems 🗆 Included bark 🗆 Cracks 🗆		Dead 🗆 Decay 🗆 Conks/Mushrooms 🗆
Sapwood damage/decay 🗆 Cankers/Galls/Burls 🗆 Sap ooze 🗆 🛛 🛛 🛛 Oo		Ooze 🗆 Cavity 🗹% circ.
Lightning damage 🗆 Heartwood decay 🗆 Conks/Mushrooms 🗆		Cracks 🛛 Cut/Damaged roots 🗖 Distance from trunk
Cavity/Nest hole % circ. Depth Poor taper \Box		Root plate lifting 🗆 Soil weakness 🗆
Lean° Corrected?		
Response growth		Response growth
Main concern(s)		Main concern(s) <u>Cavity at pase, east face</u>
Load on defect N/A L Minor L Moderate L Significant L		
Improbable Possible Probable	Imminent 🗆	Improbable Possible Probable Imminent I
Figure 1 Incomplete form completion Page 1 of		

The back part must match the front part. There risk assessment report. Report reviews can be cannot be different targets, and the Tree Parts within a few weeks or months for the issuance and Conditions of Concern must be the same of permits. Or it may be many years later. In as the ones identified and rated on the front of all cases the assessor needs to be able to go the form. The categorization process is simple back to the report and field notes to see how enough but easy to get wrong, so pay attention when completing it.

The form has many limitations, many of which **If you do not use the TRAQ form.** result from keeping it limited to two sides of one piece of paper. You may need to use a In the course we teach that there is no second form or make additional notes when:

- you have more than four targets to describe may prefer that for data collection, but it was
- components
- these are interrelated

the form. Be aware of the limitations and work missed. My practice is to take some field notes around them.

from taking the TRAQ form and converting it some complexity, document it all. For every into their own data collection form, which can tree, take lots of pictures. These days there be digital or hard copy. I have seen several variations of the form, which is fine, as long as it is comprehensive and has room for the data is not only a good practice to help with the required to make an informed decision.

The ISA TRAQ form is readily available for download as a pdf from the ISA web site or elsewhere. Instructions for using the TRAQ form are also available on line. These are the same ones provided in the workbook issued by address, possibly in a folder by calendar when you took the original course.

any field notes), are the foundation of the report, one for administration (timesheets, invoices, but by themselves, they do not constitute a correspondence).

the data collected and analysed informed the decisions made.

requirement that you have to use the TRAQ form once you have passed the exam. Employers • the time frame for failure has multiple not designed as a mandatory requirement, and a standard of care review should not expect • there are many mitigation possibilities and to see that form and no other. But, it would be expected that the assessor can show the data collected and supporting images in some Do not be constrained by the limitations of form, so that a review can be sure nothing was and photographs. If the tree is lacking any problems, then a few notes and photographs As an aside, there is nothing stopping anyone may suffice. If the tree has multiple issues and is no excuse not to. Learn how to document the trees carefully and systematically. That initial report, but also good practice to have a reference point later on, if needs be.

Of course, you also need to set up a good process to file and store the data for each tree. A typical setup would be a project folder named year. Within each project folder there may be a sub folder for photographs, one for data The field data contained in the TRAQ form (or sheets, other files and the risk report(s), and

So far, all we have covered is how to collect don't have to find a problem in every tree, so if there is nothing wrong with the tree(s), say the data. The final step is to assess the data and produce a report describing the situation, so. If there are conditions of concern that affect likelihood of failure and likelihood the risk issues identified, and the suggested mitigation options. It is this stage where some of impact, these will need describing and arborists struggle. rating to ensure that you can show you have seen and considered them. The risk issues are then rated for each target identified. There may be one rating for the entire tree, or several component ratings. All risk assessment reports should have

Report Expectations

several key components. These include:

This can be in point form.

Here is where it can get more complicated. 1. The project address, the date of the For example, the tree may have a partly inspection, the scope of work (which trees failed codominant union on the south side were inspected and where they were located affecting two targets, a cavity in the trunk on on the site), and the level of assessment. the north side affecting whole tree failure, an overextended limb on the east side affecting a different target, and new wind exposure A single tree is usually easy to describe, but if from recent clearing affecting the whole tree, several trees are included, it may be useful to or just one part of it. You may have to identify, describe, and rate the risk associated with all add a location plan, or annotated photographs. If there are dozens of trees, then a sketch plan of these. And it is entirely possible that each or survey with a table of data will be required. condition of concern has a different time When there are many trees, it is useful to tag frame for the likelihood of failure rating. The the trees on site and transfer that data to the TRAQ form only has space for one time frame so additional notes may be needed on another survey plans and data table. form or sheet of paper. For each tree like this, 2. The conditions on site. This can be a simple remember to note the overall risk rating (the description but if the site factors directly highest risk identified).

- affect the targets, likelihood of impact, may be necessary to describe these in more detail to show why they are important. Use described.
- For one or two trees a simple text narrative may be enough. For sites with many trees a table may be more useful to summarize the data and then add in specific notes as needed to describe specific issues. You

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likelihood of failure, or consequences, it It is not enough to simply give the risk rating without some supporting rationale. A report that simply notes "One silver maple was photographs to illustrate the issues being assessed. It was a high risk and should be removed", is of no use at all. The reader has no 3. The tree data is then compiled in some form. idea what was wrong with the tree, and there is no data to show how the high risk rating was derived. Conversely, if the report states

> The tree was examined from the ground on all sides. No conditions of concern were

noted. The likelihood of whole tree or any parts of this tree failing within the next 3 years is improbable. Even if the whole tree failed it is too far away to hit the house: likelihood of impact is therefore rated as very low and consequences would be negligible. The risk is rated at low.

Now, the reader knows how the tree was assessed and what the inputs were. It is possible to shorten the text by adding in a blanket statement early on in the report, such as "Unless otherwise noted, all of the trees identified in this report were inspected at Level 2 (ground based visual assessment). Conditions of concern and their associated risk ratings are shown in Table X." Now the reader knows what was done and what to expect.

4. Once the risk issues are identified and rated, there must be mitigation options. Usually these will be do nothing (retain and monitor), or do something (remove the tree, or the problem component, prune, cable, brace etc.) or alter the target (restrict access or move it). Assume that the work has been done and then reassess the tree in its new condition. The residual risk is then shown so that the manager can see how the mitigation activity affects the risk rating. Remember to add in the time frame for implementing the mitigation action. That can be found in Module 8 in the course manual and is reproduced below – Figure 2. Under no circumstances should the residual risk be higher than the original risk.



Figure 2. Time frames for mitigation action

Do not try and rewrite these descriptions to add changes of concern." You need to place the in exact times, such as so many days or weeks. onus for tree management firmly where The wording shown was very deliberately it belongs - with the manager not the chosen to deal with the legal implications of assessor. recommending action. The wording provided is the standard of care, so simply reproduce it I am never sure why it is that arborists are as needed. If you rewrite it to state a defined so reluctant to use a comprehensive set of number of days and weeks, and then fail limitations. They are extremely important. They spell out what you did, and more importantly, to meet that defined timeframe, you have what you did not do on site. They spell out automatically exposed yourself to a liability. Remember that the onus for action must be what you cannot guarantee, and the define placed firmly on the risk manager. That person the limits of what the risk assessment can or has to decide when and how to respond to the cannot accomplish. If you get the chance, look issues identified. Your job is to inform them of at the limitations used in other professions, the issues, which you do in the report. Their and especially structural and geotechnical job is to choose how to proceed. engineering.

You need to be extra diligent when you identify I introduced the use of report a limitations an extreme risk tree. In that case it would section back in the mid 90's and have used be prudent to notify the manager right away, them ever since. You can get a set here, or possibly while in the field. The report would you can retain your own legal counsel and then include mention of that tree and the fact have your own drawn up. Be careful with the that the manager had been notified right away, wording. Over the years I have seen my limiting to form a written record of the problem and clauses copied verbatim, or I have seen them the actions taken. That way, you cannot later rewritten, often in a clumsy attempt to make it be held partly liable for failing to fully inform look like they were not the same. The original the risk manager in a timely manner. That is, clauses were written carefully by a lawyer well you do not want the manager to be saying "I versed in legal language. If you rewrite them would have dealt with the problem sooner if I be sure you do not create more problems by had known of it sooner." invalidating critical parts.

a timeframe for reassessment, add in any final details of importance and the limitations. Resist the temptation to always suggest an annual inspection. While it may create a useful income stream, there are many times when it is not needed. It may be better to write, "the tree should be reinspected no later than x years from now, or after a major storm event or, if you see

5. Summarise all the points made, suggest 6. Finally, submit the report. Remember that the reader is often unfamiliar with technical language and risk assessment in general. If the report is written for a permit process the reader needs to be able to clearly see and understand every step of the process. They need to get enough information from the report to be able to make an informed decision.

Equally important, when you are recommending retention of trees, be aware that they can fail later on. That does not mean that you always recommend removal or some other treatment to be on the safe side. The so called "if in doubt cut it out" approach. Many trees are low risk and should be retained. Of course, it is possible that they may fail later on. We cannot guarantee that every tree assessed will always be risk free, or that it will stand up to every adverse weather event. Nor should we try to. Ideally, anyone could refer back to your report years later, and be able to clearly see and understand what the tree and site looked like at that time of the assessment. The reader should be able to follow a systematic thought and analysis process and see how you defined the risk, the mitigation options, and the suggested approach to managing the risk(s).

It sounds complicated but can be made simpler by setting up template files. For one or two trees a letter format may be enough. For more complex and larger numbers of trees a report format will be better. Either way, the report must provide the risk manager (the owner of the tree), with enough detail and material to fully inform them of all the risk issues. Decide on the format needed, open up that template, rename it right away (otherwise you have to rebuild the entire template), and then write up the report. Not every case will fit every template, but if you have the basics sorted out, it become a lot easier to write these reports well.

Use photographs to illustrate the points being discussed. Annotate these as needed. There really is no excuse for not adding in photographs to a report, other than laziness. Most people have a phone capable of taking photographs.

Learn how to use it, how to download and edit the images, and annotate them. Image editing software is readily available, some of it free. Learn how to add images to the report. If you use Word or Wordperfect they have limits for that type of work, and it may drive you crazy with a complex document trying to get it all laid out. Get desktop publishing software such as MS publisher, Adobe InDesign, or Apple Pages, and learn how to use that. These are designed for graphic intensive reports, will be far more stable, and make life a lot easier. Most reports are sent as a pdf these days so be sure to check the print settings before you publish the report to that format.

Other things to include to make the reports more professional include a header and footer showing company name and project details, and the number of pages in the report, ideally showing the page number and total number of pages (eg page 4 of 9).

Summary

The risk assessment report cannot be the TRAQ form by itself. A well written report tells the reader what you did on site, how you did it, what you saw, how you interpreted that information and how you used it to produce the risk rating. The report then offers mitigation options, shows how those will affect the initial risk and what the residual risk will be, along with a suggested timeframe for these options to be implemented. The report concludes with a summary of the main issues and ends with the section on limitations. The entire report is based on what you saw on the day you saw the tree.

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